

ELA Curriculum Grade 7

PACC Standard	Term 1	Term 2	Term 3	New Skills Taught	Materials Used
<i>1.2 Reading Informational Text: Students read, understand, and respond to informational text – with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.</i>					
CC.1.2.7.A Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text.	X	X	X	Analyze development	<i>Shh, We're Writing the Constitution</i> (T1), Primary sources: Article on New Nation (T1), Emancipation Proclamation and Gettysburg Address (T2), Article on Gettysburg (T3)
CC.1.2.7.B Cite several pieces of textual evidence to support analysis of what the text says explicitly, as well as inferences, conclusions, and/or generalizations drawn from the text.	X	X	X	Explicitly Inferences Conclusions Generalizations	See above.
CC.1.2.7.C Analyze the interactions between individuals, events, and ideas in a text.	X	X	X	Analyze interactions	See above.
CC.1.2.7.D Determine an author's point of view or purpose in a text and analyze how the author distinguishes his or her position from that of others.	X	X	X	Point of view Author's purpose Distinguish position from others	See above.
CC.1.2.7.E Analyze the structure of the text through evaluation of the author's use of graphics, charts, and the major sections of the text.	X	X	X	Use of graphics and charts	See above.
CC.1.2.7.F Determine the meaning of words and phrases as they are used in grade-level reading and content, including interpretation of figurative, connotative, and technical meanings.	X	X	X	Figurative, connotative, technical meanings	See above. Dictation. <i>The Elements of Style</i> . Dictionary.
CC.1.2.7.G		X		Compare and contrast	Speeches and recitations of Gettysburg Address.

Compare and contrast a text to an audio, video, or multimedia version of the text, analyzing each medium's portrayal of the subject (e.g., how the delivery of a speech affects the impact of the words).				Audio/video/multimedia	
CC.1.2.7.H Evaluate an author's argument, reasoning, and specific claims for the soundness of the argument and the relevance of the evidence.			X	Evaluate Argument Reasoning Sound argument Relevance	Article on Gettysburg.
CC.1.2.7.I Analyze how two or more authors present and interpret facts on the same topic.		X		Analyze Interpret	Primary sources on Emancipation Proclamation (2 articles).
CC.1.2.7.J Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.	X	X	X	Domain-specific Comprehension, expression	Articles titled above. Dictation. Analytical Grammar.
CC.1.2.7.K Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.	X	X	X	Determine or clarify	Articles titled above. Dictation. Analytical Grammar. Dictionary.
CC.1.2.7.L Read and comprehend literary nonfiction and informational text on grade level, reading independently and proficiently.	X	X	X	Independently Proficiently	See all above.
<i>1.3 Reading Literature: Students read and respond to works of literature – with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.</i>					
CC.1.3.7.A Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text.	X	X	X	Theme	<i>The Phantom Tollbooth: Juster (T1). To Be a Slave: Lester (T2). Sherlock Holmes: Doyle (T3). Various group-read texts.</i>

CC.1.3.7.B Cite several pieces of textual evidence to support analysis of what the text says explicitly, as well as inferences, conclusions, and/or generalizations drawn from the text.	X	X	X	Inferences Conclusions Generalizations	See above.
CC.1.3.7.C Analyze how particular elements of a story or drama interact and how setting shapes the characters or plot.	X		X	Analyze Setting Character Plot	<i>The Phantom Tollbooth</i> (T1). <i>Sherlock Holmes</i> (T3).
CC.1.3.7.D Analyze how an author develops and contrasts the points of view of different characters or narrators in a text.	X		X	Development Contrast	<i>The Phantom Tollbooth</i> (T1). <i>Sherlock Holmes</i> (T3).
CC.1.3.7.E Analyze how the structure or form of a text contributes to its meaning.		X		Meaning	<i>To Be a Slave</i> .
CC.1.3.7.F Determine the meaning of words and phrases as they are used in grade-level reading and content, including interpretation of figurative, connotative meanings.	X	X	X	Figurative Connotative	<i>The Phantom Tollbooth</i> (T1). <i>To Be a Slave</i> (T2). <i>Sherlock Holmes</i> (T3).
CC.1.3.7.G Compare and contrast a written story, drama or poem to its audio, filmed, staged, or multimedia version, analyzing the effects of techniques unique to each medium (e.g., lighting, sound, color, or camera focus and angles in a film).			X	Compare and contrast Effect of technique	<i>Sherlock Holmes</i> . (TV show or movie)
CC.1.3.7.H Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history.		X		Compare and contrast Use or alter history	<i>To Be a Slave</i> . <i>Behind Rebel Lines</i> (group read).
CC.1.3.7.I Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.	X	X	X		<i>The Phantom Tollbooth</i> (T1). <i>To Be a Slave</i> (T2). <i>Sherlock Holmes</i> (T3). Dictionary.
CC.1.3.7.J	X	X	X		See above.

Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.					
CC.1.3.7.K Read and comprehend literary fiction on grade level, reading independently and proficiently.	X	X	X		See above. Various group read texts.
<i>1.4 Writing: Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.</i>					
CC.1.4.7.A Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information clearly.	X			Informative Examine Convey	<i>The Phantom Tollbooth (Milo's journey).</i>
CC.1.4.7.B Identify and introduce the topic clearly, including a preview of what is to follow.	X			Identify Introduce	See above. <i>Writers Incorporated.</i>
CC.1.4.7.C Develop and analyze the topic with relevant facts, definitions, concrete details, quotations, or other information and examples; include graphics and multimedia when useful to aiding comprehension.	X			Relevant facts Concrete details Quotations	See above.
CC.1.4.7.D Organize ideas, concepts, and information using strategies such as definition, classification, comparison/contrast, and cause/effect; use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts; provide a concluding statement or section; include formatting when useful to aiding comprehension.	X			Organize Definition Classification Comparison/contrast Cause/effect Transitions Cohesion Concluding statement	See above. OWL @ Purdue.
CC.1.4.7.E Write with an awareness of the stylistic aspects of composition.	X			Style awareness Precise language Sentence variety Sentence length Consistent voice	See above. <i>Analytical Grammar.</i> Mini-lessons. Dictation. <i>The Elements of Style.</i>

<ul style="list-style-type: none"> ● Use precise language and domain-specific vocabulary to inform about or explain the topic. ● Use sentences of varying lengths and complexities. ● Develop and maintain a consistent voice. ● Establish and maintain a formal style. 				Formal style	
CC.1.4.7.F Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.	X	X	X	Grammar Usage Capitalization Punctuation Spelling	See all above.
CC.1.4.7.G Write arguments to support claims.		X		Argument Claim **Difference between argument and persuasion**	<i>To Be a Slave, selected texts for literary groups (argue time of slavery)</i>
CC.1.4.7.H Introduce and state an opinion on a topic.		X		Introduce State opinion	See above. <i>Writers Incorporated.</i>
CC.1.4.7.I Acknowledge alternate or opposing claims and support claim with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic.		X		Opposing claims Logical reasoning Relevant evidence Credible sources	See above.
CC.1.4.7.J Organize the claim(s) with clear reasons and evidence clearly; clarify relationships among claim(s) and reasons by using words, phrases, and clauses to create cohesion; provide a concluding statement or section that follows from and supports the argument presented.		X		Organize Clarify Create cohesion Concluding statement Support argument	See above.
CC.1.4.7.K Write with an awareness of the stylistic aspects of composition.		X		Precise language Sentence variety Sentence length Sentence complexity	<i>Analytical Grammar.</i> Mini-lessons. Dictation. <i>The Elements of Style.</i>

<ul style="list-style-type: none"> • Use precise language and domain-specific vocabulary to inform about or explain the topic. • Use sentences of varying lengths and complexities. • Develop and maintain a consistent voice. • Establish and maintain a formal style. 				Consistent voice Formal style	
CC.1.4.7.L Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.		X		Grammar Usage Capitalization Punctuation Spelling	See all above.
CC.1.4.7.M Write narratives to develop real or imagined experiences or events.			X	Narrative	<i>Sherlock Holmes</i> , selected texts for literary groups
CC.1.4.7.N Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters.			X	Engage and orient Point of view Narrator/character	Use of text examples (class novels)
CC.1.4.7.O Use narrative techniques such as dialogue, description, and pacing to develop experiences, events, and/or characters; use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events.			X	Dialogue Description Pacing Relevant detail Sensory language Capture action	<i>Sherlock Holmes</i> . OWL @ Purdue. <i>The Elements of Style</i> .
CC.1.4.7.P Organize an event sequence that unfolds naturally and logically, using a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another; provide a conclusion that follows from and reflects on the narrated experiences and events.			X	Organize Sequence Transition words Signal shifts	See all above.
CC.1.4.7.Q Write with an awareness of the stylistic aspects of writing.			X	Precise and concise language Wordiness Redundancy	See all above.

<ul style="list-style-type: none"> Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy. Use sentences of varying lengths and complexities. Use precise language. Develop and maintain a consistent voice. 				Sentence variety Sentence complexity Consistent voice	
CC.1.4.7.R Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.			X	Grammar Usage Punctuation Capitalization Spelling	See all above.
CC.1.4.7.S Draw evidence from literary or informational texts to support analysis, reflection, and research, applying grade-level reading standards for literature and literary nonfiction.	X	X	X	Draw evidence Analysis Reflection Research	All of the above.
CC.1.4.7.T With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.	X	X	X	Development Strengthen Planning Revising Editing Rewriting	All books. Proofreading marks sheet. Grand Conversations.
CC.1.4.7.U Use technology, including the Internet, to produce and publish writing and link to and cite sources as well as to interact and collaborate with others, including linking to and citing sources.			X	Technology Cite sources	Use blogs as journal entries for reading and reflecting (technology-based Grand Conversation)
CC.1.4.7.V Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.		X		Short research project Investigation	<i>To Be a Slave</i> , historical background, Field study to Pottsville Library
CC.1.4.7.W		X		Relevant information	See above.

Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.				Search terms Quote/paraphrase Avoid plagiarism Standard format for citation	Field study to Pottsville Library. OWL @ Purdue.
CC.1.4.7.X Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	X	X	X	Research Reflection Revision	All of the above.
<i>1.5 Speaking and Listening: Students present appropriately in formal speaking situations, listen critically, and respond intelligently as individuals or in group discussions.</i>					
CC.1.5.7.A Engage effectively in a range of collaborative discussions, on grade-level topics, texts, and issues, building on others' ideas and expressing their own clearly.	X	X	X	Collaborative discussions Expressing ideas clearly Building on others' ideas	Grand Conversations (daily when reading texts)
CC.1.5.7.B Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.	X	X	X	Delineate Sound reasoning Sufficient evidence	Grand Conversations.
CC.1.5.7.C Analyze the main ideas and supporting details presented in diverse media formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.		X		Analyze Diverse media formats Clarify a topic	Student presentations. Prezi.
CC.1.5.7.D Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts,		X		Present claims Emphasize points Appropriate eye contact Adequate volume	<i>To Be a Slave</i> , argumentative writing produced.

details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.				Clear pronunciation	
CC.1.5.7.E Adapt speech to a variety of contexts and tasks.	X	X	X	Adapt speech	Recitation: Wordsworth (T1), Whitman (T2), Dunbar (T3) Grand Conversations.
CC.1.5.7.F Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.		X		Include multimedia components	<i>To Be a Slave</i> , argumentative writing produced. Prezi.
CC.1.5.7.G Demonstrate command of the conventions of standard English when speaking based on Grade 7 level and content.	X	X	X	Conventions of standard English	Recitation: Wordsworth (T1), Whitman (T2), Dunbar (T3) Grand Conversations.

ELA Curriculum Grade 8

PACC Standard 8	Ter m 1	Ter m 2	Ter m 3	New Skills Taught (highlighted)	Materials Used
<i>1.2 Reading Informational Text: Students read, understand, and respond to informational text – with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.</i>					
CC.1.2.8.A Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.	X	X	X	One central idea Relationship to supporting ideas	Primary sources: Women in the Industry article (T1), John Rockefeller article (T2), World War 1 article (T3)
CC.1.2.8.B Cite the textual evidence that most strongly supports and analysis of what the text says explicitly, as well as inferences, conclusions, and/or generalizations drawn from the text.	X	X	X	Most strong evidence	See above.
CC.1.2.8.C Analyze how a text makes connections among and distinctions between individuals, ideas, or events.	X	X	X	Make connections among Distinctions between	See above.
CC.1.2.8.D	X	X	X	How does author	See above.

Determine an author's point of view or purpose in a text and analyze how the author acknowledges and responds to conflicting evidence or viewpoints.				acknowledge and respond to conflicting evidence	
CC.1.2.8.E Analyze the structure of the text through evaluation of the author's use of specific sentences and paragraphs to develop and refine a concept.	X	X	X	Specific sentences and paragraphs Refine a concept	See above.
CC.1.2.8.F Analyze the influence of the words and phrases in a text including figurative, connotative, and technical meanings, and how they shape meaning and tone.	X	X	X	Analyze Meaning Tone	See above. <i>The Elements of Style.</i>
CC.1.2.8.G Evaluate the advantages and disadvantages of using different mediums (e.g., print or digital text, video, multimedia) to present a particular topic or idea.	X	X	X	Evaluate Advantages and disadvantages	See above. Grand Conversations.
CC.1.2.8.H Evaluate an author's argument, reasoning,	X	X	X	Same as grade 7	See above.

and specific claims for the soundness of the argument and the relevance of the evidence.					
CC.1.2.8.I Analyze two or more texts that provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation.		X		Identify where texts disagree	<p>Women's Rights articles</p> <p>http://www.nytimes.com/2015/07/13/nyregion/fighting-to-bring-women-in-history-to-central-park.html?ref=topics</p> <p>http://www.nytimes.com/2015/06/20/upshot/changing-views-on-a-female-president.html?ref=topics&abt=0002&abg=1</p>
CC.1.2.8.J Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.	X	X	X	Same as grade 7	See above. Dictionary.
CC.1.2.8.K Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content,	X	X	X	Same as grade 7	See above. Dictionary.

choosing flexibly from a range of strategies and tools.					
CC.1.2.8.L Read and comprehend literary nonfiction and informational text on grade level, reading independently and proficiently.	X	X	X	Same as grade 7	See above.
<i>1.3 Reading Literature: Students read and respond to works of literature – with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.</i>					
CC.1.3.8.A Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text.	X	X	X	Relationship to the characters, setting, plot	<i>Around the World in 80 Days (T1/2)</i> <i>The War Horse, The Thirty Nine Steps (T3)</i>
CC.1.3.8.B Cite the textual evidence that most strongly supports an analysis of what the text says explicitly, as well as inferences, conclusions, and/or generalizations drawn from the text.	X	X	X	Most strongly support	See above.

CC.1.3.8.C Analyze how particular lines of dialogue or incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision.	X	X	X	Lines of dialogue or incidents propel action Reveal character Provoke decision	See above.
CC.1.3.8.D Analyze how differences in the points of view of the characters and the audience or reader (e.g., created through the use of dramatic irony) create such effects as suspense or humor.	X	X	X	Points of view Suspense Humor	See above.
CC.1.3.8.E Compare and contrast the structure of two or more texts and analyze how the differing structure of each text contributes to its meaning and style.	X	X		Compare and contrast Differing structure Meaning and style	<i>Around the World in 80 Days.</i> <i>Around the World in 72 Days.</i>
CC.1.3.8.F Analyze the influence of the words and phrases in a text including figurative and connotative meanings and how they shape meaning and tone.	X	X	X	Influence Meaning Tone	See all above. <i>The Elements of Style.</i>

CC.1.3.8.G Analyze the extent to which a filmed or live production of a story or drama stays faithful to or departs from the text or script, evaluating the choices made by directors or actors.	X	X	X	Evaluating choices	<i>Around the World in 80 Days (2004).</i> <i>The War Horse (2011).</i>
CC.1.3.8.H Analyze how a modern work of diction draws on themes, patterns of events, or character types from traditional works, including describing how the material is rendered new.	X	X		Themes Patterns of events Character types	<i>Around the World in 80 Days.</i> <i>Around the World in 72 Days.</i> Grand Conversations.
CC.1.3.8.I Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.	X	X	X	Same as grade 7	<i>Around the World in 80 Days (T1).</i> <i>The War Horse, The Thirty-Nine Steps (T3).</i> Dictionary.
CC.1.3.8.J Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary	X	X	X	Same as grade 7	See above. Dictionary.

knowledge when considering a word or phrase important to comprehension or expression.					
CC.1.3.8.K Read and comprehend literary fiction on grade level, reading independently and proficiently.	X	X	X	Same as grade 7	See all above.
<i>1.4 Writing: Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.</i>					
CC.1.4.8.A Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information clearly.	X			Same as grade 7	<i>Around the World in 80 Days.</i> <i>Around the World in 72 Days.</i> (connection between lit and geography)
CC.1.4.8.B Identify and introduce the topic clearly, including a preview of what is to follow.	X			Same as grade 7	See above. <i>Writers Incorporated.</i>
CC.1.4.8.C Develop and analyze the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples; include graphics and multimedia when	X			Well-chosen	See above. Use of Chromebooks.

useful to aiding comprehension.					
CC.1.4.8.D Organize ideas, concepts, and information into broader categories; use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts; provide a concluding statement or section; include formatting when useful to aiding comprehension.	X			Broader categories Varied transitions	See above. OWL @ Purdue.
CC.1.4.8.E Write with an awareness of the stylistic aspects of composition. <ul style="list-style-type: none"> · Use precise language and domain-specific vocabulary to inform about or explain the topic. · Use sentences of varying lengths and complexities. · Create tone and voice through precise language. · Establish and maintain a formal style. 	X			Same as grade 7	See above. Analytical Grammar. Mini-lessons. Dictation. <i>The Elements of Style.</i>

CC.1.4.8.F Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.	X			Same as grade 7	See all above.
CC.1.4.8.G Write arguments to support claims.		X		Same as grade 7	<i>Around the World in 80 Days.</i> <i>Around the World in 72 Days.</i>
CC.1.4.8.H Introduce and state an opinion on a topic.		X		Same as grade 7	See above. <i>Writers Incorporated.</i>
CC.1.4.8.I Acknowledge and distinguish the claim(s) from alternate or opposing claims and support claim with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic.		X		Distinguish the claim	See above. Use of Chromebooks.
CC.1.4.8.J Organize the claim(s) with clear reasons and evidence clearly; clarify relationships among claim(s), counterclaims,		X		Counterclaims Evidence	See above. OWL @ Purdue.

reasons, and evidence by using words, phrases, and clauses to create cohesion; provide a concluding statement or section that follows from and supports the argument presented.					
<p>CC.1.4.8.K</p> <p>Write with an awareness of the stylistic aspects of composition.</p> <ul style="list-style-type: none"> · Use precise language and domain-specific vocabulary to inform about or explain the topic. · Use sentences of varying lengths and complexities. · Create tone and voice through precise language. · Establish and maintain a formal style. 		X		Same as grade 7	<p>See above.</p> <p>Analytical Grammar.</p> <p>Mini-lessons.</p> <p>Dictation.</p> <p><i>The Elements of Style.</i></p>
<p>CC.1.4.8.L</p> <p>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</p>		X		Same as grade 7	See all above.

CC.1.4.8.M Write narratives to develop real or imagined experiences or events.			X	Same as grade 7	<i>The War Horse.</i> <i>The Thirty-Nine Steps.</i>
CC.1.4.8.N Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters.			X	Same as grade 7	Use of text examples (class novels).
CC.1.4.8.O Use narrative techniques such as dialogue, description, reflection, and pacing to develop experiences, events, and/or characters; use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events.			X	Reflection	See above. <i>Writers Incorporated.</i>
CC.1.4.8.P Organize an event sequence that unfolds naturally and logically, using a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another and			X	Show relationships	See above.

show the relationships among experiences and events; provide a conclusion that follows from and reflects on the narrated experiences and events.					
<p>CC.1.4.8.Q</p> <p>Write with an awareness of the stylistic aspects of writing.</p> <ul style="list-style-type: none"> · Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects. · Use sentences of varying lengths and complexities. · Create tone and voice through precise language. 			X	<p>Verbs in the active and passive voice</p> <p>Conditional mood</p> <p>Subjunctive mood</p>	<p>See above.</p> <p>Analytical Grammar.</p> <p>Mini-lessons.</p> <p>Dictation.</p> <p><i>The Elements of Style.</i></p>
<p>CC.1.4.8.R</p> <p>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</p>			X	Same as grade 7	See all above.
<p>CC.1.4.8.S</p> <p>Draw evidence from literary or informational texts to</p>	X	X	X	Same as grade 7	<p><i>Around the World in 80 Days,</i></p> <p><i>Around the World in 72 Days</i></p> <p>(T1/2)</p>

support analysis, reflection, and research, applying grade-level reading standards for literature and literary nonfiction.					<i>The War Horse, The Thirty-Nine Steps</i> (T3)
CC.1.4.8.T With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.	X	X	X	Same as grade 7	All books. Proofreading marks sheet. Grand Conversations.
CC.1.4.8.U Use technology, including the Internet, to produce and publish writing and present the relationships between the information and ideas efficiently as well as to interact and collaborate with others.			X	Present relationships between information and ideas	Use blogs as journal entries for reading and reflecting (technology-based Grand Conversations)
CC.1.4.8.V Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional	X	X		Self-generated question	<i>Around the World in 80 Days.</i> Chromebooks. Grand Conversations. Field study to Pottsville Library.

related, focused questions that allow for multiple avenues of exploration.					
CC.1.4.8.W Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.	X	X		Same as grade 7	See above. Field study to Pottsville Library.
CC.1.4.8.X Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	X	X	X	Same as grade 7	All of the above.
<i>1.5 Speaking and Listening: Students present appropriately in formal speaking situations, listen critically, and respond intelligently as individuals or in group discussions.</i>					
CC.1.5.8.A Engage effectively in a range of	X	X	X	Same as grade 7	Grand Conversations. (daily when reading texts)

collaborative discussions, on grade-level topics, texts, and issues, building on others' ideas and expressing their own clearly.					
CC.1.5.8.B Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.	X	X	X	Same as grade 7	Grand Conversations.
CC.1.5.8.C Analyze the purpose of information presented in diverse media formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.		X		Purpose of information	Student presentations. Prezi.
CC.1.5.8.D Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound, valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.		X		Relevant evidence Sound Valid reasoning Well-chosen details	Argumentative writing presented. Prezi.

CC.1.5.8.E Adapt speech to a variety of contexts and tasks.	X	X	X	Same as grade 7	Recitation: Poe (T1), Yeats (T2), Sandburg (T3) Grand Conversations.
CC.1.5.8.F Integrate multimedia and visual displays into presentations to add interest, clarify information, and strengthen claims and evidence.		X		Integrate Add interest Clarify information Strengthen claims and evidence	Argumentative writing presented. Prezi.
CC.1.5.8.G Demonstrate command of the conventions of standard English when speaking based on Grade 8 level and content.	X	X	X	Same as grade 7	Recitation: Poe (T1), Yeats (T2), Sandburg (T3) Grand Conversations.

ELA Curriculum Grade 9

PACC Standard 9	Term 1	Term 2	Term 3	New Skills Taught (highlighted)	Materials Used (Literature)	Materials Used (Intro to Comp)
<i>1.2 Reading Informational Text: Students read, understand, and respond to informational text – with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.</i>						
CC.1.2.9-10.A Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.	X	X	X	How it emerges Refined by specific details	Primary sources: Article on Women in the Depression (T1) Article on FDR/Hitler (T2) Article on D-Day (T3)	
CC.1.2.9-10.B Cite strong and thorough textual evidence to support analysis of what the text says explicitly, as well as inferences and conclusions based on an author's explicit assumptions and beliefs about a subject.	X	X	X	Strong and thorough Author's explicit assumptions	See above.	
CC.1.2.9-10.C Apply appropriate strategies to analyze, interpret,	X	X	X	Apply appropriate strategies Interpret	See above. Grand Conversation. Small and large group discussion.	

and evaluate how an author unfolds an analysis or series of ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between them.				Evaluate Introduce, develop Connections		
CC.1.2.9-10.D Determine an author's particular point of view and analyze how rhetoric advances the point of view.	X	X	X	Particular How rhetoric advances POV	See above.	
CC.1.2.9-10.E Analyze in detail how an author's ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text.	X	X	X	In detail Ideas or claims developed	See above.	
CC.1.2.9-10.F Analyze how words and phrases shape meaning and tone in texts.	X	X	X	Analyze	See above. <i>The Elements of Style.</i>	
CC.1.2.9-10.G Analyze various accounts of a		X		Analyze various	Article on FDR/Hitler History.com:	

subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account.					http://www.history.com/topics/world-war-ii/adolf-hitler Featured videos and articles. Grand Conversation.	
CC.1.2.9-10.H Delineate and evaluate the argument and specific claims in a text, assessing the validity of reasoning and relevance of evidence.	X	X	X	Delineate Validity	See all above.	
CC.1.2.9-10.I Analyze seminal U.S. documents of historical and literary significance, including how they address related themes and concepts.	X	X	X	Analyze seminal U.S. docs Significance	FDR Fireside Chats The New Deal	
CC.1.2.9-10.J Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college- and career-readiness level; demonstrate	X	X	X	Demonstrate independence	See above. Dictionary.	

independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.						
CC.1.2.9-10.K Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.	X	X	X	Same as 8	See above. Dictionary.	
CC.1.2.9-10.L Read and comprehend literary nonfiction and informational text on grade level, reading independently and proficiently.	X	X	X	Same as 8	See above.	
<i>1.3 Reading Literature: Students read and respond to works of literature – with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.</i>						
CC.1.3.9-10.A Determine a theme or central idea of a text and analyze in detail its development over	X	X	X	In detail How it emerges and is	<i>The Grapes of Wrath:</i> John Steinbeck (T1), <i>Night:</i> Elie Weisel (T2), <i>Diary of Anne Frank:</i> Anne Frank (T2), <i>To Kill</i>	<i>Dr. Jekyll and Mr. Hyde:</i> Robert Louis Stevenson

the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.				shaped/refined	<i>a Mockingbird</i> : Harper Lee (T3)	
CC.1.3.9-10.B Cite strong and thorough textual evidence to support analysis of what the text says explicitly, as well as inferences and conclusions based on an author's explicit assumptions and beliefs about a subject.	X	X	X	Explicit assumptions	See above.	See above.
CC.1.3.9-10.C Analyze how complex characters develop over the course of a text, interact with other characters, and advance the plot or develop the theme.	X	X	X	Complex characters Interact Advance plot or develop theme	See above.	See above.
CC.1.3.9-10.D Determine the point of view of the text and analyze the impact the point of view has on the meaning of the text.	X	X	X	Point of view Impact Meaning	See above.	See above.

CC.1.3.9-10.E Analyze how an author's choices concerning how to structure a text, order events within it, and manipulate time create an effect.	X	X	X	Order events within Manipulate time	See above.	See above.
CC.1.3.9-10.F Analyze how words and phrases shape meaning and tone in texts.	X	X	X	Shape meaning and tone	See above. <i>The Elements of Style.</i>	See above.
CC.1.3.9-10.G Analyze the representation of a subject or a key scene in two different artistic mediums, including what is emphasized or absent in each treatment.			X	What is emphasized or absent	<i>To Kill a Mockingbird</i> (novel and film [1962])	Completed in Literature
CC.1.3.9-10.H Analyze how an author draws on and transforms themes, topics, character types, and/or other text elements from source material in a specific work.	X	X	X	Transforms themes	See above.	See above.
CC.1.3.9-10.I Determine or clarify the meaning of unknown and multiple-meaning	X	X	X	Same as 8	See above. Dictionary.	See above.

words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.						
CC.1.3.9-10.J Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.	X	X	X	Same as 8	See above. Dictionary.	See above.
CC.1.3.9-10.K Read and comprehend literary fiction on grade level, reading independently and proficiently.	X	X	X	Same as 8	See above.	See above.
<i>1.4 Writing: Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.</i>						
CC.1.4.9-10.A Write informative/explanatory texts to examine and convey complex ideas, concepts, and information		X		Complex ideas Accurately	<i>Night:</i> Elie Weisel <i>Diary of Anne Frank:</i> Anne Frank	<i>Dr. Jekyll and Mr. Hyde:</i> Robert Louis Stevenson

clearly and accurately.						
CC.1.4.9-10.B Write with a sharp, distinct focus identifying topic, task, and audience.		X		Sharp distinct focus Topic, task, audience	See above. <i>Writers Incorporated.</i>	See above. <i>Writers Incorporated.</i>
CC.1.4.9-10.C Develop and analyze the topic with relevant, well-chosen, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic; include graphics and multimedia when useful to aiding comprehension.		X		Sufficient facts Extended definitions	See above. Use of Chromebooks. Dictionary.	See above. Use of Chromebooks. Dictionary.
CC.1.4.9-10.D Organize ideas, concepts, and information to make important connections and distinctions; use appropriate and varied transitions to link the major sections of the text; include formatting when useful to aiding		X		Important connections and distinctions	See above. OWL @ Purdue. <i>The Elements of Style.</i>	See above. Owl @ Purdue. <i>The Elements of Style.</i>

comprehension; provide a concluding statement or section.						
CC.1.4.9-10.E Write with an awareness of the stylistic aspects of composition. · Use precise language and domain-specific vocabulary to manage the complexity of the topic. · Establish and maintain a formal style and objective tone while attending to the norms of the discipline in which they are writing.		X		Manage complexity Objective tone	See above. <i>The Elements of Style.</i> Dictation.	See above. <i>The Elements of Style.</i> Dictation.
CC.1.4.9-10.F Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.		X		Same as 8	See above.	See above.
CC.1.4.9-10.G Write arguments to support claims in an analysis of substantive topics.			X	Analysis	<i>To Kill a Mockingbird:</i> Harper Lee **Difference between argument and persuasion**	<i>Dr. Jekyll</i> <i>and Mr.</i> <i>Hyde:</i> Robert Louis Stevenson

						**Difference between argument and persuasion* *
CC.1.4.9-10.H Write with a sharp, distinct focus identifying topic, task, and audience. · Introduce the precise claim.			X	Topic, task, audience Precise claim	See above. <i>Writers Incorporated.</i>	See above. <i>Writers Incorporated.</i>
CC.1.4.9-10.I Distinguish the claim(s) from alternate or opposing claims; develop claim(s) fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns.			X	Distinguish the claim Fair Evidence Strengths and limitations	See above. Use of Chromebooks for research.	See above. Use of Chromebooks for research.
CC.1.4.9-10.J Create organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence; use words, phrases, and clauses to link the major sections			X	Create organization	See above. <i>The Elements of Style.</i> OWL @ Purdue.	See above. <i>The Elements of Style.</i> OWL @ Purdue.

of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims; provide a concluding statement or section that follows from and supports the argument presented.						
<p>CC.1.4.9-10.K</p> <p>Write with an awareness of the stylistic aspects of composition.</p> <ul style="list-style-type: none"> · Use precise language and domain-specific vocabulary to manage the complexity of the topic. · Establish and maintain a formal style and objective tone while attending to the norms of the discipline in which they are writing. 			X	Same as 8	<p>See above.</p> <p>Analytical grammar.</p> <p>Mini lessons.</p> <p>Dictation.</p>	<p>See above.</p> <p>Analytical grammar.</p> <p>Mini lessons.</p> <p>Dictation.</p>
<p>CC.1.4.9-10.L</p> <p>Demonstrate a grade-appropriate command of the</p>			X	Same as 8	See all above.	See all above.

conventions of standard English grammar, usage, capitalization, punctuation, and spelling.						
CC.1.4.9-10.M Write narratives to develop real or imagined experiences or events.	X			Same as 8	<i>Grapes of Wrath:</i> John Steinbeck	<i>Dr. Jekyll and Mr. Hyde:</i> Robert Louis Stevenson
CC.1.4.9-10.N Engage and orient the reader by setting out a problem, situation, or observation, establishing one or multiple points of view, and introducing a narrator and/or characters.	X			Setting out a problem Multiple POV	See above. <i>Writers Incorporated.</i>	See above. <i>Writers Incorporated.</i>
CC.1.4.9-10.O Use narrative techniques such as dialogue, description, reflection, multiple plotlines, and pacing to develop experiences, events, and/or characters; use precise words and phrases, telling details, and sensory language to convey a vivid picture of the	X			Multiple plotlines Vivid picture of experiences	See above. <i>The Elements of Style.</i>	See above. <i>The Elements of Style.</i>

experiences, events, settings, and/or characters.						
CC.1.4.9-10.P Create a smooth progression of experiences or events using a variety of techniques to sequence events so that they build on one another to create a coherent whole; provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.	X			Smooth progression Sequence events	See above.	See above.
CC.1.4.9-10.Q Write with an awareness of the stylistic aspects of writing. · Use parallel structure. · Use various types of phrases and clauses to convey meaning and add variety and interest.	X			Parallel structure	See above. OWL @ Purdue. Dictation. Mini-lessons. Analytical Grammar.	See above. OWL @ Purdue. Dictation. Mini-lessons. Analytical Grammar.
CC.1.4.9-10.R Demonstrate a grade-appropriate command of the	X			Same as 8	See above.	See above.

conventions of standard English grammar, usage, capitalization, punctuation, and spelling.						
CC.1.4.9-10.S Draw evidence from literary or informational texts to support analysis, reflection, and research, applying grade-level reading standards for literature and literary nonfiction.		X		Same as 8	<i>Night</i> : Elie Weisel <i>Diary of Anne Frank</i> : Anne Frank	See all above.
CC.1.4.9-10.T Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.	X	X	X	Develop and strengthen Planning Revising Editing Rewriting	All books. Proofreading marks sheet. Grand Conversation.	See all above. Proofreading marks sheet. Grand Conversation.
CC.1.4.9-10.U Use technology, including the Internet, to produce, publish and update individual or shared writing products, taking advantage of technology's capacity to link to			X	Update individual or shared writing Tech capacity	Use blogs as journal entries for reading and reflecting (technology-based Grand Conversations).	Use blogs as journal entries for reading and reflecting (technology-based Grand Conversations).

other information and to display information flexibly and dynamically.						
CC.1.4.9-10.V Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.			X	Sustained research Narrow or broaden inquiry Synthesize multiple sources	<i>To Kill a Mockingbird.</i> Use of Chromebooks. Field study to Pottsville Library.	<i>Dr. Jekyll and Mr. Hyde.</i> Use of Chromebooks. Field study to Pottsville Library.
CC.1.4.9-10.W Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of			X	Authoritative Usefulness Avoiding plagiarism Standard format	See above. OWL @ Purdue. Field study to Pottsville Library.	See above. OWL @ Purdue. Field study to Pottsville Library.

ideas, avoiding plagiarism and following a standard format for citation.						
CC.1.4.9-10.X Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	X	X	X	Same as 8	See all above.	See all above.
<i>1.5 Speaking and Listening: Students present appropriately in formal speaking situations, listen critically, and respond intelligently as individuals or in group discussions.</i>						
CC.1.5.9-10.A Initiate and participate effectively in a range of collaborative discussions on grade-level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.	X	X	X	Initiate and participate	Daily discussions. Grand Conversations.	Daily discussions . Grand Conversations.
CC.1.5.9-10.B Evaluate a speaker's perspective,	X	X	X	Evaluate perspective	Daily discussions. Grand Conversations. Narrations.	Daily discussions .

reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.				Fallacious reasoning Exaggerated or distorted evidence		Grand Conversations. Narrations.
CC.1.5.9-10.C Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.		X		Integrate Credibility Accuracy	History.com: http://www.history.com/topics/world-war-ii/adolf-hitler Featured videos	Argumentative writing presented. Prezi.
CC.1.5.9-10.D Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning; ensure that the presentation is appropriate to purpose, audience, and task.			X	Follow line of reasoning Purpose, audience, task	Argumentative writing presented. Prezi.	Argumentative writing presented. Prezi.
CC.1.5.9-10.E Adapt speech to a variety of contexts and tasks.	X	X	X	Same as 8	Recitation: Robert Frost (T1), E.E. Cummings (T2), Langston Hughes (T3). Grand Conversation.	Daily discussion. Grand Conversations.

CC.1.5.9-10.F Make strategic use of digital media in presentations to add interest and enhance understanding of findings, reasoning, and evidence.			X	Strategic use Enhance understanding	Argumentative writing presented. Prezi.	Present all writing produced.
CC.1.5.9-10.G Demonstrate command of the conventions of standard English when speaking based on Grade 9-10 level and content.	X	X	X	Same as 8	Daily discussions. Recitation: Robert Frost (T1), E.E. Cummings (T2), Langston Hughes (T3). Grand Conversations.	See all above.

ELA Curriculum Grade 10

PACC Standards 10	Term 1	Term 2	Term 3	New Skills Taught (highlighted)	Materials Used (Literature)	Materials Used (Composition)
<i>1.2 Reading Informational Text: Students read, understand, and respond to informational text – with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.</i>						
CC.1.2.9-10.A Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.	X	X	X	How it emerges Shaped and refined	Primary Sources: <i>Common Sense</i> : Thomas Paine, <i>The Autobiography of Benjamin Franklin</i> , <i>John Adams Letters</i> , Articles (all T1), Speeches by Susan B Anthony and Sojourner Truth, Articles (all T2), Articles (T3)	
CC.1.2.9-10.B Cite strong and thorough textual evidence to support analysis of what the text says explicitly, as well as inferences and conclusions based on an author's explicit assumptions and beliefs about a subject.	X	X	X	Strong and thorough Author's explicit assumptions	See above.	
CC.1.2.9-10.C Apply appropriate strategies to analyze, interpret, and evaluate how an author unfolds an analysis or series of	X	X	X	Apply appropriate strategies Interpret Evaluate	See above.	

ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between them.						
CC.1.2.9-10.D Determine an author's particular point of view and analyze how rhetoric advances the point of view.	X	X	X	Rhetoric advances POV	See above.	
CC.1.2.9-10.E Analyze in detail how an author's ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text.	X	X	X	Ideas and claims are developed	See above.	
CC.1.2.9-10.F Analyze how words and phrases shape meaning and tone in texts.	X	X	X	Analyze	See above. <i>The Elements of Style</i>	
CC.1.2.9-10.G Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which		X		Analyze various	<i>The Narrative of Frederick Douglass</i> AND articles about him	

details are emphasized in each account.						
CC.1.2.9-10.H Delineate and evaluate the argument and specific claims in a text, assessing the validity of reasoning and relevance of evidence.	X	X	X	Delineate Validity	See all above.	
CC.1.2.9-10.I Analyze seminal U.S. documents of historical and literary significance, including how they address related themes and concepts.	X	X		Analyze seminal US documents Significance	Declaration of Independence, <i>Common Sense</i> (T1), Gettysburg Address, Emancipation Proclamation, Dred Scott Decision (T2)	
CC.1.2.9-10.J Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college- and career-readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.	X	X	X	Demonstrate independence	See all above. Dictionary.	

CC.1.2.9-10.K Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.	X	X	X	Same as 8	See above. Dictionary.	
CC.1.2.9-10.L Read and comprehend literary nonfiction and informational text on grade level, reading independently and proficiently.	X	X	X	Same as 8	See above.	
<i>1.3 Reading Literature: Students read and respond to works of literature – with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.</i>						
CC.1.3.9-10.A Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.	X	X	X	In detail How it emerges	Various group-read texts (T1), <i>The Narrative Life of Frederick Douglass</i> (T2), <i>Harlem Stomp, Their Eyes Were Watching God</i> (T3)	<i>Dr. Jekyll and Mr. Hyde</i>

CC.1.3.9-10.B Cite strong and thorough textual evidence to support analysis of what the text says explicitly, as well as inferences and conclusions based on an author's explicit assumptions and beliefs about a subject.	X	X	X	Explicit assumptions	See above.	See above.
CC.1.3.9-10.C Analyze how complex characters develop over the course of a text, interact with other characters, and advance the plot or develop the theme.	X	X	X	Complex characters Advance plot Develop theme	See above.	See above.
CC.1.3.9-10.D Determine the point of view of the text and analyze the impact the point of view has on the meaning of the text.	X	X	X	Point of view Impact Meaning	See above. Grand Conversation.	See above. Grand Conversation.
CC.1.3.9-10.E Analyze how an author's choices concerning how to structure a text, order events within it, and manipulate time create an effect.	X	X	X	Order events within it Manipulate time	See above.	See above.

CC.1.3.9-10.F Analyze how words and phrases shape meaning and tone in texts.	X	X	X	Shape meaning and tone	See above.	See above.
CC.1.3.9-10.G Analyze the representation of a subject or a key scene in two different artistic mediums, including what is emphasized or absent in each treatment.			X	What is emphasized or absent	<i>Harlem Stomp</i> https://www.youtube.com/watch?v=GZWZTLK70Oo https://www.youtube.com/watch?v=Z3ozfYC9CZE	Completed in Literature
CC.1.3.9-10.H Analyze how an author draws on and transforms themes, topics, character types, and/or other text elements from source material in a specific work.	X	X	X	Transforms themes	See above.	See above.
CC.1.3.9-10.I Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.	X	X	X	Same as 8	See above. Dictionary.	See above. Dictionary.
CC.1.3.9-10.J Acquire and use accurately	X	X	X	Same as 8	See above.	See above.

grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.						
CC.1.3.9-10.K Read and comprehend literary fiction on grade level, reading independently and proficiently.	X	X	X	Same as 8	See above.	See above.
<i>1.4 Writing: Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.</i>						
CC.1.4.9-10.A Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately.	X			Complex ideas Accurately	<i>Common Sense, The Autobiography of Benjamin Franklin</i>	<i>Dr. Jekyll and Mr. Hyde</i>
CC.1.4.9-10.B Write with a sharp, distinct focus identifying topic, task, and audience.	X			Sharp, distinct focus Topic, task, audience	See above. <i>Writers Incorporated.</i>	See above. <i>Writers Incorporated.</i>
CC.1.4.9-10.C	X			Sufficient facts	See above.	See above.

Develop and analyze the topic with relevant, well-chosen, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic; include graphics and multimedia when useful to aiding comprehension.				Extended definitions	Use of Chromebooks.	Use of Chromebooks.
CC.1.4.9-10.D Organize ideas, concepts, and information to make important connections and distinctions; use appropriate and varied transitions to link the major sections of the text; include formatting when useful to aiding comprehension; provide a concluding statement or section.	X			Important connections and distinctions	See above. OWL @ Purdue. <i>The Elements of Style.</i>	See above. Owl @ Purdue. <i>The Elements of Style.</i>
CC.1.4.9-10.E Write with an awareness of the stylistic aspects of composition.	X			Manage complexity Objective tone	See above. <i>The Elements of Style.</i> Dictation.	See above. <i>The Elements of Style.</i> Dictation.

<ul style="list-style-type: none"> · Use precise language and domain-specific vocabulary to manage the complexity of the topic. · Establish and maintain a formal style and objective tone while attending to the norms of the discipline in which they are writing. 						
CC.1.4.9-10.F Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.	X			Same as 8	See above.	See above.
CC.1.4.9-10.G Write arguments to support claims in an analysis of substantive topics.	X	X		Analysis	<i>The Narrative Life of Frederick Douglass</i> **Difference between argument and persuasion**	<i>Dr. Jekyll and Mr. Hyde</i> **Difference between argument and persuasion* *
CC.1.4.9-10.H Write with a sharp, distinct focus identifying topic, task, and audience. <ul style="list-style-type: none"> · Introduce the precise claim. 	X	X		Topic, task, audience Precise claim	See above. <i>Writers Incorporated.</i>	See above. <i>Writers Incorporated.</i>

CC.1.4.9-10.I Distinguish the claim(s) from alternate or opposing claims; develop claim(s) fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns.	X	X		Distinguish claim Fair Evidence Strengths and limitations	See above.	See above.
CC.1.4.9-10.J Create organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence; use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims; provide a concluding statement or section that follows from and supports the argument presented.	X	X		Create organization	See above.	See above.

CC.1.4.9-10.K Write with an awareness of the stylistic aspects of composition. · Use precise language and domain-specific vocabulary to manage the complexity of the topic. · Establish and maintain a formal style and objective tone while attending to the norms of the discipline in which they are writing.	X	X		Same as 8	See above. <i>The Elements of Style.</i> Dictation. Mini-lessons.	See above. <i>The Elements of Style.</i> Dictation. Mini-lessons.
CC.1.4.9-10.L Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.	X	X		Same as 8	See above.	See above.
CC.1.4.9-10.M Write narratives to develop real or imagined experiences or events.	X		X	Same as 8	<i>Harlem Stomp</i>	<i>Dr. Jekyll and Mr. Hyde</i>
CC.1.4.9-10.N Engage and orient the reader by setting out a problem, situation, or	X		X	Setting out a problem Multiple POV	See above. <i>Writers Incorporated.</i>	See above. <i>Writers Incorporated.</i>

observation, establishing one or multiple points of view, and introducing a narrator and/or characters.						
CC.1.4.9-10.O Use narrative techniques such as dialogue, description, reflection, multiple plotlines, and pacing to develop experiences, events, and/or characters; use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, settings, and/or characters.	X		X	Multiple plotlines Vivid picture of experience	See above. <i>The Elements of Style.</i>	See above. <i>The Elements of Style.</i>
CC.1.4.9-10.P Create a smooth progression of experiences or events using a variety of techniques to sequence events so that they build on one another to create a coherent whole; provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the	X		X	Smooth progression Sequence events	See above.	See above.

course of the narrative.						
CC.1.4.9-10.Q Write with an awareness of the stylistic aspects of writing. · Use parallel structure. · Use various types of phrases and clauses to convey meaning and add variety and interest.	X		X	Parallel structure	See above. OWL @ Purdue. Dictation. Mini-lessons.	See above. OWL @ Purdue. Dictation. Mini-lessons.
CC.1.4.9-10.R Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.	X		X	Same as 8	See above.	See above.
CC.1.4.9-10.S Draw evidence from literary or informational texts to support analysis, reflection, and research, applying grade-level reading standards for literature and literary nonfiction.	X	X	X	Same as 8	See all above.	See all above.
CC.1.4.9-10.T Develop and strengthen writing as needed by planning,	X	X	X	Develop and strengthen Planning	See all above. Proofreading marks sheet.	See all above.

revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.				Revising Editing Rewriting		Proofreading marks sheet.
CC.1.4.9-10.U Use technology, including the Internet, to produce, publish and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.			X	Update individual or shared writing Tech capacity	Use blogs as journal entries for reading and reflecting (technology-based Grand Conversations)	Use blogs as journal entries for reading and reflecting (technology-based Grand Conversations)
CC.1.4.9-10.V Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.	X	X	X	Sustained research Narrow or broaden inquiry Synthesize multiple sources	All above texts. Use of Chromebooks. Field study to Pottsville Library.	<i>Dr. Jekyll and Mr. Hyde.</i> Use of Chromebooks. Field study to Pottsville Library.

CC.1.5.9-10.A Initiate and participate effectively in a range of collaborative discussions on grade-level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.	X	X	X	Initiate and participate	Daily discussions. Grand Conversations.	Daily discussions . Grand Conversations.
CC.1.5.9-10.B Evaluate a speaker's perspective, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.	X	X	X	Evaluate perspective Fallacious reasoning Exaggerated or distorted evidence	See above.	See above.
CC.1.5.9-10.C Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.	X	X		Integrate Evaluate credibility Accuracy of each source	Argumentative writing presented. Prezi.	Argumentative writing presented. Prezi.
CC.1.5.9-10.D Present information, findings, and supporting evidence clearly, concisely,	X	X		Follow line of reasons Purpose Audience	Argumentative writing presented. Prezi.	Argumentative writing presented. Prezi.

and logically such that listeners can follow the line of reasoning; ensure that the presentation is appropriate to purpose, audience, and task.				Task		
CC.1.5.9-10.E Adapt speech to a variety of contexts and tasks.	X	X	X	Same as 8	Daily discussions. Grand Conversations. Recitation: Wheatley (T1), Whitman (T2), Watkins (T3)	Daily discussions . Grand Conversations.
CC.1.5.9-10.F Make strategic use of digital media in presentations to add interest and enhance understanding of findings, reasoning, and evidence.	X	X	X	Strategic use Enhance understanding	Present writing produced. Prezi.	Present all writing produced. Prezi.
CC.1.5.9-10.G Demonstrate command of the conventions of standard English when speaking based on Grade 9-10 level and content.	X	X	X	Same as 8	See all above.	See all above.

ELA Curriculum Grade 11

PACC Standard 11	Term 1	Term 2	Term 3	New Skills Taught (highlighted)	Materials Used (Literature)	Materials Used (Composition)
<i>1.2 Reading Informational Text: Students read, understand, and respond to informational text – with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.</i>						
CC.1.2.11-12.A Determine and analyze the relationship between two or more central ideas of a text, including the development and interaction of the central ideas; provide an objective summary of the text.	X	X	X	Analyze relationship Interaction	Primary Sources: <i>Common Sense</i> , <i>The Autobiography of Benjamin Franklin</i> , <i>John Adams Letters</i> , Articles (all T1), Speeches by Susan B Anthony and Sojourner Truth, Articles (all T2), Articles (T3)	
CC.1.2.11-12.B Cite strong and thorough textual evidence to support analysis of what the text says explicitly, as well as inferences and conclusions based on and related to an author's implicit and explicit assumptions and beliefs.	X	X	X	Related to Implicit	See above.	

CC.1.2.11-12.C Analyze the interaction and development of a complex set of ideas, sequence of events, or specific individuals over the course of the text.	X	X	X	Interaction and development of complex text	See above.	
CC.1.2.11-12.D Evaluate how an author's point of view or purpose shapes the content and style of a text.	X	X	X	Evaluate Shapes content and style	See above.	
CC.1.2.11-12.E Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging.	X	X	X	Effectiveness Exposition or argument Clear, convincing	See above.	
CC.1.2.11-12.F Evaluate how words and phrases shape meaning and tone in texts.	X	X	X	Evaluate	See above. <i>The Elements of Style</i>	
CC.1.2.11-12.G Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to		X		Integrate Address question Solve problem	<i>The Narrative Life of Frederick Douglass</i> AND articles about him (primary sources)	

address a question or solve a problem.						
CC.1.2.11-12.H Analyze seminal texts based upon reasoning, premises, purposes, and arguments.	X	X	X	Analyze seminal texts Premises Purposes	See all above.	
CC.1.2.11-12.I Analyze foundational U.S. and world documents of historical, political, and literary significance for their themes, purposes, and rhetorical features.	X	X		Rhetorical features	Declaration of Independence, <i>Common Sense</i> (T1), Gettysburg Address, Emancipation Proclamation, Dred Scott Decision (T2)	
CC.1.2.11-12.J Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college- and career-readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.	X	X	X	Same as 9-10	See all above. Dictionary.	

CC.1.2.11-12.K Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.	X	X	X	Same as 9-10	See above. Dictionary.	
CC.1.2.11-12.L Read and comprehend literary nonfiction and informational text on grade level, reading independently and proficiently.	X	X	X	Same as 9-10	See above.	
<i>1.3 Reading Literature: Students read and respond to works of literature – with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.</i>						
CC.1.3.11-12.A Determine and analyze the relationship between two or more themes or central ideas of a text, including the development and interaction of the themes; provide an objective summary of the text.	X	X	X	Interaction of themes	Various group-read texts (T1), <i>The Narrative Life of Frederick Douglass</i> (T2), <i>Harlem Stomp</i> , <i>Their Eyes Were Watching God</i> (T3)	<i>Dr. Jekyll and Mr. Hyde.</i>
CC.1.3.11-12.B Cite strong and thorough textual	X	X	X	Related to Implicit	See above.	See above.

evidence to support analysis of what the text says explicitly, as well as inferences and conclusions based on and related to an author's implicit and explicit assumptions and beliefs.						
CC.1.3.11-12.C Analyze the impact of the author's choice regarding how to develop and relate elements of a story or drama.	X	X	X	Impact Choices	See above.	See above.
CC.1.3.11-12.D Evaluate how an author's point of view or purpose shapes the content and style of a text.	X	X	X	Shapes content Style	See above.	See above.
CC.1.3.11-12.E Evaluate the structure of texts including how specific sentences, paragraphs, and larger portions of the texts relate to each other and the whole.	X	X	X	Relates to each other and the whole	See above.	See above.
CC.1.3.11-12.F Evaluate how words and phrases shape meaning and tone in texts.	X	X	X	Evaluate	See above. <i>The Elements of Style.</i>	See above. <i>The Elements of Style.</i>
CC.1.3.11-12.G Analyze multiple interpretations of a	X	X	X	Multiple Interprets source text	<i>The Taming of the Shrew (T1),</i>	Completed in Literature/Theater

story, drama, or poem (e.g., recorded or live production of a play or recorded novel or poetry), evaluating how each version interprets the source text. (Include at least one play by Shakespeare and one play by an American dramatist.)					<i>Macbeth</i> (T2), <i>Coriolanus</i> (T3)	
CC.1.3.11-12.H Demonstrate knowledge of foundational works of literature that reflect a variety of genres in the respective major periods of literature, including how two or more texts from the same period treat similar themes or topics.	X	X	X	Demonstrate Variety of genres	See all above.	Completed in Literature,
CC.1.3.11-12.I Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.	X	X	X	Same as 9-10	See above. Dictionary.	See above. Dictionary.
CC.1.3.11-12.J Acquire and use accurately grade-appropriate	X	X	X	College/career readiness	See above. Dictionary.	See above. Dictionary.

general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college- and career-readiness level; gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.				Independence		
CC.1.3.11-12.K Read and comprehend literary fiction on grade level, reading independently and proficiently.	X	X	X	Same as 9-10	See above.	See above.
<i>1.4 Writing: Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.</i>						
CC.1.4.11-12.A Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately.	X			Same as 9-10	<i>Common Sense. The Autobiography of Benjamin Franklin.</i>	<i>Dr. Jekyll and Mr. Hyde.</i>
CC.1.4.11-12.B Write with a sharp, distinct focus identifying topic, task, and audience.	X			Same as 9-10	See above. <i>Writers Incorporated.</i>	See above. <i>Writers Incorporated.</i>

CC.1.4.11-12.C Develop and analyze the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic; include graphics and multimedia when useful to aiding comprehension.	X			Thoroughly Significant Relevant	See above. Use of Chromebooks.	See above. Use of Chromebooks.
CC.1.4.11-12.D Organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a whole; use appropriate and varied transitions and syntax to link the major sections of the text; provide a concluding statement or section that supports the information presented; include formatting when useful to aiding comprehension.	X			Complex Syntax	See above. OWL @ Purdue.	See above. OWL @ Purdue.
CC.1.4.11-12.E Write with an awareness of the	X			Metaphor Simile Analogy	See above. <i>The Elements of Style.</i>	See above. <i>The Elements of Style.</i> Dictation.

stylistic aspects of composition. · Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic. · Establish and maintain a formal style and objective tone while attending to the norms of the discipline in which they are writing.					Dictation.	
CC.1.4.11-12.F Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.	X			Same as 9-10	See above.	See above.
CC.1.4.11-12.G Write arguments to support claims in an analysis of substantive topics.	X	X		Same as 9-10 **Difference between argument and persuasion**	<i>The Narrative Life of Frederick Douglass</i>	<i>Dr. Jekyll and Hyde</i>
CC.1.4.11-12.H Write with a sharp, distinct focus identifying topic, task, and audience.	X	X		Knowledgeable	See above. <i>Writers Incorporated.</i>	See above. <i>Writers Incorporated.</i>

· Introduce the precise, knowledgeable claim.						
CC.1.4.11-12.I Distinguish the claim(s) from alternate or opposing claims; develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.	X	X		Counterclaim s Values Possible biases	See above.	See above.
CC.1.4.11-12.J Create organization that logically sequences claim(s), counterclaims, reasons, and evidence; use words, phrases, and clauses as well as varied syntax to link the major sections of the text to create cohesion and clarify the relationships between claim(s) and reasons, between reasons and evidence, and	X	X		Logically sequence claims Varied syntax	See above.	See above.

between claim(s) and counterclaims; provide a concluding statement or section that follows from and supports the argument presented.						
<p>CC.1.4.11-12.K</p> <p>Write with an awareness of the stylistic aspects of composition.</p> <ul style="list-style-type: none"> · Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic. · Establish and maintain a formal style and objective tone while attending to the norms of the discipline in which they are writing. 	X	X		Metaphor Simile Analogy	See above. <i>The Elements of Style</i> . Dictation. Mini-lessons.	See above. <i>The Elements of Style</i> . Dictation. Mini-lessons.
<p>CC.1.4.11-12.L</p> <p>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</p>	X	X		Same as 9-10	See above.	See above.
CC.1.4.11-12.M	X		X	Same as 9-10	<i>Harlem Stomp</i> .	<i>Dr. Jekyll and Mr. Hyde</i> .

Write narratives to develop real or imagined experiences or events.					<i>Their Eyes Were Watching God.</i>	
CC.1.4.11-12.N Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple points of view, and introducing a narrator and/or characters.	X		X	Significance	See above. <i>Writers Incorporated.</i>	See above. <i>Writers Incorporated.</i>
CC.1.4.11-12.O Use narrative techniques such as dialogue, description, reflection, multiple plotlines, and pacing to develop experiences, events, and/or characters; use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, settings, and/or characters.	X		X	Same as 9-10	See above. <i>The Elements of Style.</i>	See above. <i>The Elements of Style.</i>
CC.1.4.11-12.P Create a smooth progression of experiences or events using a variety of techniques to sequence events so	X		X	Particular tone and outcome	See above.	See above.

that they build on one another to create a coherent whole and build toward a particular tone and outcome; provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.						
<p>CC.1.4.11-12.Q</p> <p>Write with an awareness of the stylistic aspects of writing.</p> <ul style="list-style-type: none"> · Use parallel structure. · Use various types of phrases and clauses to convey meaning and add variety and interest. · Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic. 	X		X	<p>Metaphor</p> <p>Simile</p> <p>Analogy</p>	<p>See above.</p> <p>OWL @ Purdue.</p> <p>Dictation.</p> <p>Mini-lessons.</p> <p><i>The Elements of Style.</i></p>	<p>See above.</p> <p>OWL @ Purdue.</p> <p>Dictation.</p> <p>Mini-lessons.</p> <p><i>The Elements of Style.</i></p>
<p>CC.1.4.11-12.R</p> <p>Demonstrate a grade-appropriate command of the conventions of standard English</p>	X		X	<p>Same as 9-10</p>	<p>See above.</p>	<p>See above.</p>

grammar, usage, capitalization, punctuation, and spelling.						
CC.1.4.11-12.S Draw evidence from literary or informational texts to support analysis, reflection, and research, applying grade-level reading standards for literature and literary nonfiction.	X	X	X	Same as 9-10	See all above.	See all above.
CC.1.4.11-12.T Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.	X	X	X	Same as 9-10	See all above. Proofreading marks sheet.	See all above. Proofreading marks sheet.
CC.1.4.11-12.U Use technology, including the Internet, to produce, publish and update individual or shared writing products in response to ongoing feedback, including new arguments and information.			X	Ongoing feedback	Use blogs as journal entries for reading and reflecting (technology-based Grand Conversations).	Use blogs as journal entries for reading and reflecting (technology-based Grand Conversations).
CC.1.4.11-12.V	X	X	X	Same as 9-10	Various texts.	<i>Dr. Jekyll and Mr. Hyde.</i>

Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.					Use of Chromebooks. Field study to Pottsville Library.	Use of Chromebooks. Field study to Pottsville Library.
CC.1.4.11-12.W Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.	X	X	X	Strengths and limitations	See above. OWL @ Purdue. Various texts. Use of Chromebooks. Field study to Pottsville Library.	See above. OWL @Purdue. Use of Chromebooks. Field study to Pottsville Library.

CC.1.4.11-12.X Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	X	X	X	Same as 9-10	See all above.	See all above.
<i>1.5 Speaking and Listening: Students present appropriately in formal speaking situations, listen critically, and respond intelligently as individuals or in group discussions.</i>						
CC.1.5.11-12.A Initiate and participate effectively in a range of collaborative discussions on grade-level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.	X	X	X	Same as 9-10	Daily discussions. Grand Conversations.	Daily discussions. Grand Conversations.
CC.1.5.11-12.B Evaluate how the speaker's perspective, reasoning, and use of evidence and rhetoric affect the credibility of an argument through the author's stance, premises, links among ideas, word choice, points of emphasis, and tone.	X	X	X	Credibility	See above.	See above.

CC.1.5.11-12.C Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.	X	X		Noting discrepancies	Argumentative writing presented. Prezi.	Argumentative writing presented. Prezi.
CC.1.5.11-12.D Present information, findings, and supporting evidence, conveying a clear and distinct perspective; organization, development, substance, and style are appropriate to purpose, audience, and task.	X	X		Clear and distinct perspective Organization Development Substance Style	Argumentative writing presented. Prezi.	Argumentative writing presented. Prezi.
CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.	X	X	X	Same as 9-10	Daily discussions. Grand Conversations. Recitation: Wheatley (T1), Whitman (T2), Watkins (T3).	Daily discussions. Grand Conversations.

CC.1.5.11-12.F Make strategic use of digital media in presentations to add interest and enhance understanding of findings, reasoning, and evidence.	X	X	X	Same as 9-10	Present writing produced.	Present all writing produced.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on Grade 11-12 level and content.	X	X	X	Same as 9-10	See all above.	See all above.

ELA Curriculum Grade 12

PACC Standard	Term 1	Term 2	Term 3	New Skills Taught (highlighted)	Materials Used (Literature)	Materials Used (Composition)
<i>1.2 Reading Informational Text: Students read, understand, and respond to informational text – with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.</i>						
CC.1.2.11-12.A Determine and analyze the relationship between two or more central ideas of a text, including the development and interaction of the central ideas; provide an objective summary of the text.	X	X	X	Analyze relationship Interaction	Primary Sources: <i>Common Sense</i> , <i>The Autobiography of Benjamin Franklin</i> , <i>John Adams Letters</i> , Articles (all T1), Speeches by Susan B Anthony and Sojourner Truth, Articles (all T2), Articles (T3)	
CC.1.2.11-12.B Cite strong and thorough textual evidence to support analysis of what the text says explicitly, as well as inferences and conclusions based on and related to an author's implicit and explicit assumptions and beliefs.	X	X	X	Related to Implicit	See above.	

CC.1.2.11-12.C Analyze the interaction and development of a complex set of ideas, sequence of events, or specific individuals over the course of the text.	X	X	X	Interaction and development of complex text	See above.	
CC.1.2.11-12.D Evaluate how an author's point of view or purpose shapes the content and style of a text.	X	X	X	Evaluate Shapes content and style	See above.	
CC.1.2.11-12.E Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging.	X	X	X	Effectiveness Exposition or argument Clear, convincing	See above.	
CC.1.2.11-12.F Evaluate how words and phrases shape meaning and tone in texts.	X	X	X	Evaluate	See above. <i>The Elements of Style</i>	
CC.1.2.11-12.G Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to		X		Integrate Address question Solve problem	<i>The Narrative Life of Frederick Douglass</i> AND articles about him (primary sources)	

address a question or solve a problem.						
CC.1.2.11-12.H Analyze seminal texts based upon reasoning, premises, purposes, and arguments.	X	X	X	Analyze seminal texts Premises Purposes	See all above.	
CC.1.2.11-12.I Analyze foundational U.S. and world documents of historical, political, and literary significance for their themes, purposes, and rhetorical features.	X	X		Rhetorical features	Declaration of Independence, <i>Common Sense</i> (T1), Gettysburg Address, Emancipation Proclamation, Dred Scott Decision (T2)	
CC.1.2.11-12.J Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college- and career-readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.	X	X	X	Same as 9-10	See all above. Dictionary.	

CC.1.2.11-12.K Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.	X	X	X	Same as 9-10	See above. Dictionary.	
CC.1.2.11-12.L Read and comprehend literary nonfiction and informational text on grade level, reading independently and proficiently.	X	X	X	Same as 9-10	See above.	
<i>1.3 Reading Literature: Students read and respond to works of literature – with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.</i>						
CC.1.3.11-12.A Determine and analyze the relationship between two or more themes or central ideas of a text, including the development and interaction of the themes; provide an objective summary of the text.	X	X	X	Interaction of themes	Various group-read texts (T1), <i>The Narrative Life of Frederick Douglass</i> (T2), <i>Harlem Stomp</i> , <i>Their Eyes Were Watching God</i> (T3)	<i>Dr. Jekyll and Mr. Hyde.</i>
CC.1.3.11-12.B Cite strong and thorough textual	X	X	X	Related to Implicit	See above.	See above.

evidence to support analysis of what the text says explicitly, as well as inferences and conclusions based on and related to an author's implicit and explicit assumptions and beliefs.						
CC.1.3.11-12.C Analyze the impact of the author's choice regarding how to develop and relate elements of a story or drama.	X	X	X	Impact Choices	See above.	See above.
CC.1.3.11-12.D Evaluate how an author's point of view or purpose shapes the content and style of a text.	X	X	X	Shapes content Style	See above.	See above.
CC.1.3.11-12.E Evaluate the structure of texts including how specific sentences, paragraphs, and larger portions of the texts relate to each other and the whole.	X	X	X	Relates to each other and the whole	See above.	See above.
CC.1.3.11-12.F Evaluate how words and phrases shape meaning and tone in texts.	X	X	X	Evaluate	See above. <i>The Elements of Style.</i>	See above. <i>The Elements of Style.</i>
CC.1.3.11-12.G Analyze multiple interpretations of a	X	X	X	Multiple Interprets source text	<i>The Taming of the Shrew (T1),</i>	Completed in Literature/Theater

story, drama, or poem (e.g., recorded or live production of a play or recorded novel or poetry), evaluating how each version interprets the source text. (Include at least one play by Shakespeare and one play by an American dramatist.)					<i>Macbeth</i> (T2), <i>Coriolanus</i> (T3)	
CC.1.3.11-12.H Demonstrate knowledge of foundational works of literature that reflect a variety of genres in the respective major periods of literature, including how two or more texts from the same period treat similar themes or topics.	X	X	X	Demonstrate Variety of genres	See all above.	Completed in Literature,
CC.1.3.11-12.I Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.	X	X	X	Same as 9-10	See above. Dictionary.	See above. Dictionary.
CC.1.3.11-12.J Acquire and use accurately grade-appropriate	X	X	X	College/career readiness	See above. Dictionary.	See above. Dictionary.

general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college- and career-readiness level; gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.				Independence		
CC.1.3.11-12.K Read and comprehend literary fiction on grade level, reading independently and proficiently.	X	X	X	Same as 9-10	See above.	See above.
<i>1.4 Writing: Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.</i>						
CC.1.4.11-12.A Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately.	X			Same as 9-10	<i>Common Sense. The Autobiography of Benjamin Franklin.</i>	<i>Dr. Jekyll and Mr. Hyde.</i>
CC.1.4.11-12.B Write with a sharp, distinct focus identifying topic, task, and audience.	X			Same as 9-10	See above. <i>Writers Incorporated.</i>	See above. <i>Writers Incorporated.</i>

CC.1.4.11-12.C Develop and analyze the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic; include graphics and multimedia when useful to aiding comprehension.	X			Thoroughly Significant Relevant	See above. Use of Chromebooks.	See above. Use of Chromebooks.
CC.1.4.11-12.D Organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a whole; use appropriate and varied transitions and syntax to link the major sections of the text; provide a concluding statement or section that supports the information presented; include formatting when useful to aiding comprehension.	X			Complex Syntax	See above. OWL @ Purdue.	See above. OWL @ Purdue.
CC.1.4.11-12.E Write with an awareness of the	X			Metaphor Simile Analogy	See above. <i>The Elements of Style.</i>	See above. <i>The Elements of Style.</i> Dictation.

stylistic aspects of composition. · Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic. · Establish and maintain a formal style and objective tone while attending to the norms of the discipline in which they are writing.					Dictation.	
CC.1.4.11-12.F Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.	X			Same as 9-10	See above.	See above.
CC.1.4.11-12.G Write arguments to support claims in an analysis of substantive topics.	X	X		Same as 9-10 **Difference between argument and persuasion**	<i>The Narrative Life of Frederick Douglass</i>	<i>Dr. Jekyll and Hyde</i>
CC.1.4.11-12.H Write with a sharp, distinct focus identifying topic, task, and audience.	X	X		Knowledgeable	See above. <i>Writers Incorporated.</i>	See above. <i>Writers Incorporated.</i>

· Introduce the precise, knowledgeable claim.						
CC.1.4.11-12.I Distinguish the claim(s) from alternate or opposing claims; develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.	X	X		Counterclaim s Values Possible biases	See above.	See above.
CC.1.4.11-12.J Create organization that logically sequences claim(s), counterclaims, reasons, and evidence; use words, phrases, and clauses as well as varied syntax to link the major sections of the text to create cohesion and clarify the relationships between claim(s) and reasons, between reasons and evidence, and	X	X		Logically sequence claims Varied syntax	See above.	See above.

between claim(s) and counterclaims; provide a concluding statement or section that follows from and supports the argument presented.						
<p>CC.1.4.11-12.K</p> <p>Write with an awareness of the stylistic aspects of composition.</p> <ul style="list-style-type: none"> · Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic. · Establish and maintain a formal style and objective tone while attending to the norms of the discipline in which they are writing. 	X	X		Metaphor Simile Analogy	See above. <i>The Elements of Style</i> . Dictation. Mini-lessons.	See above. <i>The Elements of Style</i> . Dictation. Mini-lessons.
<p>CC.1.4.11-12.L</p> <p>Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling.</p>	X	X		Same as 9-10	See above.	See above.
CC.1.4.11-12.M	X		X	Same as 9-10	<i>Harlem Stomp</i> .	<i>Dr. Jekyll and Mr. Hyde</i> .

Write narratives to develop real or imagined experiences or events.					<i>Their Eyes Were Watching God.</i>	
CC.1.4.11-12.N Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple points of view, and introducing a narrator and/or characters.	X		X	Significance	See above. <i>Writers Incorporated.</i>	See above. <i>Writers Incorporated.</i>
CC.1.4.11-12.O Use narrative techniques such as dialogue, description, reflection, multiple plotlines, and pacing to develop experiences, events, and/or characters; use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, settings, and/or characters.	X		X	Same as 9-10	See above. <i>The Elements of Style.</i>	See above. <i>The Elements of Style.</i>
CC.1.4.11-12.P Create a smooth progression of experiences or events using a variety of techniques to sequence events so	X		X	Particular tone and outcome	See above.	See above.

that they build on one another to create a coherent whole and build toward a particular tone and outcome; provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.						
<p>CC.1.4.11-12.Q</p> <p>Write with an awareness of the stylistic aspects of writing.</p> <ul style="list-style-type: none"> · Use parallel structure. · Use various types of phrases and clauses to convey meaning and add variety and interest. · Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic. 	X		X	<p>Metaphor</p> <p>Simile</p> <p>Analogy</p>	<p>See above.</p> <p>OWL @ Purdue.</p> <p>Dictation.</p> <p>Mini-lessons.</p> <p><i>The Elements of Style.</i></p>	<p>See above.</p> <p>OWL @ Purdue.</p> <p>Dictation.</p> <p>Mini-lessons.</p> <p><i>The Elements of Style.</i></p>
<p>CC.1.4.11-12.R</p> <p>Demonstrate a grade-appropriate command of the conventions of standard English</p>	X		X	<p>Same as 9-10</p>	<p>See above.</p>	<p>See above.</p>

grammar, usage, capitalization, punctuation, and spelling.						
CC.1.4.11-12.S Draw evidence from literary or informational texts to support analysis, reflection, and research, applying grade-level reading standards for literature and literary nonfiction.	X	X	X	Same as 9-10	See all above.	See all above.
CC.1.4.11-12.T Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.	X	X	X	Same as 9-10	See all above. Proofreading marks sheet.	See all above. Proofreading marks sheet.
CC.1.4.11-12.U Use technology, including the Internet, to produce, publish and update individual or shared writing products in response to ongoing feedback, including new arguments and information.			X	Ongoing feedback	Use blogs as journal entries for reading and reflecting (technology-based Grand Conversations).	Use blogs as journal entries for reading and reflecting (technology-based Grand Conversations).
CC.1.4.11-12.V	X	X	X	Same as 9-10	Various texts.	<i>Dr. Jekyll and Mr. Hyde.</i>

Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.					Use of Chromebooks. Field study to Pottsville Library.	Use of Chromebooks. Field study to Pottsville Library.
CC.1.4.11-12.W Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.	X	X	X	Strengths and limitations	See above. OWL @ Purdue. Various texts. Use of Chromebooks. Field study to Pottsville Library.	See above. OWL @Purdue. Use of Chromebooks. Field study to Pottsville Library.

CC.1.4.11-12.X Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	X	X	X	Same as 9-10	See all above.	See all above.
<i>1.5 Speaking and Listening: Students present appropriately in formal speaking situations, listen critically, and respond intelligently as individuals or in group discussions.</i>						
CC.1.5.11-12.A Initiate and participate effectively in a range of collaborative discussions on grade-level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.	X	X	X	Same as 9-10	Daily discussions. Grand Conversations.	Daily discussions. Grand Conversations.
CC.1.5.11-12.B Evaluate how the speaker's perspective, reasoning, and use of evidence and rhetoric affect the credibility of an argument through the author's stance, premises, links among ideas, word choice, points of emphasis, and tone.	X	X	X	Credibility	See above.	See above.

CC.1.5.11-12.C Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.	X	X		Noting discrepancies	Argumentative writing presented. Prezi.	Argumentative writing presented. Prezi.
CC.1.5.11-12.D Present information, findings, and supporting evidence, conveying a clear and distinct perspective; organization, development, substance, and style are appropriate to purpose, audience, and task.	X	X		Clear and distinct perspective Organization Development Substance Style	Argumentative writing presented. Prezi.	Argumentative writing presented. Prezi.
CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.	X	X	X	Same as 9-10	Daily discussions. Grand Conversations. Recitation: Wheatley (T1), Whitman (T2), Watkins (T3).	Daily discussions. Grand Conversations.

CC.1.5.11-12.F Make strategic use of digital media in presentations to add interest and enhance understanding of findings, reasoning, and evidence.	X	X	X	Same as 9-10	Present writing produced.	Present all writing produced.
CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on Grade 11-12 level and content.	X	X	X	Same as 9-10	See all above.	See all above.

A Correlation of
Connected Mathematics 3 (CMP3)

©2014



CMPTM3

To the

**Pennsylvania
Common Core Standards
in Mathematics**

Grades 6-8

A Correlation of Connected Mathematics 3, ©2014, to the Pennsylvania Common Core Standards in Mathematics

Introduction

This document demonstrates how ***Connected Mathematics 3 (CMP3)***, ©2014 meets the ***Pennsylvania Common Core Standards in Mathematics***, grades 6-8. Correlation references are to the pages of the Student and Teacher's Editions.

The goal of ***Connected Mathematics 3*** is to help students develop mathematical knowledge, conceptual understanding, and procedural skills, along with an awareness of the rich connections between math topics—across grades and across Common Core content areas. Through the “Launch-Explore-Summarize” model, students investigate and solve problems that develop rigorous higher-order thinking skills and problem-solving strategies.

Curriculum development for ***CMP3*** has been guided by an important mathematical idea: All students should be able to reason and communicate proficiently in mathematics. They should have knowledge of and skill in the use of the vocabulary, forms of representation, materials, tools, techniques, and intellectual methods of mathematics. This includes the ability to define and solve problems with reason, insight, inventiveness, and technical proficiency.

CMP3 uses technology to help teachers implement with fidelity, thus raising student achievement. Easy-to-use mobile tools help with classroom management and capture student work on the go. ExamView® delivers a full suite of assessment tools, and MathXL® provides individualized skills practice. 21st century social networking technology connects ***CMP3*** teachers, while students benefit from interactive digital student pages that allow for instantaneous sharing and effective group work.

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<p align="center">Pennsylvania Common Core Standards in Mathematics Grade 6</p>	<p align="center">Connected Mathematics 3 Grade 6, ©2014</p>
2.1.6 Numbers and Operations	
D) Ratios and Proportional Relationships	
<p>CC.2.1.6.D.1 Understand ratio concepts and use ratio reasoning to solve problems.</p>	<p>Comparing Bits and Pieces: 2.1: Equal Shares; 2.2: Unequal Shares; 2.3: Making Comparisons With Rate Tables; 4.1: Who is the Best? Making Sense of Percents; 4.2: Genetic Traits; 4.3: The Art of Comparison</p> <p>Decimal Operations: 4.1: What's the Tax on This Item?; 4.2: Computing Tips; 4.3: Percent Discounts; 4.4: Putting Operations Together</p> <p>Variables and Patterns: 3.1: Visit to Wild World; 3.2: Moving, Texting, and Measuring; 3.3: Group Discounts and a Bonus Card; 3.4: Getting the Calculation Right</p>
<p>M06.A-R.1.1.1: Use ratio language and notation (such as 3 to 4, 3:4, $\frac{3}{4}$) to describe a ratio relationship between two quantities. Example 1: "The ratio of girls to boys in a math class is 2:3 because for every 2 girls there are 3 boys." Example 2: "For every five votes candidate A received, candidate B received four votes."</p>	<p>Comparing Bits and Pieces: 2.1: Equal Shares; 2.2: Unequal Shares; 2.3: Making Comparisons With Rate Tables; 4.1: Who is the Best? Making Sense of Percents; 4.2: Genetic Traits; 4.3: The Art of Comparison</p> <p>Decimal Operations: 4.1: What's the Tax on This Item?; 4.2: Computing Tips; 4.3: Percent Discounts; 4.4: Putting Operations Together</p>
<p>M06.A-R.1.1.2: Find the unit rate a/b associated with a ratio $a:b$ (with $b \neq 0$) and use rate language in the context of a ratio relationship. Example 1: "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is $\frac{3}{4}$ cup of flour for each cup of sugar." Example 2: "We paid \$75 for 15 hamburgers, which is a rate of \$5 per hamburger."</p>	<p>Comparing Bits and Pieces: 2.3: Making Comparisons With Rate Tables</p>
<p>M06.A-R.1.1.3: Construct tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and/or plot the pairs of values on the coordinate plane. Use tables to compare ratios.</p>	<p>Comparing Bits and Pieces: 2.1: Equal Shares; 2.2: Unequal Shares; 2.3: Making Comparisons With Rate Tables;</p> <p>Variables and Patterns: 3.1: Visit to Wild World; 3.2: Moving, Texting, and Measuring</p>

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M06.A-R.1.1.4: Solve unit rate problems including those involving unit pricing and constant speed. Example: If it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?	Comparing Bits and Pieces: 2.3: Making Comparisons With Rate Tables Variables and Patterns: 3.1: Visit to Wild World; 3.2: Moving, Texting, and Measuring; 3.3: Group Discounts and a Bonus Card; 3.4: Getting the Calculation Right
M06.A-R.1.1.5: Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percentage.	Comparing Bits and Pieces: 4.1: Who is the Best? Making Sense of Percents; 4.2: Genetic Traits; 4.3: The Art of Comparison Decimal Operations: 4.1: What's the Tax on This Item?; 4.2: Computing Tips; 4.3: Percent Discounts; 4.4: Putting Operations Together
E) The Number System	
CC.2.1.6.E.1 Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	Let's Be Rational: 2.1: How Much of the Pan Have We Sold?; 2.2: Modeling Multiplication Situations; 2.3: Changing Forms; 3.1: Preparing Food; 3.2: Into Pieces; 3.3: Sharing a Prize; 3.4: Examining Algorithms for Dividing Fractions
M06.A-N.1.1.1: Interpret and compute quotients of fractions (including mixed numbers), and solve word problems involving division of fractions by fractions. Example 1: Given a story context for $(2/3) \div (3/4)$, explain that $(2/3) \div (3/4) = 8/9$ because $3/4$ of $8/9$ is $2/3$. (In general, $(a/b) \div (c/d) = (a/b) \times (d/c) = ad/bc$.) Example 2: How wide is a rectangular strip of land with length $3/4$ mi and area $1/2$ square mi? Example 3: How many $2\frac{1}{4}$ -foot pieces can be cut from a $15\frac{1}{2}$ -foot board?	Let's Be Rational: 3.1: Preparing Food; 3.2: Into Pieces; 3.3: Sharing a Prize; 3.4: Examining Algorithms for Dividing Fractions
CC.2.1.6.E.2 Identify and choose appropriate processes to compute fluently with multi-digit numbers.	Prime Time: Factors and Multiples: 1.1: Playing the Factor Game; 1.2: Playing to Win; 1.3: The Product Game; 1.4: Rectangles and Factor Pairs; 2.1: Riding Ferris Wheels; 2.2: Looking at Cicada Cycles; 2.3: Bagging Snacks; 3.1: The Product Puzzle; 3.2: Finding the Longest Factor String; 3.3: Using Prime Factorizations; 3.4: Unraveling the Locker Problem; 4.1: Reasoning With Even and Odd Numbers; 4.2: Using the Distributive Property; 4.3: Ordering Operations; 4.4: Choosing an Operation

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<p>M06.A-N.2.1.1: Solve problems involving operations (+, −, ×, and ÷) with whole numbers, decimals (through thousandths), straight computation, or word problems.</p>	<p>Prime Time: Factors and Multiples: 1.1: Playing the Factor Game; 1.2: Playing to Win; 1.3: The Product Game; 1.4: Rectangles and Factor Pairs; 2.1: Riding Ferris Wheels; 2.2: Looking at Cicada Cycles; 2.3: Bagging Snacks; 3.1: The Product Puzzle; 3.2: Finding the Longest Factor String; 3.3: Using Prime Factorizations; 3.4: Unraveling the Locker Problem</p> <p>Comparing Bits and Pieces: 1.1: Fundraising; 1.2: Fundraising Thermometers; 1.3: Equivalent Fractions on the Line; 1.4: Measuring Progress; 1.5: Comparing Fundraising Goals; 2.1: Equal Shares; 2.2: Unequal Shares; 2.3: Making Comparisons With Rate Tables; 3.1: Extending the Number Line; 3.2: Estimating and Ordering Rational Numbers; 3.3: Sharing 100 Things; 3.4: Decimals on the Number Line; 3.5: Earthquake Relief; 4.1: Who is the Best? Making Sense of Percents; 4.2: Genetic Traits; 4.3: The Art of Comparison</p> <p>Let's Be Rational: 1.1: Getting Close; 1.2: Estimating Sums and Differences; 1.3: Land Sections; 1.4: Visiting the Spice Shop; 2.1: How Much of the Pan Have We Sold?; 2.2: Modeling Multiplication Situations; 2.3: Changing Forms; 3.1: Preparing Food; 3.2: Into Pieces; 3.3: Sharing a Prize; 3.4: Examining Algorithms for Dividing Fractions; 4.1: Just the Facts; 4.2: Multiplication and Division Fact Families; 4.3: Becoming an Operations Sleuth</p> <p>Decimal Operations: 1.1: Out to Lunch; 1.2: Getting Close; 1.3: Take a Hike; 2.1: Getting Things in the Right Place; 2.2: What's the Difference?; 2.3: Connecting Operations; 3.1: It's Decimal Time(s); 3.2: It Works Every Time; 3.3: How Many Times?; 3.4: Going the Long Way; 3.5: Challenging Cases; 4.1: What's the Tax on This Item?; 4.2: Computing Tips; 4.3: Percent Discounts; 4.4: Putting Operations Together</p>
<p>CC.2.1.6.E.3 Develop and/or apply number theory concepts to find common factors and multiples.</p>	<p>Prime Time: Factors and Multiples: 2.1: Riding Ferris Wheels; 2.2: Looking at Cicada Cycles; 2.3: Bagging Snacks</p> <p>Let's Be Rational: 1.3: Land Sections; 1.4: Visiting the Spice Shop</p>

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M06.A-N.2.2.1: Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12.	Prime Time: 2.3: Bagging Snacks Let's Be Rational: 1.3: Land Sections; 1.4: Visiting the Spice Shop
M06.A-N.2.2.2: Apply the distributive property to express a sum of two whole numbers, 1 through 100, with a common factor as a multiple of a sum of two whole numbers with no common factor. Example: Express $36 + 8$ as $4(9 + 2)$.	Prime Time: Factors and Multiples: 4.2: Using the Distributive Property; 4.3: Ordering Operations
A1.1.1.2.1 Find the Greatest Common Factor (GCF) and/or the Least Common Multiple (LCM) for sets of monomials.	Prime Time: Factors and Multiples: 2.3: Bagging Snacks Let's Be Rational: 1.3: Land Sections; 1.4: Visiting the Spice Shop
CC.2.1.6.E.4 Apply and extend previous understandings of numbers to the system of rational numbers.	Comparing Bits and Pieces: 1.1: Fundraising; 1.2: Fundraising Thermometers; 1.3: Equivalent Fractions on the Line; 1.4: Measuring Progress; 1.5: Comparing Fundraising Goals; 3.1: Extending the Number Line; 3.2: Estimating and Ordering Rational Numbers; 3.3: Sharing 100 Things; 3.4: Decimals on the Number Line; 3.5: Earthquake Relief; 4.1: Who is the Best? Making Sense of Percents; 4.2: Genetic Traits; 4.3: The Art of Comparison Let's Be Rational: 1.1: Getting Close; 1.2: Estimating Sums and Differences; 1.3: Land Sections; 1.4: Visiting the Spice Shop; 2.1: How Much of the Pan Have We Sold?; 2.2: Modeling Multiplication Situations; 2.3: Changing Forms; 3.1: Preparing Food; 3.2: Into Pieces; 3.3: Sharing a Prize; 3.4: Examining Algorithms for Dividing Fractions; 4.1: Just the Facts; 4.2: Multiplication and Division Fact Families; 4.3: Becoming an Operations Sleuth Decimal Operations: 1.1: Out to Lunch; 1.2: Getting Close; 1.3: Take a Hike; 2.1: Getting Things in the Right Place; 2.2: What's the Difference?; 2.3: Connecting Operations; 3.1: It's Decimal Time(s); 3.2: It Works Every Time; 3.3: How Many Times?; 3.4: Going the Long Way; 3.5: Challenging Cases; 4.1: What's the Tax on This Item?; 4.2: Computing Tips; 4.3: Percent Discounts; 4.4: Putting Operations Together

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Pennsylvania Common Core Standards in Mathematics Grade 6	Connected Mathematics 3 Grade 6, ©2014
M06.A-N.3.1.1: Represent quantities in real-world contexts using positive and negative numbers, explaining the meaning of 0 in each situation (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge).	Comparing Bits and Pieces: 3.1: Extending the Number Line; 3.2: Estimating and Ordering Rational Numbers; 3.4: Decimals on the Number Line
M06.A-N.3.1.2: Determine the opposite of a number and recognize that the opposite of the opposite of a number is the number itself (e.g., $-(-3) = 3$; 0 is its own opposite).	Comparing Bits and Pieces: 3.1: Extending the Number Line
M06.A-N.3.1.3: Locate and plot integers and other rational numbers on a horizontal or vertical number line; locate and plot pairs of integers and other rational numbers on a coordinate plane.	Comparing Bits and Pieces: 3.1: Extending the Number Line; 3.2: Estimating and Ordering Rational Numbers; 3.4: Decimals on the Number Line
M06.A-N.3.2.1: Write, interpret, and explain statements of order for rational numbers in real-world contexts. Example: Write $-3^{\circ}\text{C} > -7^{\circ}\text{C}$ to express the fact that -3°C is warmer than -7°C .	Comparing Bits and Pieces: 3.2: Estimating and Ordering Rational Numbers; 3.3: Sharing 100 Things; 3.4: Decimals on the Number Line; 3.5: Earthquake Relief
M06.A-N.3.2.2: Interpret the absolute value of a rational number as its distance from 0 on the number line and as a magnitude for a positive or negative quantity in a real-world situation. Example: For an account balance of -30 dollars, write $ -30 = 30$ to describe the size of the debt in dollars, and recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars.	Comparing Bits and Pieces: 3.1: Extending the Number Line
M06.A-N.3.2.3: Solve real-world and mathematical problems by plotting points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	Covering and Surrounding: 2.1: Triangles on Grids; 3.4: Polygons on Coordinate Grids Variables and Patterns: 1.1: Getting Ready to Ride; 1.2: From Atlantic City to Lewes; 1.3: From Lewes to Chincoteague Island; 1.4: From Chincoteague to Colonial Williamsburg

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Pennsylvania Common Core Standards in Mathematics Grade 6	Connected Mathematics 3 Grade 6, ©2014
2.2.6 Algebraic Concepts	
B) Expressions & Equations	
CC.2.2.6.B.1 Apply and extend previous understandings of arithmetic to algebraic expressions.	<p>Covering and Surrounding: 4.2: Filling the Boxes; 4.3: Designing Gift Boxes</p> <p>Variables and Patterns: 3.1: Visit to Wild World; 3.2: Moving, Texting, and Measuring; 3.3: Group Discounts and a Bonus Card; 3.4: Getting the Calculation Right; 4.1: Taking the Plunge; 4.2: More Than One Way to Say It; 4.3: Putting It All Together; 4.4: Finding the Unknown Value; 4.5: It's Not Always Equal</p>
M06.B-E.1.1.1: Write and evaluate numerical expressions involving whole-number exponents.	<p>Prime Time: Factors and Multiples: 3.2: Finding the Longest Factor String; 3.3: Using Prime Factorizations; 3.4: Unraveling the Locker Problem</p> <p>Covering and Surrounding: 4.2: Filling the Boxes; 4.3: Designing Gift Boxes</p>
M06.B-E.1.1.2: Write algebraic expressions from verbal descriptions. Example: Express the description "five less than twice a number" as $2y - 5$.	<p>Variables and Patterns: 3.1: Visit to Wild World; 3.2: Moving, Texting, and Measuring; 3.3: Group Discounts and a Bonus Card; 3.4: Getting the Calculation Right; 4.1: Taking the Plunge; 4.2: More Than One Way to Say It; 4.3: Putting It All Together; 4.4: Finding the Unknown Value; 4.5: It's Not Always Equal</p>
M06.B-E.1.1.3: Identify parts of an expression using mathematical terms (e.g., sum, term, product, factor, quotient, coefficient, quantity). Example: Describe the expression $2(8 + 7)$ as a product of two factors.	<p>Prime Time: 3.1: The Product Puzzle; 3.2: Finding the Longest Factor String; 3.3: Using Prime Factorizations; 3.4: Unraveling the Locker Problem; 4.2: Using the Distributive Property; 4.3: Ordering Operations; 4.4: Choosing an Operation</p>
M06.B-E.1.1.4: Evaluate expressions at specific values of their variables, including expressions that arise from formulas used in real-world problems. Example: Evaluate the expression $b^2 - 5$ when $b = 4$.	<p>Covering and Surrounding: 4.2: Filling the Boxes; 4.3: Designing Gift Boxes</p> <p>Variables and Patterns: 3.1: Visit to Wild World; 3.2: Moving, Texting, and Measuring; 3.3: Group Discounts and a Bonus Card; 3.4: Getting the Calculation Right; 4.1: Taking the Plunge; 4.2: More Than One Way to Say It; 4.3: Putting It All Together; 4.4: Finding the Unknown Value; 4.5: It's Not Always Equal</p>

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M06.B-E.1.1.5: Apply the properties of operations to generate equivalent expressions. Example 1: Apply the distributive property to the expression $3(2 + x)$ to produce the equivalent expression $6 + 3x$. Example 2: Apply the distributive property to the expression $24x + 18y$ to produce the equivalent expression $6(4x + 3y)$. Example 3: Apply properties of operations to $y + y + y$ to produce the equivalent expression $3y$.	Prime Time: Factors and Multiples: 4.2: Using the Distributive Property; 4.3: Ordering Operations; 4.4: Choosing an Operation Variables and Patterns: 4.1: Taking the Plunge; 4.2: More Than One Way to Say It; 4.3: Putting It All Together; 4.4: Finding the Unknown Value; 4.5: It's Not Always Equal
CC.2.2.6.B.2 Understand the process of solving a one-variable equation or inequality and apply it to real-world and mathematical problems.	Variables and Patterns: 4.1: Taking the Plunge; 4.2: More Than One Way to Say It; 4.3: Putting It All Together; 4.4: Finding the Unknown Value; 4.5: It's Not Always Equal
M06.B-E.2.1.1: Use substitution to determine whether a given number in a specified set makes an equation or inequality true.	Variables and Patterns: 4.1: Taking the Plunge; 4.4: Finding the Unknown Value; 4.5: It's Not Always Equal
M06.B-E.2.1.2: Write algebraic expressions to represent real-world or mathematical problems.	Variables and Patterns: 3.1: Visit to Wild World; 3.2: Moving, Texting, and Measuring; 3.3: Group Discounts and a Bonus Card; 3.4: Getting the Calculation Right; 4.1: Taking the Plunge; 4.2: More Than One Way to Say It; 4.3: Putting It All Together; 4.4: Finding the Unknown Value; 4.5: It's Not Always Equal
M06.B-E.2.1.3: Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p , q , and x are all non-negative rational numbers.	Variables and Patterns: 4.1: Taking the Plunge; 4.2: More Than One Way to Say It; 4.3: Putting It All Together; 4.4: Finding the Unknown Value
M06.B-E.2.1.4: Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem and/or represent solutions of such inequalities on number lines.	Variables and Patterns: 4.5: It's Not Always Equal
CC.2.2.6.B.3 Represent and analyze quantitative relationships between dependent and independent variables.	Variables and Patterns: 1.1: Getting Ready to Ride; 1.2: From Atlantic City to Lewes; 1.3: From Lewes to Chincoteague Island; 1.4: From Chincoteague to Colonial Williamsburg; 2.1: Renting Bicycles; 2.2: Finding Customers; 2.3: Predicting Profits; 2.4: What's the Story?; 3.1: Visit to Wild World; 3.2: Moving, Texting, and Measuring; 3.3: Group Discounts and a Bonus Card; 3.4: Getting the Calculation Right

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M06.B-E.3.1.1: Write an equation to express the relationship between the dependent and independent variables. Example: In a problem involving motion at a constant speed of 65 units, write the equation $d = 65t$ to represent the relationship between distance and time.	Variables and Patterns: 3.1: Visit to Wild World; 3.2: Moving, Texting, and Measuring; 3.3: Group Discounts and a Bonus Card; 3.4: Getting the Calculation Right
M06.B-E.3.1.2: Analyze the relationship between the dependent and independent variables using graphs and tables and/or relate these to an equation.	Covering and Surrounding: 1.3: Fencing In Spaces Variables and Patterns: 1.1: Getting Ready to Ride; 1.2: From Atlantic City to Lewes; 1.3: From Lewes to Chincoteague Island; 1.4: From Chincoteague to Colonial Williamsburg; 2.1: Renting Bicycles; 2.2: Finding Customers; 2.3: Predicting Profits; 2.4: What's the Story?; 3.1: Visit to Wild World; 3.2: Moving, Texting, and Measuring; 3.3: Group Discounts and a Bonus Card; 3.4: Getting the Calculation Right
2.3.6 Geometry	
A) Geometry	
CC.2.3.6.A.1 Apply appropriate tools to solve real-world and mathematical problems involving area, surface area, and volume.	Covering and Surrounding: 1.1: Designing Bumper-Car Rides; 1.2: Building Storm Shelters; 1.3: Fencing In Spaces; 2.1: Triangles on Grids; 2.2: More Triangles; 2.3: Making Families of Triangles; 2.4: Designing Triangles Under Constraints; 3.1: Parallelograms and Triangles; 3.2: Making Families of Parallelograms; 3.3: Designing Parallelograms; 3.4: Polygons on Coordinate Grids; 4.1: Making Rectangular Boxes; 4.2: Filling the Boxes; 4.3: Designing Gift Boxes
M06.C-G.1.1.1: Determine the area of triangles and special quadrilaterals (i.e., square, rectangle, parallelogram, rhombus, and trapezoid). Formulas will be provided.	Covering and Surrounding: 2.3: Making Families of Triangles; 2.4: Designing Triangles Under Constraints; 3.1: Parallelograms and Triangles; 3.2: Making Families of Parallelograms; 3.3: Designing Parallelograms; 3.4: Polygons on Coordinate Grids
M06.C-G.1.1.2: Determine the area of irregular or compound polygons. Example: Find the area of a room in the shape of an irregular polygon by composing and/or decomposing.	Covering and Surrounding: 1.1: Designing Bumper-Car Rides; 3.1: Parallelograms and Triangles
M06.C-G.1.1.3: Determine the volume of right rectangular prisms with fractional edge lengths. Formulas will be provided.	Covering and Surrounding: 4.2: Filling the Boxes; 4.3: Designing Gift Boxes

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M06.C-G.1.1.4: Given coordinates for the vertices of a polygon in the plane, use the coordinates to find side lengths and area of the polygon (limited to triangles and special quadrilaterals). Formulas will be provided.	Covering and Surrounding: 2.1: Triangles on Grids; 3.4: Polygons on Coordinate Grids
M06.C-G.1.1.5: Represent three-dimensional figures using nets made of rectangles and triangles.	Covering and Surrounding: 4.1: Making Rectangular Boxes; 4.3: Designing Gift Boxes
M06.C-G.1.1.6: Determine the surface area of triangular and rectangular prisms (including cubes). Formulas will be provided.	Covering and Surrounding: 4.1: Making Rectangular Boxes; 4.3: Designing Gift Boxes
2.4.6 Measurement, Data, and Probability	
B) Statistics and Probability	
CC.2.4.6.B.1 Demonstrate an understanding of statistical variability by displaying, analyzing, and summarizing distributions.	Data About Us: 1.1: How Many Letters Are in a Name?; 1.2: Describing Name Lengths; 1.3: Describing Name Lengths; 2.1: What's a Mean Household Size?; 2.2: Comparing Distributions With the Same Mean; 2.3: Making Choices; 2.4: Who Else Is in Your Household; 3.1: Estimating Cereal Serving Sizes; 3.2: Connecting Cereal Shelf Location and Sugar; 3.3: Is It Worth the Wait?; 4.1: Traveling to School; 4.2: Jumping Rope; 4.3: How Much Taller is a 6 th Grader Than A Second Grader?
M06.D-S.1.1.1: Display numerical data in plots on a number line, including line plots, histograms, and box-and whisker plots.	Data About Us: 1.1: How Many Letters Are in a Name?; 1.2: Describing Name Lengths; 1.3: Describing Name Lengths; 2.1: What's a Mean Household Size?; 2.2: Comparing Distributions With the Same Mean; 2.3: Making Choices; 2.4: Who Else Is in Your Household; 3.1: Estimating Cereal Serving Sizes; 3.2: Connecting Cereal Shelf Location and Sugar; 3.3: Is It Worth the Wait?; 4.1: Traveling to School; 4.2: Jumping Rope; 4.3: How Much Taller is a 6 th Grader Than A Second Grader?
M06.D-S.1.1.2: Determine quantitative measures of center (e.g., median, mean, mode) and variability (e.g., range, interquartile range, mean absolute deviation).	Data About Us: 2.1: What's a Mean Household Size?; 2.2: Comparing Distributions With the Same Mean; 2.3: Making Choices; 2.4: Who Else Is in Your Household; 3.1: Estimating Cereal Serving Sizes; 3.2: Connecting Cereal Shelf Location and Sugar; 3.3: Is It Worth the Wait?

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M06.D-S.1.1.3: Describe any overall pattern and any deviations from the overall pattern with reference to the context in which the data were gathered.	Data About Us: 3.1: Estimating Cereal Serving Sizes; 3.2: Connecting Cereal Shelf Location and Sugar; 3.3: Is It Worth the Wait?
M06.D-S.1.1.4: Relate the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.	Data About Us: 2.1: What's a Mean Household Size?; 2.2: Comparing Distributions With the Same Mean; 2.3: Making Choices; 2.4: Who Else Is in Your Household; 3.1: Estimating Cereal Serving Sizes; 3.2: Connecting Cereal Shelf Location and Sugar; 3.3: Is It Worth the Wait?

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2.1 Numbers and Operations	
D) Ratios and Proportional Relationships	
CC.2.1.7.D.1 Analyze proportional relationships and use them to model and solve real-world and mathematical problems.	<p>Stretching and Shrinking: 1.2: Scaling Up and Down; 2.3: Mouthing Off and Nosing Around; 3.1: Rep-Tile Quadrilaterals; 3.3: Designing Under Constraints; 3.4: Out of Reach; 4.1: Ratios Within Similar Parallelograms; 4.2: Ratios Within Similar Triangles; 4.3: Finding Missing Parts; 4.4: Using Shadows to Find Heights</p> <p>Comparing and Scaling: 1.4: Keeping Things in Proportion; 2.1: Sharing Pizza; 2.2: Comparing Pizza Prices; 2.3: Finding Costs; 3.1: Commissions, Markups, and Discounts; 3.2: Measuring to the Unit; 3.3: Mixing it Up</p> <p>Moving Straight Ahead: 1.1: Walking Marathons; 1.2: Walking Rates and Linear Relationships</p>
M07.A-R.1.1.1: Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units. Example: If a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute the unit rate as the complex fraction $\frac{1}{2} \div \frac{1}{4}$ miles per hour, equivalently 2 miles per hour.	<p>Comparing and Scaling: 1.1: Surveying Opinions; 1.2: Mixing Juice; 1.3: Time to Concentrate; 2.2: Comparing Pizza Prices; 2.3: Finding Costs; 3.2: Measuring to the Unit</p> <p>Moving Straight Ahead: 1.1: Walking Marathons; 1.2: Walking Rates and Linear Relationships; 1.3: Raising Money; 2.1: Henri and Emile's Race; 2.2: Crossing the Line; 2.3: Comparing Costs; 2.4: Connecting Tables; Graphs, and Equations; 2.3: Comparing Costs</p>
M07.A-R.1.1.2: Determine whether two quantities are proportionally related (e.g., by testing for equivalent ratios in a table, graphing on a coordinate plane and observing whether the graph is a straight line through the origin).	<p>Stretching and Shrinking: 2.3: Mouthing Off and Nosing Around; 3.1: Rep-Tile Quadrilaterals; 3.3: Designing Under Constraints; 4.1: Ratios Within Similar Parallelograms; 4.2: Ratios Within Similar Triangles</p> <p>Comparing and Scaling: 1.4: Keeping Things in Proportion; 2.1: Sharing Pizza</p>
M07.A-R.1.1.3: Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.	<p>Comparing and Scaling: 2.2: Comparing Pizza Prices; 2.3: Finding Costs; 3.2: Measuring to the Unit</p> <p>Moving Straight Ahead: 1.1: Walking Marathons; 1.2: Walking Rates and Linear Relationships</p>

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M07.A-R.1.1.4: Represent proportional relationships by equations. Example: If total cost t is proportional to the number n of items purchased at a constant price p , the relationship between the total cost and the number of items can be expressed as $t = pn$.	Stretching and Shrinking: 4.3: Finding Missing Parts; 4.4: Using Shadows to Find Heights Comparing and Scaling: 1.4: Keeping Things in Proportion; 2.2: Comparing Pizza Prices; 2.3: Finding Costs; 3.2: Measuring to the Unit; 3.3: Mixing it Up
M07.A-R.1.1.5: Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$, where r is the unit rate.	Moving Straight Ahead: 2.1: Henri and Emile's Race; 2.2: Crossing the Line
M07.A-R.1.1.6: Use proportional relationships to solve multi-step ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease.	Stretching and Shrinking: 1.2: Scaling Up and Down; 3.1: Rep-Tile Quadrilaterals; 3.4: Out of Reach; 4.1: Ratios Within Similar Parallelograms; 4.2: Ratios Within Similar Triangles; 4.3: Finding Missing Parts; 4.4: Using Shadows to Find Heights Comparing and Scaling: 1.1: Surveying Opinions; 1.4: Keeping Things in Proportion; 2.1: Sharing Pizza; 2.2: Comparing Pizza Prices; 2.3: Finding Costs; 3.1: Commissions, Markups, and Discounts; 3.2: Measuring to the Unit; 3.3: Mixing it Up
E) The Number System	
CC.2.1.7.E.1 Apply and extend previous understandings of operations with fractions to operations with rational numbers.	Accentuate the Negative: 1.2: Extending the Number Line; 2.1: Extending Addition to Rational Numbers; 2.2 Extending Subtraction to Rational Numbers; 3.2: Multiplication of Rational Numbers; 3.3 Division of Rational Numbers; 4.1 Order of Operations Comparing and Scaling: 3.1: Commissions, Markups, and Discounts
M07.A-N.1.1.1: Apply properties of operations to add and subtract rational numbers, including real-world contexts.	Accentuate the Negative: 1.1: Playing Math Fever; 1.2: Extending the Number Line; 1.3 From Sauna to Snowbank; 1.4: In the Chips; 2.1: Extending Addition to Rational Numbers; 2.2 Extending Subtraction to Rational Numbers; 2.3: The "+/-" Connection; 2.4: Fact Families; 4.1 Order of Operations
M07.A-N.1.1.2: Represent addition and subtraction on a horizontal or vertical number line.	Accentuate the Negative: 1.2: Extending the Number Line; 1.3 From Sauna to Snowbank; 2.1: Extending Addition to Rational Numbers; 2.2 Extending Subtraction to Rational Numbers

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M07.A-N.1.1.3: Apply properties of operations to multiply and divide rational numbers, including real-world contexts; demonstrate that the decimal form of a rational number terminates or eventually repeats.	Accentuate the Negative: 3.1: Multiplication Patterns; 3.2: Multiplication of Rational Numbers; 3.3 Division of Rational Numbers; 3.4: Playing the Integer Product Game; 4.3 What Operations Are Needed? Comparing and Scaling: 3.1: Commissions, Markups, and Discounts
2.2 Algebraic Concepts	
B) Expressions & Equations	
CC.2.2.7.B.1 Apply properties of operations to generate equivalent expressions.	Accentuate the Negative: 4.1 Order of Operations; 4.2: The Distributive Property; 4.3 What Operations Are Needed? Moving Straight Ahead: 3.3: From Pouches to Variables; 3.4: Solving Linear Equations
M07.B-E.1.1.1: Apply properties of operations to add, subtract, factor, and expand linear expressions with rational coefficients. Example 1: The expression $\frac{1}{2} \cdot (x + 6)$ is equivalent to $\frac{1}{2} \cdot x + 3$. Example 2: The expression $5.3 - y + 4.2$ is equivalent to $9.5 - y$ (or $-y + 9.5$). Example 3: The expression $4w - 10$ is equivalent to $2(2w - 5)$.	Moving Straight Ahead: 3.3: From Pouches to Variables; 3.4: Solving Linear Equations
CC.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations.	Moving Straight Ahead: 1.1: Walking Marathons; 1.2: Walking Rates and Linear Relationships; 1.3: Raising Money; 1.4: Using the Walkathon Money; 2.1: Henri and Emile's Race; 2.2: Crossing the Line; 2.3: Comparing Costs; 2.4: Connecting Tables; Graphs, and Equations; 3.1: Solving Equations Using Tables and Graphs; 3.2: Mystery Pouches in the Kingdom of Montarek; 3.3: From Pouches to Variables; 3.4: Solving Linear Equations; 3.5: Finding the Points of Intersection; 4.1: Climbing Stairs; 4.2: Finding the Slope of a Line; 4.3: Exploring Patterns With Lines; 4.4: Pulling it All Together
M07.B-E.2.1.1: Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate. Example: If a woman making \$25 an hour gets a 10% raise, she will make an additional $\frac{1}{10}$ of her salary an hour, or \$2.50, for a new salary of \$27.50 an hour (or $1.1 \times \$25 = \27.50).	Comparing and Scaling: 1.2: Mixing Juice; 1.3: Time to Concentrate Comparing and Scaling: 3.1: Commissions, Markups, and Discounts; 3.2: Measuring to the Unit; 3.3: Mixing it Up

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M07.B-E.2.2.1: Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p , q , and r are specific rational numbers. Example: The perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?	Moving Straight Ahead: 3.1: Solving Equations Using Tables and Graphs; 3.2: Mystery Pouches in the Kingdom of Montarek; 3.3: From Pouches to Variables; 3.4: Solving Linear Equations
M07.B-E.2.2.2: Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p , q , and r are specific rational numbers, and graph the solution set of the inequality. Example: A salesperson is paid \$50 per week plus \$3 per sale. This week she wants her pay to be at least \$100. Write an inequality for the number of sales the salesperson needs to make and describe the solutions.	Accentuate the Negative: 1.2: Extending the Number Line; Moving Straight Ahead: 3.1: Solving Equations Using Tables and Graphs
M07.B-E.2.3.1: Determine the reasonableness of answer(s) or interpret the solution(s) in the context of the problem. Example: If you want to place a towel bar that is $9 \frac{3}{4}$ inches long in the center of a door that is $27 \frac{1}{2}$ inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.	Moving Straight Ahead: 3.5: Finding the Points of Intersection; 4.4: Pulling it All Together
A1.1.1.4.1 Use estimation to solve problems.	Filling and Wrapping: 2.2: Packing A Prism; 3.2: Pricing Pizza; 3.4: Connecting Circumference and Area

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2.3 Geometry	
A) Geometry	
<p>CC.2.3.7.A.1 Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume.</p>	<p>Shapes and Designs: 1.2: In a Spin; 1.3: Estimating Measures of Rotations and Angles; 1.4: Measuring Angles; 1.5: Design Challenge; 2.1: Angle Sums of Regular Polygons; 2.2 Angle Sums of Any Polygon; 2.3: The Bees Do It; 2.4: The Ins and Outs of Polygons; 3.2: Design Challenge II; 3.3: Building Quadrilaterals; 3.4: Parallel Lines and Transversals</p> <p>Stretching and Shrinking: 1.2: Scaling Up and Down; 3.1: Rep-Tile Quadrilaterals; 3.3: Designing Under Constraints</p> <p>Filling and Wrapping: 1.1: How Big Are Those Boxes?; 1.2: Optimal Containers I; 1.3: Optimal Containers II; 1.4: Compost Containers; 2.1: Folding Paper; 2.2: Packing A Prism; 2.3: Slicing Prisms and Pyramids; 3.1: Going Around in Circles; 3.2: Pricing Pizza; 3.3: Squaring a Circle to Find Its Area; 3.4: Connecting Circumference and Area; 4.1: Networking; 4.2: Wrapping Paper; 4.3: Comparing Juice Containers; 4.4: Filling Cones and Spheres; 4.5: Comparing Volumes of Spheres, Cylinders, and Cones</p>
<p>M07.C-G.2.1.1: Identify and use properties of supplementary, complementary, and adjacent angles in a multistep problem to write and solve simple equations for an unknown angle in a figure.</p>	<p>Shapes and Designs: 1.4: Measuring Angles; 2.4: The Ins and Outs of Polygons; 3.4: Parallel Lines and Transversals</p>
<p>M07.C-G.2.1.2: Identify and use properties of angles formed when two parallel lines are cut by a transversal (e.g., angles may include alternate interior, alternate exterior, vertical, corresponding).</p>	<p>Shapes and Designs: 3.4: Parallel Lines and Transversals</p> <p>Stretching and Shrinking: 3.4: Out of Reach</p>
<p>M07.C-G.2.2.1: Find the area and circumference of a circle. Solve problems involving area and circumference of a circle(s). Formulas will be provided.</p>	<p>Filling and Wrapping: 3.1: Going Around in Circles; 3.2: Pricing Pizza; 3.3: Squaring a Circle to Find Its Area; 3.4: Connecting Circumference and Area</p>

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<p>M07.C-G.2.2.2: Solve real-world and mathematical problems involving area, volume, and surface area of two and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. Formulas will be provided.</p>	<p>Stretching and Shrinking: 3.1: Rep-Tile Quadrilaterals; 3.3: Designing Under Constraints; 3.4: Out of Reach</p> <p>Filling and Wrapping: 1.1: How Big Are Those Boxes?; 1.2: Optimal Containers I; 1.3: Optimal Containers II; 1.4: Compost Containers; 2.1: Folding Paper; 2.2: Packing A Prism; 2.3: Slicing Prisms and Pyramids; 3.1: Going Around in Circles; 3.2: Pricing Pizza; 3.3: Squaring a Circle to Find Its Area; 3.4: Connecting Circumference and Area; 4.1: Networking; 4.2: Wrapping Paper; 4.3: Comparing Juice Containers; 4.4: Filling Cones and Spheres; 4.5: Comparing Volumes of Spheres, Cylinders, and Cones</p>
<p>CC.2.3.7.A.2 Visualize and represent geometric figures and describe the relationships between them.</p>	<p>Shapes and Designs: 1.1: Sorting and Sketching Polygons; 1.2: In a Spin; 1.3: Estimating Measures of Rotations and Angles; 1.4: Measuring Angles; 1.5: Design Challenge; 2.1: Angle Sums of Regular Polygons; 2.2 Angle Sums of Any Polygon; 2.3: The Bees Do It; 2.4: The Ins and Outs of Polygons; 3.1: Building Triangles; 3.2: Design Challenge II; 3.3: Building Quadrilaterals; 3.4: Parallel Lines and Transversals</p> <p>Stretching and Shrinking: 1.1: Solving a Mystery; 1.2: Scaling Up and Down; 2.1: Drawing Wumps; 2.2: Hats Off to the Wumps; 2.3: Mouthing Off and Nosing Around; 3.1: Rep-Tile Quadrilaterals; 3.2: Rep-Tile Triangles; 3.3: Designing Under Constraints; 3.4: Out of Reach; 4.1: Ratios Within Similar Parallelograms; 4.2: Ratios Within Similar Triangles; 4.3: Finding Missing Parts; 4.4: Using Shadows to Find Heights</p> <p>Moving Straight Ahead: 4.1: Climbing Stairs; 4.2: Finding the Slope of a Line; 4.3: Exploring Patterns With Lines; 4.4: Pulling it All Together</p>

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(Continued) CC.2.3.7.A.2 Visualize and represent geometric figures and describe the relationships between them.	Filling and Wrapping: Filling and Wrapping: 1.1: How Big Are Those Boxes?; 1.2: Optimal Containers I; 1.3: Optimal Containers II; 1.4: Compost Containers; 2.1: Folding Paper; 2.2: Packing A Prism; 2.3: Slicing Prisms and Pyramids; 3.1: Going Around in Circles; 3.2: Pricing Pizza; 3.3: Squaring a Circle to Find Its Area; 3.4: Connecting Circumference and Area; 4.1: Networking; 4.2: Wrapping Paper; 4.3: Comparing Juice Containers; 4.4: Filling Cones and Spheres; 4.5: Comparing Volumes of Spheres, Cylinders, and Cones
M07.C-G.1.1.1: Solve problems involving scale drawings of geometric figures, including finding length and area.	Stretching and Shrinking: 1.1: Solving a Mystery; 1.2: Scaling Up and Down; 2.1: Drawing Wumps; 2.2: Hats Off to the Wumps; 2.3: Mouthing Off and Nosing Around; 3.1: Rep-Tile Quadrilaterals; 3.3: Designing Under Constraints; 3.4: Out of Reach; 4.1: Ratios Within Similar Parallelograms; 4.2: Ratios Within Similar Triangles; 4.3: Finding Missing Parts
M07.C-G.1.1.2: Identify or describe the properties of all types of triangles based on angle and side measures.	Shapes and Designs: 1.1: Sorting and Sketching Polygons; 2.1: Angle Sums of Regular Polygons; 2.2 Angle Sums of Any Polygon; 3.1: Building Triangles; 3.2: Design Challenge II; 3.5: Design Challenge III Stretching and Shrinking: 3.2: Rep-Tile Triangles; 3.4: Out of Reach; 4.2: Ratios Within Similar Triangles; 4.4: Using Shadows to Find Heights
M07.C-G.1.1.3: Use and apply the triangle inequality theorem.	Shapes and Designs: 3.1: Building Triangles
M07.C-G.1.1.4: Describe the two-dimensional figures that result from slicing three-dimensional figures. Example: Describe plane sections of right rectangular prisms and right rectangular pyramids.	Filling and Wrapping: 2.3: Slicing Prisms and Pyramids; 4.1: Networking; 4.3: Comparing Juice Containers
2.4 Measurement, Data, and Probability	
B) Statistics and Probability	
CC.2.4.7.B.1 Draw inferences about populations based on random sampling concepts.	Samples and Populations: 2.1: Asking About Honesty; 2.2: Selecting a Sample; 2.3: Choosing Random Samples; 2.4: Growing Samples

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M07.D-S.1.1.1: Determine whether a sample is a random sample given a real-world situation.	Samples and Populations: 2.1: Asking About Honesty; 2.2: Selecting a Sample; 2.3: Choosing Random Samples; 2.4: Growing Samples
M07.D-S.1.1.2: Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Example 1: Estimate the mean word length in a book by randomly sampling words from the book. Example 2: Predict the winner of a school election based on randomly sampled survey data.	Samples and Populations: 2.2: Selecting a Sample; 2.3: Choosing Random Samples; 2.4: Growing Samples
CC.2.4.7.B.2 Draw informal comparative inferences about two populations.	Samples and Populations: 1.1: Comparing Performances; 1.2: Which Team Is Most Successful?; 1.3: Pick Your Preference; 1.4: Are Steel-Frame Coasters Faster Than Wood-Frame Coasters?
M07.D-S.2.1.1: Compare two numerical data distributions using measures of center and variability. Example 1: The mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team. This difference is equal to approximately twice the variability (mean absolute deviation) on either team. On a line plot, note the difference between the two distributions of heights. Example 2: Decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth grade science book.	Samples and Populations: 1.1: Comparing Performances; 1.2: Which Team Is Most Successful?; 1.3: Pick Your Preference; 1.4: Are Steel-Frame Coasters Faster Than Wood-Frame Coasters?
CC.2.4.7.B.3 Investigate chance processes and develop, use, and evaluate probability models.	What Do You Expect?: 1.1: Choosing Cereal; 1.2: Tossing Paper Cups; 1.3 One More Try; 1.4 Analyzing Events; 2.1 Predicting to Win; 2.2 Choosing Marbles; 2.3: Designing a Fair Game; 2.4: Winning the Bonus Prize; 3.1: Designing a Spinner to Find Probabilities; 3.2: Making Decisions; 3.3: Roller Derby; 3.4: Scratching Spots; 4.1: Drawing Area Models to Find the Sample Space; 4.2: Making Purple; 5.1: Guessing Answers; 5.2: Ortonville; 5.3: A Baseball Series

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M07.D-S.3.1.1: Predict or determine whether some outcomes are certain, more likely, less likely, equally likely, or impossible (i.e., a probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event).	What Do You Expect?: 1.4 Analyzing Events; 2.1 Predicting to Win; 2.2 Choosing Marbles; 2.3: Designing a Fair Game
M07.D-S.3.2.1: Determine the probability of a chance event given relative frequency. Predict the approximate relative frequency given the probability. Example: When rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times but probably not exactly 200 times.	What Do You Expect?: 1.1: Choosing Cereal; 1.2: Tossing Paper Cups; 1.3 One More Try; 1.4 Analyzing Events; 2.1 Predicting to Win; 3.1: Designing a Spinner to Find Probabilities; 3.2: Making Decisions; 3.3: Roller Derby; 3.4: Scratching Spots
M07.D-S.3.2.2: Find the probability of a simple event, including the probability of a simple event not occurring. Example: What is the probability of not rolling a 1 on a number cube?	What Do You Expect?: 1.1: Choosing Cereal; 1.2: Tossing Paper Cups; 1.3 One More Try; 1.4 Analyzing Events; 2.1 Predicting to Win; 2.2 Choosing Marbles; 2.3: Designing a Fair Game; 2.4: Winning the Bonus Prize; 3.1: Designing a Spinner to Find Probabilities; 3.2: Making Decisions; 3.3: Roller Derby; 3.4: Scratching Spots; 4.1: Drawing Area Models to Find the Sample Space; 4.2: Making Purple; 4.3: One-and-One Free Throws; 4.4: Finding Expected Value
M07.D-S.3.2.3: Find probabilities of independent compound events using organized lists, tables, tree diagrams, and simulation.	What Do You Expect?: 2.1 Predicting to Win; 2.3: Designing a Fair Game; 2.4: Winning the Bonus Prize; 5.1: Guessing Answers; 5.2: Ortonville; 5.3: A Baseball Series
A1.2.3.3.1 Find probabilities for compound events (e.g., find probability of red and blue, find probability of red or blue) and represent as a fraction, decimal or percent).	What Do You Expect?: 2.3: Designing a Fair Game; 2.4: Winning the Bonus Prize; 4.1: Drawing Area Models to Find the Sample Space; 4.2: Making Purple; 4.3: One-and-One Free Throws; 4.4: Finding Expected Value; 5.1: Guessing Answers; 5.2: Ortonville; 5.3: A Baseball Series

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<p style="text-align: center;">Pennsylvania Common Core Standards in Mathematics Grade 8</p>	<p style="text-align: center;">Connected Mathematics 3 Grade 8, ©2014</p>
2.1 Numbers and Operations	
E) The Number System	
<p>CC.2.1.8.E.1 <i>Distinguish between rational and irrational numbers using their properties.</i></p>	<p>Looking for Pythagoras: 4.1: Analyzing the Wheel of Theodorus; 4.4: Getting Real</p>
<p>M08.A-N.1.1.1: Determine whether a number is rational or irrational. For rational numbers, show that the decimal expansion terminates or repeats (limit repeating decimals to thousandths).</p>	<p>Looking for Pythagoras: 4.3: Representing Decimals as Fractions; 4.4: Getting Real</p>
<p>M08.A-N.1.1.2: Convert a terminating or repeating decimal to a rational number (limit repeating decimals to thousandths).</p>	<p>Looking for Pythagoras: 4.2: Representing Fractions as Decimals; 4.4: Getting Real</p>
<p>A1.1.1.1.1 Compare and/or order any real numbers (rational and irrational may be mixed).</p>	<p>Looking for Pythagoras: 4.1: Analyzing the Wheel of Theodorus; 4.4: Getting Real</p>
<p>A1.1.1.1.2 Simplify square roots (e.g., $\sqrt{24} = 2\sqrt{6}$).</p>	<p>Looking for Pythagoras: 2.2: Square Roots; 2.3: Using Squares; 2.4: Cube Roots; 3.1: Discovering the Pythagorean Theorem; 3.3: Finding Distances; 3.4: Measuring the Egyptian Way; 4.1: Analyzing the Wheel of Theodorus</p>
<p>CC.2.1.8.E.4 <i>Estimate irrational numbers by comparing them to rational numbers.</i></p>	<p>Looking for Pythagoras: 4.1: Analyzing the Wheel of Theodorus; 4.4: Getting Real; 5.1: Stopping Sneaky Sally</p>
<p>M08.A-N.1.1.3: Estimate the value of irrational numbers without a calculator (limit whole number radicand to less than 144). Example: $\sqrt{5}$ is between 2 and 3 but closer to 2.</p>	<p>Looking for Pythagoras: 4.1: Analyzing the Wheel of Theodorus; 4.4: Getting Real; 5.1: Stopping Sneaky Sally</p>
<p>M08.A-N.1.1.4: Use rational approximations of irrational numbers to compare and order irrational numbers.</p>	<p>Looking for Pythagoras: 4.1: Analyzing the Wheel of Theodorus; 4.4: Getting Real; 5.1: Stopping Sneaky Sally</p>
<p>M08.A-N.1.1.5: Locate/identify rational and irrational numbers at their approximate locations on a number line.</p>	<p>Looking for Pythagoras: 4.1: Analyzing the Wheel of Theodorus; 4.4: Getting Real</p>
<p>A1.1.1.1.1 Compare and/or order any real numbers (rational and irrational may be mixed).</p>	<p>Looking for Pythagoras: 4.1: Analyzing the Wheel of Theodorus; 4.4: Getting Real</p>

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F) Number and Quantity	
2.2 Algebraic Concepts	
B) Expressions & Equations	
<p>CC.2.2.8.B.1 Apply concepts of radicals and integer exponents to generate equivalent expressions.</p>	<p>Looking for Pythagoras: 2.2: Square Roots; 2.3: Using Squares; 2.4: Cube Roots</p> <p>Growing, Growing, Growing: 5.1: Looking For Patterns Among Exponents; 5.2: Rules of Exponents; 5.3: Extending the Rules of Exponents; 5.4: Operations With Scientific Notation</p>
<p>M08.B-E.1.1.1: Apply one or more properties of integer exponents to generate equivalent numerical expressions without a calculator (with final answers expressed in exponential form with positive exponents). Properties will be provided. Example: $3^{12} \times 3^{15} = 3^{33} = 1/(3^3)$</p>	<p>Growing, Growing, Growing: 5.1: Looking For Patterns Among Exponents; 5.2: Rules of Exponents; 5.3: Extending the Rules of Exponents; 5.4: Operations With Scientific Notation</p>
<p>M08.B-E.1.1.2: Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of perfect squares (up to and including 122) and cube roots of perfect cubes (up to and including 53) without a calculator. Example: If $x^2 = 25$ then $x = \pm\sqrt{25}$.</p>	<p>Looking for Pythagoras: 2.2: Square Roots; 2.3: Using Squares; 2.4: Cube Roots; 5.1: Stopping Sneaky Sally</p>
<p>M08.B-E.1.1.3: Estimate very large or very small quantities by using numbers expressed in the form of a single digit times an integer power of 10 and express how many times larger or smaller one number is than another. Example: Estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9 and determine that the world population is more than 20 times larger than the United States' population.</p>	<p>Growing, Growing, Growing: 5.4: Operations With Scientific Notation</p>
<p>M08.B-E.1.1.4: Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Express answers in scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology (e.g., interpret $4.7EE9$ displayed on a calculator as 4.7×10^9)</p>	<p>Growing, Growing, Growing: 5.4: Operations With Scientific Notation</p>

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A1.1.1.3.1 Simplify/evaluate expressions involving properties/laws of exponents, roots and/or absolute value to solve problems (exponents should be integers from -10 to 10).	Looking for Pythagoras: 2.1: Looking for Squares; 2.2: Square Roots; 2.3: Using Squares; 2.4: Cube Roots
CC.2.2.8.B.2 Understand the connections between proportional relationships, lines, and linear equations.	Thinking With Mathematical Models: 2.2: Up and Down the Staircase; 2.3: Tree Top Fun; 2.4: Boat Rental Business; 2.5: Amusement Park or Movies; 4.1: Analyzing the Wheel of Theodorus; 5.1: Stopping Sneaky Sally
M08.B-E.2.1.1: Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. Example: Compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.	Thinking With Mathematical Models: 2.2: Up and Down the Staircase
M08.B-E.2.1.2: Use similar right triangles to show and explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane.	Thinking With Mathematical Models: 2.2: Up and Down the Staircase
M08.B-E.2.1.3: Derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b .	Thinking With Mathematical Models: 2.2: Up and Down the Staircase; 2.3: Tree Top Fun; 2.4: Boat Rental Business; 2.5: Amusement Park or Movies It's In The System: 1.2: Connecting $Ax + By = C$ and $y = mx + b$; 2.1: Shirts and Caps Again
A1.2.1.2.2 Translate from one representation of a linear function to another (i.e., graph, table, and equation).	Thinking With Mathematical Models: 1.3: Custom Construction Parts; 2.2: Up and Down the Staircase; 2.3: Tree Top Fun; 2.4: Boat Rental Business; 2.5: Amusement Park or Movies Say It With Symbols: 2.1: Walking Together; 2.2: Predicting Profit

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<p>CC.2.2.8.B.3 Analyze and solve linear equations and pairs of simultaneous linear equations.</p>	<p>Thinking With Mathematical Models: 2.4: Boat Rental Business; 2.5: Amusement Park or Movies</p> <p>Say It With Symbols: 3.1: Selling Greeting Cards; 3.2: Comparing Costs; 5.1: Using Algebra to Solve a Puzzle</p> <p>It's In The System: 1.1: Shirts and Caps; 1.2: Connecting $Ax + By = C$ and $y = mx + b$; 1.3: Booster Club Members; 2.1: Shirts and Caps Again; 2.2: Taco Truck Lunch; 2.3: Solving Systems by Combining Equations II; 3.1: Comparing Security Services; 3.2: Solving Linear Inequalities Symbolically; 3.3: Operation at a Profit; 4.1: Limiting Driving Miles; 4.2: What Makes a Car Green?; 4.3: Feasible Points; 4.4: Miles of Emissions</p>
<p>M08.B-E.3.1.1: Write and identify linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).</p>	<p>Thinking With Mathematical Models: 2.4: Boat Rental Business</p> <p>Say It With Symbols: 3.1: Selling Greeting Cards; 3.2: Comparing Costs; 5.1: Using Algebra to Solve a Puzzle</p>
<p>M08.B-E.3.1.2: Solve linear equations that have rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.</p>	<p>Thinking With Mathematical Models: 2.4: Boat Rental Business</p> <p>Say It With Symbols: 3.1: Selling Greeting Cards; 3.2: Comparing Costs; 5.1: Using Algebra to Solve a Puzzle</p>
<p>M08.B-E.3.1.3: Interpret solutions to a system of two linear equations in two variables as points of intersection of their graphs because points of intersection satisfy both equations simultaneously.</p>	<p>Thinking With Mathematical Models: 2.5: Amusement Park or Movies;</p> <p>It's In The System: 2.1: Shirts and Caps Again; 2.2: Taco Truck Lunch; 2.3: Solving Systems by Combining Equations II; 4.4: Miles of Emissions</p>

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M08.B-E.3.1.4: Solve systems of two linear equations in two variables algebraically and estimate solutions by graphing the equations. Solve simple cases by inspection. Example: $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.	Thinking With Mathematical Models: 2.5: Amusement Park or Movies It's In The System: 2.1: Shirts and Caps Again; 2.2: Taco Truck Lunch; 2.3: Solving Systems by Combining Equations II; 4.4: Miles of Emissions
M08.B-E.3.1.5: Solve real-world and mathematical problems leading to two linear equations in two variables. Example: Given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.	Thinking With Mathematical Models: 2.5: Amusement Park or Movies It's In The System: 1.1: Shirts and Caps; 1.2: Connecting $Ax + By = C$ and $y = mx + b$; 1.3: Booster Club Members; 2.1: Shirts and Caps Again; 2.2: Taco Truck Lunch; 2.3: Solving Systems by Combining Equations II; 4.4: Miles of Emissions
A1.1.2.1.1 Write, solve, and/or apply a linear equation (including problem situations).	Thinking With Mathematical Models: 2.4: Boat Rental Business Say It With Symbols: 3.1: Selling Greeting Cards; 3.2: Comparing Costs; 5.1: Using Algebra to Solve a Puzzle
A1.1.2.2.1 Write and/or solve a system of linear equations (including problem situations) using graphing, substitution, and/or elimination.	Thinking With Mathematical Models: 2.5: Amusement Park or Movies It's In The System: 2.1: Shirts and Caps Again; 2.2: Taco Truck Lunch; 2.3: Solving Systems by Combining Equations II; 4.4: Miles of Emissions
A1.1.2.2.2 Interpret solutions to problems in the context of the problem situation.	Say It With Symbols: 1.1: Tiling Pools; 1.2: Thinking in Different Ways; 1.3: The Community Pool Problem; 1.4: Diving In; 3.2: Comparing Costs; 5.2: Odd and Even Revisited; 5.3: Squaring Odd Numbers It's In The System: 2.1: Shirts and Caps Again; 2.2: Taco Truck Lunch; 2.3: 3.1: Comparing Security Services; 3.2: 4.1: Limiting Driving Miles; 4.2: What Makes a Car Green?; 4.3: Feasible Points; 4.4: Miles of Emissions

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C) Functions	
<p>CC.2.2.8.C.1 Define, evaluate, and compare functions.</p>	<p>Thinking With Mathematical Models: 2.1: Modeling Linear Data Patterns; 2.2: Up and Down the Staircase; 2.3: Tree Top Fun; 2.4: Boat Rental Business; 2.5: Amusement Park or Movies; 3.2: Distance, Speed and Time; 3.3: Planning a Field Trip; 3.4: Modeling Data Patterns</p> <p>Growing, Growing, Growing: 1.1: Making Ballots; 1.2: Requesting a Reward; 1.3: Making a New Offer; 2.1: Killer Plant Strikes Lake Victoria; 2.2: Growing Mold; 2.3: Studying Snake Populations; 3.1: Reproducing Rabbits; 3.2: Investing for the Future; 3.3: Making a Difference; 4.1: Making Smaller Ballots; 4.2: Fighting Fleas; 4.3: Cooling Water; 5.5: Revisiting Exponential Functions</p> <p>Say It With Symbols: 2.1: Walking Together; 2.2: Predicting Profit; 4.3: Generating Patterns; 4.4: What's the Function?</p>
<p>M08.B-F.1.1.1: Determine whether a relation is a function.</p>	<p>Say It With Symbols: 4.4: What's the Function?</p>
<p>M08.B-F.1.1.2: Compare properties of two functions, each represented in a different way (i.e., algebraically, graphically, numerically in tables, or by verbal descriptions). Example: Given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.</p>	<p>Say It With Symbols: 4.3: Generating Patterns; 4.4: What's the Function?</p> <p>It's In The System: 4.3: Feasible Points</p>
<p>M08.B-F.1.1.3: Interpret the equation $y = mx + b$ as defining a linear function whose graph is a straight line; give examples of functions that are not linear.</p>	<p>Thinking With Mathematical Models: 2.1: Modeling Linear Data Patterns; 2.2: Up and Down the Staircase; 2.3: Tree Top Fun; 2.4: Boat Rental Business; 2.5: Amusement Park or Movies</p>

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A1.1.2.1.1 Write, solve, and/or apply a linear equation (including problem situations).	Thinking With Mathematical Models: 2.4: Boat Rental Business Say It With Symbols: 3.1: Selling Greeting Cards; 3.2: Comparing Costs; 5.1: Using Algebra to Solve a Puzzle
A1.2.1.1.2 Determine whether a relation is a function, given a set of points or a graph.	Say It With Symbols: 4.4: What's the Function?
A1.2.1.2.1 Create, interpret, and/or use the equation, graph, or table of a linear function.	Thinking With Mathematical Models: 1.3: Custom Construction Parts; 2.2: Up and Down the Staircase; 2.3: Tree Top Fun; 2.4: Boat Rental Business; 2.5: Amusement Park or Movies Say It With Symbols: 2.1: Walking Together; 2.2: Predicting Profit It's In The System: 1.1: Shirts and Caps; 1.2: Connecting $Ax + By = C$ and $y = mx + b$; 1.3: Booster Club Members; 2.1: Shirts and Caps Again; 2.2: Taco Truck Lunch; 2.3: Solving Systems by Combining Equations II; 3.1: Comparing Security Services; 3.2: Solving Linear Inequalities Symbolically; 3.3: Operation at a Profit; 4.1: Limiting Driving Miles; 4.2: What Makes a Car Green? 4.3: Feasible Points; 4.4: Miles of Emissions
A1.2.1.2.2 Translate from one representation of a linear function to another (i.e., graph, table, and equation).	Thinking With Mathematical Models: 1.3: Custom Construction Parts; 2.2: Up and Down the Staircase; 2.3: Tree Top Fun; 2.4: Boat Rental Business; 2.5: Amusement Park or Movies Say It With Symbols: 2.1: Walking Together; 2.2: Predicting Profit

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<p>CC.2.2.8.C.2 Use concepts of functions to model relationships between quantities.</p>	<p>Thinking With Mathematical Models: 2.1: Modeling Linear Data Patterns; 2.2: Up and Down the Staircase; 2.3: Tree Top Fun; 2.4: Boat Rental Business; 2.5: Amusement Park or Movies; 3.2: Distance, Speed and Time; 3.3: Planning a Field Trip; 3.4: Modeling Data Patterns</p> <p>Growing, Growing, Growing: 1.1: Making Ballots; 1.2: Requesting a Reward; 1.3: Making a New Offer; 2.1: Killer Plant Strikes Lake Victoria; 2.2: Growing Mold; 2.3: Studying Snake Populations; 3.1: Reproducing Rabbits; 3.2: Investing for the Future; 3.3: Making a Difference; 4.1: Making Smaller Ballots; 4.2: Fighting Fleas; 4.3: Cooling Water; 5.5: Revisiting Exponential Functions</p> <p>Say It With Symbols: 3.1: Selling Greeting Cards; 3.2: Comparing Costs; 3.3: Factoring Quadratic Equations; 3.4: Solving Quadratic Equations; 4.3: Generating Patterns; 4.4: What's the Function?</p>
<p>M08.B-F.2.1.1: Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models and in terms of its graph or a table of values.</p>	<p>Thinking With Mathematical Models: 1.3: Custom Construction Parts; 2.2: Up and Down the Staircase; 2.3: Tree Top Fun; 2.4: Boat Rental Business; 2.5: Amusement Park or Movies</p> <p>Say It With Symbols: 3.1: Selling Greeting Cards; 3.2: Comparing Costs</p>
<p>M08.B-F.2.1.2: Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch or determine a graph that exhibits the qualitative features of a function that has been described verbally.</p>	<p>Thinking With Mathematical Models: 1.3: Custom Construction Parts; 2.2: Up and Down the Staircase; 2.3: Tree Top Fun; 2.4: Boat Rental Business; 2.5: Amusement Park or Movies; 3.2: Distance, Speed and Time; 3.3: Planning a Field Trip; 3.4: Modeling Data Patterns</p> <p>Growing, Growing, Growing: 1.3: Making a New Offer; 2.1: Killer Plant Strikes Lake Victoria; 2.3: Studying Snake Populations; 3.3: Making a Difference; 4.2: Fighting Fleas; 5.5: Revisiting Exponential Functions</p> <p>Say It With Symbols: 3.3: Factoring Quadratic Equations</p>

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Pennsylvania Common Core Standards in Mathematics Grade 8	Connected Mathematics 3 Grade 8, ©2014
A1.1.2.1.3 Interpret solutions to problems in the context of the problem situation.	Say It With Symbols: 3.1: Selling Greeting Cards; 3.2: Comparing Costs; 3.3: Factoring Quadratic Equations; 3.4: Solving Quadratic Equations; 4.1: Pumping Water; 4.2: Area and Profit – What’s the Connection?
A1.2.1.1.1 Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically.	Thinking With Mathematical Models: 1.1: Bridge Thickness and Strength; 1.2: Bridge Length and Strength; 1.3: Custom Construction Parts; 2.1: Modeling Linear Data Patterns; 3.2: Distance, Speed and Time; 3.3: Planning a Field Trip; 3.4: Modeling Data Patterns; 4.1: Vitruvian Man; 4.2: Older and Faster; 4.3: Correlation Coefficients and Outliers; 4.4: Measuring Variability; 5.1: Wood or Steel? That’s the Question; 5.2: Politics of Girls and Boys; 5.3: After-School Jobs and Homework
A1.2.1.2.2 Translate from one representation of a linear function to another (i.e., graph, table, and equation).	Thinking With Mathematical Models: 1.3: Custom Construction Parts; 2.2: Up and Down the Staircase; 2.3: Tree Top Fun; 2.4: Boat Rental Business; 2.5: Amusement Park or Movies Say It With Symbols: 2.1: Walking Together; 2.2: Predicting Profit
A1.2.2.1.3 Write or identify a linear equation when given	Thinking With Mathematical Models: 2.2: Up and Down the Staircase; 2.3: Tree Top Fun
A1.2.2.1.4 Determine the slope and/or y-intercept represented by a linear equation or graph.	Thinking With Mathematical Models: 2.2: Up and Down the Staircase
2.3 Geometry	
A) Geometry	
CC.2.3.8.A.1 Apply the concepts of volume of cylinders, cones, and spheres to solve real-world and mathematical problems.	Say It With Symbols: 2.3: Making Candles; 2.4: Selling Ice Cream
M08.C-G.3.1.1: Apply formulas for the volumes of cones, cylinders, and spheres to solve real-world and mathematical problems. Formulas will be provided.	Say It With Symbols: 2.3: Making Candles; 2.4: Selling Ice Cream
G.2.3.1.2 Find the measurement of a missing length given the surface area or volume.	Looking for Pythagoras: 2.4: Cube Roots

**A Correlation of Connected Mathematics 3, ©2014, to the
Pennsylvania Common Core Standards in Mathematics**

Pennsylvania Common Core Standards in Mathematics Grade 8	Connected Mathematics 3 Grade 8, ©2014
CC.2.3.8.A.2 Understand and apply congruence, similarity, and geometric transformations using various tools.	Looking for Pythagoras: 5.2: Analyzing Triangles Butterflies, Pinwheels, and Wallpaper: 1.1: Butterfly Symmetry; 1.2: In a Spin; 1.3: Sliding Around; 1.4: Properties of Transformations; 2.1: Connecting Congruent Polygons; 2.2: Supporting the World; 2.3: Minimum Measurement; 3.1: Flipping on a Grid; 3.2: Sliding on a Grid; 3.3: Spinning on a Grid; 3.4: A Special Property of Translations and Half-Turns; 3.5: Parallel Lines, Transversals, and Angle Sums; 4.1: Focus on Dilations; 4.2: Return of Super Sleuth; 4.3: Checking Similarity; 4.4: Using Similar Triangles
M08.C-G.1.1.1: Identify and apply properties of rotations, reflections, and translations. Example: Angle measures are preserved in rotations, reflections, and translations.	Looking for Pythagoras: 5.2: Analyzing Triangles; Butterflies, Pinwheels, and Wallpaper: 1.1: Butterfly Symmetry; 1.2: In a Spin; 1.3: Sliding Around; 1.4: Properties of Transformations; 3.1: Flipping on a Grid; 3.2: Sliding on a Grid; 3.3: Spinning on a Grid; 3.4: A Special Property of Translations and Half-Turns
M08.C-G.1.1.2: Given two congruent figures, describe a sequence of transformations that exhibits the congruence between them.	Looking for Pythagoras: 5.2: Analyzing Triangles Butterflies, Pinwheels, and Wallpaper: 1.1: Butterfly Symmetry; 1.2: In a Spin; 1.3: Sliding Around; 1.4: Properties of Transformations; 2.1: Connecting Congruent Polygons; 2.2: Supporting the World; 3.1: Flipping on a Grid; 3.2: Sliding on a Grid; 3.3: Spinning on a Grid; 3.4: A Special Property of Translations and Half-Turns
M08.C-G.1.1.3: Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	Butterflies, Pinwheels, and Wallpaper: 4.1: Focus on Dilations; 4.2: Return of Super Sleuth; 4.3: Checking Similarity; 4.4: Using Similar Triangles
M08.C-G.1.1.4: Given two similar two-dimensional figures, describe a sequence of transformations that exhibits the similarity between them.	Looking for Pythagoras: 5.2: Analyzing Triangles Butterflies, Pinwheels, and Wallpaper: 4.2: Return of Super Sleuth; 4.3: Checking Similarity; 4.4: Using Similar Triangles

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Pennsylvania Common Core Standards in Mathematics**

Pennsylvania Common Core Standards in Mathematics Grade 8	Connected Mathematics 3 Grade 8, ©2014
G.1.2.1.1 Identify and/or use properties of triangles.	Looking for Pythagoras: 3.1: Discovering the Pythagorean Theorem; 3.2: A Proof of the Pythagorean Theorem; 3.3: Finding Distances; 3.4: Measuring the Egyptian Way; 4.1: Analyzing the Wheel of Theodorus; 5.2: Analyzing Triangles Butterflies, Pinwheels, and Wallpaper: 2.3: Minimum Measurement; 4.4: Using Similar Triangles
G.1.2.1.4 Identify and/or use properties of regular polygons.	Looking for Pythagoras: 2.1: Looking for Squares; 2.3: Using Squares
G.2.2.1.1 Use properties of angles formed by intersecting lines to find the measures of missing angles.	Looking for Pythagoras: 5.2: Analyzing Triangles Butterflies, Pinwheels, and Wallpaper: 3.5: Parallel Lines, Transversals, and Angle Sums
CC.2.3.8.A.3 Understand and apply the Pythagorean Theorem to solve problems.	Looking for Pythagoras: 3.1: Discovering the Pythagorean Theorem; 3.2: A Proof of the Pythagorean Theorem; 3.3: Finding Distances; 3.4: Measuring the Egyptian Way; 4.1: Analyzing the Wheel of Theodorus; 5.1: Stopping Sneaky Sally; 5.3: Analyzing Circles
M08.C-G.2.1.1: Apply the converse of the Pythagorean theorem to show a triangle is a right triangle.	Looking for Pythagoras: 1.2: Planning Parks
M08.C-G.2.1.2: Apply the Pythagorean theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. (Figures provided for problems in three dimensions will be consistent with Eligible Content in grade 8 and below.)	Looking for Pythagoras: 3.1: Discovering the Pythagorean Theorem; 3.2: A Proof of the Pythagorean Theorem; 3.3: Finding Distances; 3.4: Measuring the Egyptian Way; 4.1: Analyzing the Wheel of Theodorus; 5.1: Stopping Sneaky Sally; 5.3: Analyzing Circles
M08.C-G.2.1.3: Apply the Pythagorean theorem to find the distance between two points in a coordinate system.	Looking for Pythagoras: 3.3: Finding Distances
G.2.1.1.1 Use the Pythagorean theorem to write and/or solve problems involving right triangles.	Looking for Pythagoras: 3.3: Finding Distances; 3.4: Measuring the Egyptian Way; 4.1: Analyzing the Wheel of Theodorus; 5.1: Stopping Sneaky Sally; 5.3: Analyzing Circles

**A Correlation of Connected Mathematics 3, ©2014, to the
Pennsylvania Common Core Standards in Mathematics**

Pennsylvania Common Core Standards in Mathematics Grade 8	Connected Mathematics 3 Grade 8, ©2014
G.2.1.2.1 Calculate the distance and/or midpoint between two points on a number line or on a coordinate plane.	Looking for Pythagoras: 1.1: Driving Around Euclid; 1.2: Planning Parks; 1.3: Finding Areas; 2.1: Looking for Squares; 2.3: Using Squares; 3.3: Finding Distances; 5.3: Analyzing Circles
2.4 Measurement, Data, and Probability	
<i>B) Statistics and Probability</i>	
CC.2.4.8.B.1 Analyze and/or interpret bivariate data displayed in multiple representations.	Thinking With Mathematical Models: 1.3: Custom Construction Parts; 2.1: Modeling Linear Data Patterns; 3.4: Modeling Data Patterns; 4.1: Vitruvian Man; 4.2: Older and Faster; 4.3: Correlation Coefficients and Outliers
M08.D-S.1.1.1: Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative correlation, linear association, and nonlinear association.	Thinking With Mathematical Models: 2.1: Modeling Linear Data Patterns; 3.4: Modeling Data Patterns; 4.1: Vitruvian Man; 4.2: Older and Faster; 4.3: Correlation Coefficients and Outliers
M08.D-S.1.1.2: For scatter plots that suggest a linear association, identify a line of best fit by judging the closeness of the data points to the line.	Thinking With Mathematical Models: 2.1: Modeling Linear Data Patterns; 4.1: Vitruvian Man; 4.2: Older and Faster; 4.3: Correlation Coefficients and Outliers
M08.D-S.1.1.3: Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. Example: In a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.	Thinking With Mathematical Models: 1.1: Bridge Thickness and Strength; 1.2: Bridge Length and Strength; 1.3: Custom Construction Parts; 2.1: Modeling Linear Data Patterns; 4.1: Vitruvian Man; 4.2: Older and Faster; 4.3: Correlation Coefficients and Outliers
A1.2.2.2.1 Draw, find and/or write an equation for a line of best fit for a scatter plot.	Thinking With Mathematical Models: 2.1: Modeling Linear Data Patterns; 4.1: Vitruvian Man; 4.2: Older and Faster; 4.3: Correlation Coefficients and Outliers
CC.2.4.8.B.2 Understand that patterns of association can be seen in bivariate data utilizing frequencies.	Thinking With Mathematical Models: 4.4: Measuring Variability; 5.1: Wood or Steel? That's the Question; 5.2: Politics of Girls and Boys; 5.3: After-School Jobs and Homework
M08.D-S.1.2.1: Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible associations between the two variables. Example: Given data on whether students have a curfew on school nights and whether they have assigned chores at home, is there evidence that those who have a curfew also tend to have chores?	Thinking With Mathematical Models: 5.1: Wood or Steel? That's the Question; 5.2: Politics of Girls and Boys; 5.3: After-School Jobs and Homework

Dogwood Charter School

9-12 Math Program

High School

Pennsylvania Common Core Standard

IMP Curriculum Lesson Addressing Standard

CC.2.1.HS.F.1

Apply and extend the properties of exponents to solve problems with rational exponents.

All About Alice Interactive Mathematics Program Year 2
Small World Isn't It? Interactive Mathematics Program Year 3

CC.2.1.HS.F.2

Apply properties of rational and irrational numbers to solve real world or mathematical problems.

Patterns Interactive Mathematics Program Year 1
Cookies Interactive Mathematics Program Year 2

CC.2.1.HS.F.3

Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs, and data displays.

The Overland Trail Interactive Mathematics Program Year 1
Cookies Interactive Mathematics Program Year 2
Small World Isn't It? Interactive Mathematics Program Year 3

CC.2.1.HS.F.4

Use units as a way to understand problems and to guide the solution of multi-step problems.

The Pit and the Pendulum Interactive Mathematics Program Year 1

CC.2.1.HS.F.5

Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

Cookies Interactive Mathematics Program Year 1
Meadows or Malls Interactive Mathematics Program Year 3

CC.2.1.HS.F.6

Extend the knowledge of arithmetic operations and apply to complex numbers.

Meadows or Malls Interactive Mathematics Program Year 3

CC.2.1.HS.F.7

Apply concepts of complex numbers in polynomial identities and quadratic equations to solve problems.

Fireworks Interactive Mathematics Program Year 2
Meadows or Malls Interactive Mathematics Program Year 3

CC.2.2.HS.D.1

Interpret the structure of expressions to represent a quantity in terms of its context.

The Overland Trail Interactive Mathematics Program Year 1
Cookies Interactive Mathematics Program Year 2

CC.2.2.HS.D.2

Write expressions in equivalent forms to solve problems.

The Overland Trail Interactive Mathematics Program Year 1

CC.2.2.HS.D.3

Extend the knowledge of arithmetic operations and apply to polynomials.

The Overland Trail Interactive Mathematics Program Year 1
Cookies Interactive Mathematics Program Year 1
Fireworks Interactive Mathematics Program Year 2
Meadows or Malls Interactive Mathematics Program Year 3

CC.2.2.HS.D.4

Understand the relationship between zeros and factors of polynomials to make generalizations about functions and their graphs

The Pit and the Pendulum Interactive Mathematics Program Year 1

CC.2.2.HS.D.5

Use polynomial identities to solve problems

Meadows or Malls Interactive Mathematics Program Year 3

CC.2.2.HS.D.6

Extend the knowledge of rational functions to rewrite in equivalent forms.

The Pit and the Pendulum Interactive Mathematics Program Year 1

CC.2.2.HS.D.7

Create and graph equations or inequalities to describe numbers or relationships.

Cookies Interactive Mathematics Program Year 2

CC.2.2.HS.D.8

Apply inverse operations to solve equations or formulas for a given variable.

Fireworks Interactive Mathematics Program Year 2

CC.2.2.HS.D.9

Use reasoning to solve equations and justify the solution method

CC.2.2.HS.D.10

Represent, solve, and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.

CC.2.2.HS.C.1

Use the concept and notation of functions to interpret and apply them in terms of their context.

CC.2.2.HS.C.2

Graph and analyze functions and use their properties to make connections between the different representations.

CC.2.2.HS.C.3

Write functions or sequences that model relationships between two quantities.

CC.2.2.HS.C.4

Interpret the effects transformations have on functions and find the inverses of functions.

CC.2.2.HS.C.5

Construct and compare linear, and exponential models to solve problems.

CC.2.2.HS.C.6

Interpret functions in terms of the situations they model.

CC.2.2.HS.C.7

Apply radian measure of an angle and the unit circle to analyze the trigonometric functions.

CC.2.2.HS.C.8

Choose trigonometric functions to model periodic phenomena and describe the properties of the graphs.

CC.2.2.HS.C.9

Prove the Pythagorean identity and use it to calculate trigonometric ratios

CC.2.3.HS.A.1

Use geometric figures and their properties to represent <https://www.khanacademy.org/math/geometry/transformations> transformations in the plane.

CC.2.3.HS.A.2

Apply rigid transformations to determine and explain congruence.

CC.2.3.HS.A.3

Verify and apply geometric theorems as they relate to geometric figures.

CC.2.3.HS.A.4

Apply the concept of congruence to create geometric constructions

CC.2.3.HS.A.5

Create justifications based on transformations to establish similarity of plane figures.

CC.2.3.HS.A.6

Verify and apply theorems involving similarity as they relate to plane figures.

CC.2.3.HS.A.7

Apply trigonometric ratios to solve problems involving right triangles

CC.2.3.HS.A.8

Apply geometric theorems to verify properties of circles.

Fireworks Interactive Mathematics Program Year 2

Cookies Interactive Mathematics Program Year 2

The Pit and the Pendulum Interactive Mathematics Program Year 1

The Pit and the Pendulum Interactive Mathematics Program Year 1

The Pit and the Pendulum Interactive Mathematics Program Year 1

Do Bees Build it Best Interactive Mathematics Program Year 2

The Overland Trail Interactive Mathematics Program Year 1

Fireworks Interactive Mathematics Program Year 2

All about Alice Interactive Mathematics Program Year 2

The Pit and the Pendulum Interactive Mathematics Program Year 1

The Pit and the Pendulum Interactive Mathematics Program Year 1

Shadows Interactive Mathematics Program Year 1

Do Bees Build it Best? Interactive Mathematics Program Year 2

<https://www.khanacademy.org/math/geometry/transformations>

Do Bees Build it Best? Interactive Mathematics Program Year 2

Do Bees Build it Best? Interactive Mathematics Program Year 2

<https://www.khanacademy.org/math/geometry/transformations>

Shadows Interactive Mathematics Program Year 1

Shadows Interactive Mathematics Program Year 1

Orchard Hideout Interactive Mathematics Program Year 3

Shadows Interactive Mathematics Program Year 1

CC.2.3.HS.A.9

Extend the concept of similarity to determine arc lengths and areas of sectors of circles.

Orchard Hideout Interactive Mathematics Program Year 3
Shadows Interactive Mathematics Program Year 1

CC.2.3.HS.A.10

Translate between the geometric description and the equation for a conic section.

Orchard Hideout Interactive Mathematics Program Year 3

CC.2.3.HS.A.11

Apply coordinate geometry to prove simple geometric theorems algebraically.

Patterns Interactive Mathematics Program Year 1

CC.2.3.HS.A.12

Explain volume formulas and use them to solve problems.

Do Bees Build it Best? Interactive Mathematics Program Year 2

CC.2.3.HS.A.13

Analyze relationships between two-dimensional and three-dimensional objects.

Do Bees Build it Best? Interactive Mathematics Program Year 2
Meadows or Malls Interactive Mathematics Program Year 3

CC.2.3.HS.A.14

Apply geometric concepts to model and solve real world problems.

All about Alice Interactive Mathematics Program Year 2
Do Bees Build it Best? Interactive Mathematics Program Year 2

CC.2.4.HS.B.1

Summarize, represent, and interpret data on a Year 2 single count or measurement variable.

Is there Really a Difference? Interactive Mathematics Program

The Game of Pig Interactive Mathematics Program Year 1

CC.2.4.HS.B.2

Summarize, represent, and interpret data on two Year 2 categorical and quantitative variables.

Is there Really a Difference? Interactive Mathematics Program

CC.2.4.HS.B.3

Analyze linear models to make interpretations based on the data

The Overland Trail Interactive Mathematics Program Year 1

CC.2.4.HS.B.4

Recognize and evaluate random processes Year 2 underlying statistical experiments.

Is there Really a Difference? Interactive Mathematics Program

CC.2.4.HS.B.5

Make inferences and justify conclusions based on Year 2 sample surveys, experiments, and observational studies.

Is there Really a Difference? Interactive Mathematics Program

CC.2.4.HS.B.6

Use the concepts of independence and conditional probability to interpret data.

The Game of Pig Interactive Mathematics Program Year 1

CC.2.4.HS.B.7

Apply the rules of probability to compute probabilities of compound events in a uniform probability model.

The Game of Pig Interactive Mathematics Program Year 1

**Pennsylvania State Standards
CURRICULUM MAPPING
Grade Kindergarten-6
Subject History**

Standard Area - 8.1: Historical Analysis and Skills Development

Grade Level - 8.1.K: GRADE K	Books/Activities Used
8.1.K.A: Identify chronological sequence through days, weeks, months, and years (calendar time).	Daily calendar time - Student guided discussion about months, years, days of the week, current day, what comes before and after current day, counting to specific events Songs- Days of the week song, Month song, Number songs
8.1.K.B: With guidance and support, differentiate facts from opinions as related to an event.	Grand conversations Student discussions
8.1.K.C: Explain how to locate information in a source.	Grand conversations Student discussions Looking up information in nature guides

Standard Area - 8.2: Pennsylvania History

Grade Level - 8.2.K: GRADE K	Books/Activities Used
8.2.K.A: Identify people in authority.	Field study to local fire department Assembly presented by local firefighters Visits from: State Representatives State Senator County Commissioners
8.2.K.B: Examine photographs of documents, artifacts, and places unique to Pennsylvania.	Pennsylvania State Symbol study - state flag, state flower, state animal, state dog, state tree, state fish, state beverage, state insect
8.2.K.C: Intentionally Blank	
8.2.K.D: Demonstrate an understanding of conflict.	Grand conversations Student discussions Restorative practices model <i>Naughty Little Sister</i> by Dorothy Edwards

Standard Area - 8.3: United States History

Grade Level - 8.3.K: GRADE K	Books/Activities Used
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8.3.K.A: Identify American people related to national holidays.	<p>Class discussions about national holidays - what they are, why they are celebrated, how they are celebrated</p> <p>Study of presidents: Lincoln, Roosevelt, Washington, Jefferson</p> <p><i>Abe Lincoln Comes Home</i> by Robert Burleigh <i>Abe Lincoln the Boy Who Liked to Read</i> by Kay Winters</p>
8.3.K.B: Identify documents and artifacts important to the classroom community.	<p>Gillingham Handbook Daily morning Memo Chore chart with weekly student jobs Calendar using during morning time Classroom library Visual timeline spanning from Pre-History to Post-Modern Era displayed in each classroom</p>
8.3.K.C: Demonstrate an understanding of time order.	<p>Visual timeline spanning from Pre-History to Post-Modern Era displayed in each classroom Calendar Morning Time</p>
8.3.K.D: Intentionally Blank	

Standard Area - 8.4: World History

Grade Level - 8.4.K: GRADE K	Books/Activities Used
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8.4.K.A: Explain how cultures celebrate.	<p>Class discussions about specific holidays - what they are, why they are celebrated, how they are celebrated</p> <p>Spanish Instruction - Day of the Dead <i>Thanksgiving Story</i> by Dagliesh Rwanda assembly</p>
8.4.K.B: Intentionally Blank	
8.4.K.C: Identify different celebrations of different cultures from around the world.	<p>Class discussions about specific holidays - what they are, why they are celebrated, how they are celebrated</p> <p>Spanish Instruction - Day of the Dead Rwanda assembly</p>
8.4.K.D: Demonstrate an understanding of conflict and cooperation.	<p>Grand conversations Student discussions Restorative practices model</p> <p><i>Naughty Little Sister</i> by Dorothy Edwards</p>

**Pennsylvania State Standards
CURRICULUM MAPPING
Grade 1st
Subject History**

Standard Area - 8.1: Historical Analysis and Skills Development

Grade Level - 8.1.1: GRADE 1	Books/Activities Used
8.1.1.A: Demonstrate an understanding of chronology.	Visual timeline spanning from Pre-History to Post-Modern Era displayed in each classroom
8.1.1.B: Identify a problem or dilemma surrounding an event	Grand Conversation Student Discussions
8.1.1.C: Identify sources of historical information.	Visual timeline spanning from Pre-History to Post-Modern Era displayed in each classroom

Standard Area - 8.2: Pennsylvania History

Grade Level - 8.2.1: GRADE 1	Books/Activities Used
8.2.1.A: Identify groups of people who contribute to a community.	<i>Stories of Great Americans for Little Americans</i> by Edward Eggleston Assembly presented by local firefighters Visits from: Local State Representative County Commissioners
8.2.1.B: Identify symbols, slogans, or mottos that are representative of the state.	Field study to Philadelphia to visit the Liberty Bell Field study to Harrisburg to State Museum of Pennsylvania
8.2.1.C: Identify holiday and cultural celebrations in a community and why they are celebrated.	Class discussions about holidays - what they are, how they celebrated, why they are celebrated

8.2.1.D: Identify historical conflict in the community	Discussion of Local Native American Indians - <i>Old Schuylkill tales; a history of interesting events, traditions and anecdotes of the early settlers of Schuylkill County, Pennsylvania</i> by Elliott
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Standard Area - 8.3: United States History

Grade Level - 8.3.1: GRADE 1	Books/Activities Used
8.3.1.A: Identify Americans who played a significant role in American history	<p><i>Stories of Great Americans for Little Americans</i> by Edward Eggleston</p> <p>Assembly presented by local educator about Successful People of the Past: ways in which they overcame struggles and hardships to positively affect others' lives</p>
8.3.1.B: Identify American landmarks and their significance.	<p><i>A Child's Introduction to the World</i> by Heather Alexander</p> <p>Field study to Philadelphia</p>

8.3.1.C: Identify examples of change.	Assembly presented by local educator about Successful People of the Past: ways in which they overcame struggles and hardships to positively affect others' lives
8.3.1.D: Identify conflict and describe ways to cooperate with others by making smart choices	<i>Stories of Great Americans for Little Americans</i> by Edward Eggleston

Standard Area - 8.4: World History

Grade Level - 8.4.1: GRADE 1	Books/Activities Used
8.4.1.A: Explain why cultures celebrate.	<i>Stories of Great Americans for Little Americans</i> by Edward Eggleston
8.4.1.B: Explain the importance of world landmarks.	<i>A Child's Introduction to the World</i> by Heather Alexander
8.4.1.C: Identify holidays and ceremonies of selected world cultures.	Discussion with students
8.4.1.D: Describe examples of conflict and cooperation in the classroom community.	Restorative Practices Model Discussion with students

Pennsylvania State Standards
CURRICULUM MAPPING
Grade 2nd
Subject History

Standard Area - 8.1: Historical Analysis and Skills Development

Grade Level - 8.1.2: GRADE 2	Books/Activities Used
8.1.2.A: Read and interpret information on simple timelines	Visual timeline spanning from Pre-History to Post-Modern Era displayed in each classroom
8.1.2.B: Identify documents relating to an event.	<i>7th and Walnut</i> <i>George Washington by D'aulaire</i> <i>Abraham Lincoln by D'aulaire</i> Classroom Gallery Walk
8.1.2.C: Apply sources of historical information	Field Study to Philadelphia- Independence Hall and Liberty Bell Field Study to Harrisburg- Capitol Building

Standard Area - 8.2: Pennsylvania History

Grade Level - 8.2.2: GRADE 2	Books/Activities Used
8.2.2.A: Identify historical figures in the local community	Field Studies and Assemblies about the Gillingham family and their impact on the community
8.2.2.B: Identify important buildings, statues, and monuments associated with the state's history	Field study to Harrisburg to visit State Museum of Pennsylvania Field study to Philadelphia to visit Betsy Ross house and the Liberty Bell <i>7th and Walnut</i> <i>Betsy Ross</i> by Alexander Wallner
8.2.2.C: Identify how commerce and industry and social organizations have changed over time in Pennsylvania	<i>George Washington</i> by D'aulaires <i>Betsy Ross</i> by Alexander Wallner
8.2.2.D: Identify how conflict is impacted by ethnicity and race, working conditions, immigration, military conflict, and economics.	<i>Story of George Washington Carver</i> by Eva Moore Assembly presented by local educator about Successful People of the Past: ways in which they overcame struggles and hardships to positively affect others' lives

Standard Area - 8.3: United States History

Grade Level - 8.3.2: GRADE 2	Books/Activities Used
8.3.2.A: Identify groups and organizations and their contributions to the United States	<i>Abraham Lincoln</i> by D'aulaires <i>My Brother Martin: A Sister Remembers Growing up with the Rev. Dr. Martin King Jr.</i> by Christine King Farris Assembly presented by state senators
8.3.2.B: Identify American artifacts and their importance in American history.	Field study to Philadelphia to visit the Liberty Bell Field study to Philadelphia to visit the Betsy Ross house
8.3.1.C: Identify facts related to how different people describe the same event at different time periods.	Whole Group Discussions

8.3.2.D: Demonstrate an understanding of how different groups describe the same event or situation.	Dramatic narration based on any book in the History Curriculum.
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Standard Area - 8.4: World History

Grade Level - 8.4.2: GRADE 2	Books/Activities Used
8.4.2.A: Explain why cultures have commemorations and remembrances.	Whole Class Discussions <i>100 American Stories</i> <i>A Boy Named Slow</i> by Joseph Bruchac
8.4.2.B: Explain the significance of historical documents on world history	<i>100 American Stories</i>

8.4.2.C: Identify how cultures have commemorations and remembrances	Whole Class Discussions <i>100 American Stories</i> <i>A Boy Named Slow</i> by Joseph Bruchac
8.4.2.D: Identify global issues that require cooperation among nations.	Rwanda Assembly and ongoing relationship with a Rwanda school

Pennsylvania State Standards
CURRICULUM MAPPING
Grade 3rd
Subject History

Standard Area - 8.1: Historical Analysis and Skills Development

Grade Level - 8.1.3: GRADE 3	Books/Activities Used
8.1.3.A: Identify the difference between past, present and future using timelines and/or other graphic representations.	Visual timeline spanning from Pre-History to Post-Modern Era displayed in each classroom
8.1.3.B: Identify fact, opinion, multiple points of view, and primary sources as related to historical events.	<i>William Penn, Founder of Pennsylvania</i> by Ronald Syme <i>Freedom Train</i> by Dorothy Sterling

	Grand conversations based on historical readings Student guided discussions
8.1.3.C: Conduct teacher guided inquiry on assigned topics using specified historical sources. (Reference RWSL Standard 1.8.3 Research)	<i>William Penn, Founder of Pennsylvania</i> by Ronald Syme <i>Freedom Train</i> by Dorothy Sterling

Standard Area - 8.2: Pennsylvania History

Grade Level - 8.2.3: GRADE 3	Books/Activities Used
8.2.3.A: Identify the social, political, cultural, and economic contributions of individuals and groups from Pennsylvania.	<p><i>William Penn, Founder of Pennsylvania</i> by Ronald Syme <i>Freedom Train</i> by Dorothy Sterling</p> <p>Field study to Pennsbury Manor Field study to observe and discuss historical markers around the community - specifically learned about John O'Hara and Burd Patterson</p> <p>Visits from: State Representatives State Senators County Commissioners</p>

8.2.3.B: Identify historical documents, artifacts, and places critical to Pennsylvania history.	<i>William Penn, Founder of Pennsylvania</i> by Ronald Syme Field study to Pennsbury Manor Field study to observe and discuss historical markers around the community Field study to the Gillingham house
8.2.3.C: Identify and describe how continuity and change have impacted Pennsylvania history. Belief systems and religions Commerce and industry Technology Politics and government Physical and human geography Social organizations	<i>William Penn, Founder of Pennsylvania</i> by Ronald Syme <i>Freedom Train</i> by Dorothy Sterling Field Study to Pennsbury Manor
8.2.3.D: Identify and describe how conflict and cooperation among groups and organizations have impacted the history and development of Pennsylvania. Ethnicity and race Working conditions Immigration Military conflict Economic stability	<i>William Penn, Founder of Pennsylvania</i> by Ronald Syme <i>Freedom Train</i> by Dorothy Sterling Field Study to Pennsbury Manor

Standard Area - 8.3: United States History

Grade Level - 8.3.3: GRADE 3	Books/Activities Used
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8.3.3.A: Identify and describe the social, political, cultural, and economic contributions of individuals and groups in United States history.	<i>William Penn, Founder of Pennsylvania</i> by Ronald Syme <i>Freedom Train</i> by Dorothy Sterling Field study to Pennsbury Manor
8.3.3.B: Identify and describe historical documents, artifacts, and places critical to United States history	<i>William Penn, Founder of Pennsylvania</i> by Ronald Syme <i>Freedom Train</i> by Dorothy Sterling Field study to Pennsbury Manor
8.3.3.C: Identify and describe how continuity and change have impacted U.S. history. Belief systems and religions Commerce and industry Technology Politics and government Physical and human geography Social organizations	<i>William Penn, Founder of Pennsylvania</i> by Ronald Syme <i>Freedom Train</i> by Dorothy Sterling Field study to Pennsbury Manor
8.3.3.D: Identify and describe how conflict and cooperation among groups and organizations have impacted the history and development of the US. Working conditions Immigration Military conflict Economic stability Ethnicity and race	<i>William Penn, Founder of Pennsylvania</i> by Ronald Syme <i>Freedom Train</i> by Dorothy Sterling Field study to Pennsbury Manor

Standard Area - 8.4: World History

Grade Level - 8.4.3: GRADE 3	Books/Activities Used
8.4.3.A: Identify the elements of culture and ethnicity.	<i>A is for Asia</i> by Cynthia Chin-Lee <i>Tales of Troy and Greece</i> by Andrew Lang <i>Bunches and Bunches, How Bananas Grow in Rwanda</i> by TEACH Rwanda
8.4.3.B: Identify the importance of artifacts and sites to different cultures and ethnicities.	<i>A Child's History of the World</i> by Virgil M. Hillyer <i>Bunches and Bunches, How Bananas Grow in Rwanda</i> by TEACH Rwanda
8.4.3.C: Compare and contrast selected world cultures.	<i>A Child's History of the World</i> by Virgil M. Hillyer <i>Bunches and Bunches, How Bananas Grow in Rwanda</i> by TEACH Rwanda <i>A is for Asia</i> by Cynthia Chin-Lee <i>Tales of Troy and Greece</i> by Andrew Lang
8.4.3.D: Identify conflict and cooperation among groups and organizations from around the world.	<i>A Child's History of the World</i> by Virgil M. Hillyer <i>Tales of Troy and Greece</i> by Andrew Lang Rwanda Assembly and ongoing relationship with a Rwanda school

Pennsylvania State Standards
CURRICULUM MAPPING
Grade 4th
Subject History

Standard Area - 8.1: Historical Analysis and Skills Development

Grade Level - 8.1.4: GRADE 4	Books/Activities Used
8.1.4.A: Identify and describe how geography and climate have influenced continuity and change over time.	<i>Bunches and Bunches, How Bananas Grow in Rwanda</i> by TEACH Rwanda Field Study to Quiet Valley Living Historical Farm, a 19th century Pennsylvania German farm.
8.1.4.B: Distinguish between fact and opinion from multiple points of view, and primary sources as related to historical events.	<i>William Penn, Founder of Pennsylvania</i> by Ronald Syme Grand conversations related to historical readings Student guided discussions
8.1.4.C: Identify a specific research topic and develop questions relating to the research topic. (Reference RWSL Standard 1.8.3 Research)	<i>William Penn, Founder of Pennsylvania</i> by Ronald Syme Buttons & Beads: Lenape Princess Wyanonah and the Future President by Gretchen Hardy.

Standard Area - 8.2: Pennsylvania History

Grade Level - 8.2.4: GRADE 4	Books/Activities Used
8.2.4.A: Differentiate common characteristics of the social, political, cultural, and economic groups from Pennsylvania.	<p>Buttons & Beads: Lenape Princess Wynonah and the Future President by Gretchen Hardy.</p> <p>Visits from: State Representatives State Senators County Commissioners</p>
8.2.4.B: Locate historical documents, artifacts, and places critical to Pennsylvania history.	<p>Field study to observe and discuss historical markers around the community - specifically learned about John O'Hara and Burd Patterson</p> <p>Field Study-- walking tour to the Gillingham House on Mahantongo Street</p> <p>Field Study to Pennsbury Manor</p>

	<p>Rupert's Parchment: Story of Magna Carta by Eileen Cameron</p> <p>3 X 5 feet Pennsylvania flag displayed in classroom area</p> <p><i>William Penn, Founder of Pennsylvania</i> by Ronald Syme</p> <p>"A Journey Across the Commonwealth, Pennsylvania" resource book provided by State Senator Argall.</p>
<p>8.2.4.C: Explain how continuity and change in Pennsylvania history have influenced personal development and identity.</p> <p>Belief systems and religions</p> <p>Commerce and industry</p> <p>Technology</p> <p>Politics and government</p> <p>Physical and human geography</p> <p>Social organizations</p>	<p><i>William Penn, Founder of Pennsylvania</i> by Ronald Syme</p> <p>Field study by Pennsbury Manor</p> <p>Grand conversations related to historical readings</p> <p>Student guided discussions</p> <p>Rupert's Parchment: Story of Magna Carta by Eileen Cameron</p>
<p>8.2.4.D: Distinguish between conflict and cooperation among groups and organization that impacted the history and development of Pennsylvania</p> <p>Ethnicity and race</p> <p>Working conditions</p> <p>Immigration</p>	<p>Field Study to The Schuylkill County Historical Society to observe the development of our diverse Pennsylvania ethnicity.</p>

Military conflict Economic stability	
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Standard Area - 8.3: United States History

Grade Level - 8.3.4: GRADE 4	Books/Activities Used
8.3.4.A: Differentiate common characteristics of the social, political, cultural and economic groups in United States history	* View the movie "Declaring Independence" from StudyZone.org Narrate and have a Grand Conversation discussing the movie.
8.3.4.B: Locate historical documents, artifacts, and places critical to United States history.	Field study to Pennsbury Manor Rupert's Parchment: Story of Magna Carta by Eileen Cameron
8.3.4.C: Explain how continuity and change in Pennsylvania history have influenced personal development and identity. Belief systems and religions Commerce and industry Technology Politics and government Physical and human geography Social organizations	<i>William Penn, Founder of Pennsylvania</i> by Ronald Syme Field study to Pennsbury Manor

8.3.4.D: Distinguish between conflict and cooperation among groups and organization that impacted the history and development of Pennsylvania Ethnicity and race Working conditions Immigration Military conflict Economic stability	<i>William Penn, Founder of Pennsylvania</i> by Ronald Syme Field study to Pennsbury Manor Field Study to The Schuylkill County Historical Society to observe the development of our diverse Pennsylvania ethnicity.
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Standard Area - 8.4: World History

Grade Level - 8.4.4: GRADE 4	Books/Activities Used
8.4.4.A: Differentiate common characteristics of the social, political, cultural, and economic groups in world history	<i>A Child's History of the World</i> by Virgil M. Hillyer
8.4.4.B: Locate historical documents, artifacts, and sites, which are critical to World history.	<i>A Child's History of the World</i> by Virgil M. Hillyer Rupert's Parchment: Story of Magna Carta by Eileen Cameron
8.4.4.C: Explain how continuity and change in world history have influenced personal development and identity.	<i>A Child's History of the World</i> by Virgil M. Hillyer Grand conversations

Belief systems and religions Commerce and industry Technology Politics and government Physical and human geography Social organizations	Narrations Student led discussions
8.4.4.D: Distinguish between conflict and cooperation among groups and organizations that impacted development of the history of the world	<i>A Child's History of the World</i> by Virgil M. Hillyer <i>Leif the Lucky</i> by D'aulaires Rwanda Assembly and ongoing relationship with a Rwandan school

Pennsylvania State Standards
CURRICULUM MAPPING
Grade 5th
Subject History

Standard Area - 8.1: Historical Analysis and Skills Development

Grade Level - 8.1.5: GRADE 5	Books/Activities Used
8.1.5.A: Identify and explain the influences of economic features on continuity and change over time.	Classroom Discussions and Grand Conversations
8.1.5.B: Classify and analyze fact and opinion from multiple points of view, and secondary sources as related to historical events.	Classroom Discussions and Grand Conversations
8.1.5.C: Locate primary and secondary sources for the research topic and summarize in writing the findings. (Reference RWSL Standard 1.8.5 Research)	<i>Growing Up In Coal Country</i> by Bartoletti, various primary sources from field study at Eckley Miners Village Museum such as mining tools, death records, and other period items. written narrations and grand conversations.

Standard Area - 8.2: Pennsylvania History

Grade Level - 8.2.5: GRADE 5	Books/Activities Used
8.2.5.A: Compare and contrast common characteristics of the social, political, cultural, and economic groups from Pennsylvania.	<i>Growing Up In Coal Country</i> by Bartoletti Grand Conversations and Classroom Discussions Journal Entries
8.2.5.B: Illustrate concepts and knowledge of historical documents, artifacts, and places critical to Pennsylvania history.	<i>Growing Up In Coal Country</i> by Bartoletti Grand Conversations and Classroom Discussions Journal Entries
8.2.5.C: Differentiate how continuity and change in Pennsylvania history are formed and operate. Belief systems and religions Commerce and industry Technology Politics and government Physical and human geography Social organizations	<i>Growing Up In Coal Country</i> by Bartoletti Grand Conversations and Classroom Discussions Journal Entries
8.2.5.D: Examine patterns of conflict and cooperation among groups and organizations that impacted the history and development of Pennsylvania for responding to individual and community needs. Ethnicity and race Working conditions Immigration Military conflict Economic stability	<i>Growing Up In Coal Country</i> by Bartoletti Classroom Discussions and Grand Conversations Journal Entries

Standard Area - 8.3: United States History

Grade Level - 8.3.5: GRADE 5	Books/Activities Used
8.3.5.A: Compare and contrast common characteristics of the social, political, cultural and economic groups in United States history.	<i>Growing Up In Coal Country</i> by Bartoletti Grand Conversations and Classroom Discussions Journal Entries Assembly presented by local educator about Successful People of the Past: ways in which they overcame struggles and hardships to positively affect others' lives
8.3.5.B: Illustrate concepts and knowledge of historical documents, artifacts, and places critical to United States history.	<i>Growing Up In Coal Country</i> by Bartoletti Grand Conversations and Classroom Discussions Journal Entries
8.3.5.C: Differentiate how continuity and change in Pennsylvania history are formed and operate. Belief systems and religions Commerce and industry Technology Politics and government Physical and human geography Social organizations	<i>Growing Up In Coal Country</i> by Bartoletti Grand Conversations and Classroom Discussions Journal Entries
8.3.5.D: Examine patterns of conflict and cooperation among groups and organizations that impacted the history and development of Pennsylvania for responding to individual and community needs. Ethnicity and race	<i>Growing Up In Coal Country</i> by Bartoletti Grand Conversations and Classroom Discussions Journal Entries

Working conditions Immigration Military conflict Economic stability	
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Standard Area - 8.4: World History

Grade Level - 8.4.5: GRADE 5	Books/Activities Used
8.4.5.A: Compare and contrast common characteristics of the social, political, cultural, and economic groups in world history.	<i>A Child's History of the World</i> by Virgil M. Hillyer Grand Conversations and Classroom Discussions Journal Entries
8.4.5.B: Illustrate concepts and knowledge of historical documents, artifacts, and sites, which are critical to World history	<i>A Child's History of the World</i> by Virgil M. Hillyer <i>The World of Columbus and Sons</i> by Genevieve Foster Grand Conversations and Classroom Discussions Journal Entries
8.4.5.C: Intentionally Blank	
8.4.5.D: Intentionally Blank	

**Pennsylvania State Standards
CURRICULUM MAPPING
Grade 6th
Subject History**

**Standard Area - 8.1: Historical Analysis and Skills
Development**

Grade Level - 8.1.6: GRADE 6	Books/Activities Used
8.1.6.A: Explain continuity and change over time using sequential order and context of events.	Grand Conversations and Classroom Discussions Journal Entries
8.1.6.B: Differentiate between fact and opinion, multiple points of view, and primary and secondary sources to explain historical events.	Grand Conversations and Classroom Discussions Journal Entries

8.1.6.C: Identify a thesis statement using appropriate primary and secondary sources. (Reference RWSL Standard 1.8.5 Research)	Dictionary definition of thesis statement Use of living texts to identify thesis statements through whole group discussion
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Standard Area - 8.2: Pennsylvania History

Grade Level - 8.2.6: GRADE 6	Books/Activities Used
8.2.6.A: Explain the social, political, cultural, and economic contributions of individuals and groups from Pennsylvania.	Grand Conversations and Classroom Discussions Journal Entries Assembly presented by local educator about Successful People of the Past (in PA and throughout the US): ways in which they overcame struggles and hardships to positively affect others' lives
8.2.6.B: Describe the importance of significant historical documents, artifacts, and places critical to Pennsylvania history.	Grand Conversations and Classroom Discussions Journal Entries Study of primary documents
8.2.6.C: Explain how continuity and change have impacted Pennsylvania history. Belief systems and religions Commerce and industry Technology	Grand Conversations and Classroom Discussions Journal Entries <i>Growing Up in Coal Country</i> <i>Breaker Boys</i>

Politics and government Physical and human geography Social organizations	
8.2.6.D: Explain how conflict and cooperation among groups and organizations have impacted the history and development of Pennsylvania. Ethnicity and race Working conditions Immigration Military conflict Economic stability	Grand Conversations and Classroom Discussions Journal Entries <i>Breaker Boys</i> <i>Growing Up in Coal Country</i>

Standard Area - 8.3: United States History

Grade Level - 8.3.6: GRADE 6	Books/Activities Used
8.3.6.A: Explain the social, political, cultural, and economic contributions of individuals and groups to United States history.	Grand Conversations and Classroom Discussions Journal Entries <i>America Grows Up</i> <i>A Child's History of the World</i> <i>George Washington's World</i> <i>The Supreme Court</i> Assembly presented by local educator about Successful People of the Past (in PA and throughout the US): ways in

	<p>which they overcame struggles and hardships to positively affect others' lives</p> <p>Visits from: Local authors Local politicians Local businesses</p>
8.3.6.B: Explain the importance of significant historical documents, artifacts, and places critical to United States history.	<p>Grand Conversations and Classroom Discussions</p> <p>Journal Entries</p> <p>Study of primary sources</p>
8.3.6.C: Explain how continuity and change have impacted U.S. history. Belief systems and religions Commerce and industry Technology Politics and government Physical and human geography Social organizations	<p>Grand Conversations and Classroom Discussions</p> <p>Journal Entries</p> <p><i>America Grows Up</i></p>
8.3.6.D: Explain how conflict and cooperation among groups and organizations have impacted the history and development of the U.S. Ethnicity and race Working conditions Immigration Military conflict Economic stability	<p>Grand Conversations and Classroom Discussions</p> <p>Journal Entries</p> <p><i>America Grows Up</i></p> <p><i>Growing Up in Coal Country</i></p>

Standard Area - 8.4: World History

Grade Level - 8.4.6: GRADE 6	Books/Activities Used
8.4.6.A: Explain the social, political, cultural, and economic contributions of individuals and groups to world history.	<i>America Grows Up</i> <i>The Singing Tree</i> Grand Conversations and Classroom Discussions Journal Entries Assembly presented by local educator about Successful People of the Past (in PA and throughout the US): ways in which they overcame struggles and hardships to positively affect others' lives
8.4.6.B: Identify and explain the importance of historical documents, artifacts, and sites which are critical to world history	Grand Conversations and Classroom Discussions Journal Entries Study of primary documents

<p>8.4.6.C: Explain how continuity and change have impacted world history.</p> <p>Belief systems and religions</p> <p>Commerce and industry</p> <p>Technology</p> <p>Politics and government</p> <p>Physical and human geography</p> <p>Social organizations</p>	<p>Grand Conversations and Classroom Discussions</p> <p>Journal Entries</p> <p><i>A Child's History of the World</i></p> <p><i>America Grows Up</i></p>
<p>8.4.6.D: Examine patterns of conflict and cooperation among groups and organizations that impacted the development of the history of the world.</p>	<p>Grand Conversations and Classroom Discussions</p> <p>Journal Entries</p> <p><i>A Child's History of the World</i></p> <p><i>America Grows Up</i></p> <p><i>We were there with the Lafayette Escadrille</i></p>

**Pennsylvania [Common Core or State] Standards
CURRICULUM MAPPING**

Grade - 7, 8, 9

Subject - History

8.1 - Historical Analysis and Skills Development.

Standard	Books/Activities Used
8.1.9 A – Analyze chronological thinking.	Classroom Timeline Book of Centuries The American Revolutionaries by Milton Meltzer Graphic Organizers Narrations <i>FDR, America in Crisis</i> by Marrin Large Group Discussion Illustrated Copy work of Timeline <i>The War to End All Wars</i> by Russel Freedman <i>Shh! They're Writing the Constitution</i> by Fritz <i>Lincoln's World</i> by Foster <i>Gettysburg</i> by MacKinlay Kantor
8.1.9 B – Analyze and interpret historical source.	Large Group Discussion World Atlas Timeline <i>FDR, America in Crisis</i> by Marrin <i>The Story of Mankind</i> by Van Loon <i>History of the World</i> by Gombridge <i>Renaissance and Reformation Times</i> by Dorothy Mills
8.1.9 C – Analyze the fundamentals of	Large Group Discussion

historical interpretation.	<i>FDR, America in Crisis</i> by Marrin <i>The Story of Mankind</i> by Van Loon <i>History of the World</i> by Gombridge <i>Renaissance and Reformation Times</i> by Dorothy Mills
8.1.9 D – Analyze and interpret historical research.	Large Group Discussion <i>Around the World in 80 Days</i> by Jules Vern <i>To Kill a Mockingbird</i> by Harper Lee <i>Valley of Fear</i> by Sherlock Holmes <i>Across Five Aprils</i> by Irene Hunt <i>Night</i> by Elie Wiesel <i>Thunder Rolling in the Mountains</i> by Scott O'Dell <i>Sign of the Beaver</i> by Elizabeth Speare <i>Island of the Blue Dolphins</i> by Scott O'Dell <i>Light in the Forest</i> by Conrad Richte <i>Diary of Anne Franke</i> <i>Animal Farm</i> George Orwell

8.2 – Pennsylvania History.

Standard	Books/Activities Used
8.2.9. A – Analyze the political and cultural contributions of individuals and groups from Pennsylvania history from 1787 to 1914.	Large Group Discussion <i>Growing Up in Coal Country</i> by Susan Campbell
8.2.9. B – Identify and analyze primary documents, material artifacts, and historic sites important in Pennsylvania history from 1787 to 1914.	Large Group Discussion State Museum in PA Field Study <i>Gettysburg Address</i> Gettysburg Battlefield Field Study Independence Hall Field Study Pennsylvania Constitution Liberty Bell and Philadelphia Field Study Underground Railroad Museum Field Study Canal Museum in Easton, PA Field Study Schuylkill Navigation Company Records Independence Hall Field Study

8.2.9 C – Identify and analyze how continuity and change have influenced Pennsylvania history from 1787-1914.	Large Group Discussion Timeline of PA History Book of Centuries <i>A Molly Maguire Story</i> by Patrick Campbell <i>Growing Up in Coal Country</i> by Susan Campbell
8.2.9 D – Identify and analyze conflict and cooperation among social groups and organizations to Pennsylvania history from 1787- 1914.	Large Group Discussion <i>A Molly Maguire Story</i> by Patrick Campbell <i>Gettysburg</i> by MacKinley Kantor

8.3 – United States History.

Standard	Books/Activities Used
8.3.9. A – Identify and analyze the political and cultural contributions of individuals and groups to United States history from 1787 to 1914.	Large Group Discussion Narrations <i>Bold Journey West With Lewis and Clark</i> by Charles Bohner <i>Slavery By Another Name</i> by Douglas Blackmon
8.3.9. B – Identify and analyze primary documents, material artifacts, and historic sites important in United States history from 1787 to 1914.	U.S. Constitution <i>Constitution</i> by Fritz Large Group Discussion Court cases and Documents (i.e. Plessy vs. Ferguson, Dred Scott Decision, Marbury vs. Madison) <i>Lincoln's World</i> by Foster <i>Miracle at Philadelphia: The Story of the Constitutional Convention</i> by Cathryn Bowen
8.3.9 C –Analyze how continuity and change have influenced United States history from	U.S. Constitution and Amendments Large Group Discussion

1787-1914.	Book of Centuries Court cases (i.e. Plessy vs. Ferguson, Dred Scott Decision, Marbury vs. Madison) <i>The Story of America</i> by Van Loon
8.3.9 D – Identify and analyze conflict and cooperation among social groups and organizations to United States history from 1787- 1914.	Large Group Discussion <i>The Story of America</i> by Van Loon <i>Slavery By Another Name</i> by Douglas Blackmon

8.4 – World History.

Standard	Books/Activities Used
8.4.9. A –Analyze the significance of individuals and groups who made major political and cultural contributions to world history before 1500.	Large Group Discussion <i>Leonardo's Horse</i> by Jean Fritz <i>The Story of Mankind</i> by Van Loon <i>History of the World</i> by Gombridge <i>Renaissance and Reformation Times</i> by Dorothy Mills
8.4.9. B – Analyze historical documents, materials, artifacts, and historic sites important to world history before 1500.	Large Group Discussion Magna Charta University of Pennsylvania Museum <i>Renaissance and Reformation Times</i> by Dorothy Mills Martin Luther 95 Theses Michelangelo, Raphael, and Da Vinci paintings/drawings Renaissance Faire Field Study <i>The Story of Mankind</i> by Van Loon <i>History of the World</i> by Gombridge

8.4.9 C –Analyze how continuity and change throughout history has impacted belief systems and religions, commerce and industry, innovations, settlements patterns, social organization, transportation and roles of women before 1500.	<p>Large Group Discussion</p> <p>Book of Centuries</p> <p><i>Renaissance and Reformation Times</i> by Dorothy Mills</p> <p><i>The Story of Mankind</i> by Van Loon</p> <p><i>History of the World</i> by Gombridge</p>
8.4.9 D – Analyze how conflict and cooperation among social groups and organizations impacted world history through 1500 in Africa, Americas, Asia, and Europe.	<p>Large Group Discussion</p> <p><i>Renaissance and Reformation Times</i> by Dorothy Mills</p> <p><i>The Story of Mankind</i> by Van Loon</p> <p><i>History of the World</i> by Gombridge</p>

**Pennsylvania [Common Core or State] Standards
CURRICULUM MAPPING**

Grade 10-11-12

Subject

History

8.1 Historical Analysis and Skills Development.

Standard	Books/Activities Used
8.1.12.A – Evaluate chronological thinking	Classroom Timeline Large Group Discussion Book of Centuries Graphic Organizers for Narration The Constitution and Amendments
8.1.12.B – Synthesize and evaluate historical sources.	World Atlas State Maps Local Maps <i>Our Daughter of Time</i> by Josephine Tey Current Events – www.newsela.com
8.1.12.C – Evaluate historical interpretation of events.	<i>Our Daughter of Time</i> by Josephine Tey Large Group Discussion Class Debates
8.1.12.D – Synthesize historical research.	<i>Their Eyes Were Watching God</i> by Zora Neale <i>Appointment in Samarra</i> by John O'Hara <i>Bury My Heart at Wounded Knee</i> by Dee Brown <i>Letters from a Pennsylvania Farmer</i> – John Dickinson <i>The Great Gatsby</i> by F.Scott Fitzgerald

8.2 Pennsylvania History

Standard	Books/Activities Used
8.2.12.A – Evaluate the political and cultural contributions of individuals and groups to Pennsylvania History from 1890 to present.	Large Group Discussion <i>Growing Up in Coal Country</i> by Susan Campbell 28 th Pennsylvania Division The Great Strike: www.boundless.com/u-s-history/textbooks/boundless-u-s-history-textbook/the-progressive-era-1890-1917-22/roosevelt-s-progressivism-171/the-coal-strike-of-1902-937-9228/
8.2.12.B – Identify and evaluate primary documents, material artifacts and historic sites important in Pennsylvania history from 1890 to present.	Large Group Discussion State Museum in PA Field Study Pennsylvania Constitution Bethlehem Steel Works Progress Administration Buildings Field Study Map of Pennsylvania
8.2.12.C – Identify and evaluate how continuity and change have influenced Pennsylvania history from the 1890s to present.	Large Group Discussion Timeline of PA History Book of Centuries <i>Growing Up in Coal Country</i> by Susan Campbell Three Mile Island www.nrc.gov/reading-rm/doc-collections/fact-sheet/3mile-isle.html
8.2.12.D – Identify and evaluate conflict and cooperation among social groups and organizations in Pennsylvania history from 1890 to present.	Large Group Discussion Pennsylvania maps Gobitas vs. Minersville School Board. (Freedom of Religion) 1902 Great Strike: www.boundless.com/u-s-history/textbooks/boundless-u-s-history-textbook/the-progressive-era-1890-1917-22/roosevelt-s-progressivism-171/the-coal-strike-of-1902-937-9228/

	sivism-171/the-coal-strike-of-1902-937-9228/
8.3 United States History	
Standard	Books/Activities Used
8.3.12.A – Identify and evaluate the political and cultural contributions of individuals and groups to United States History from 1890 to present.	<i>FDR A Nation in Crisis</i> <i>Stalin</i> by Albert Marrin <i>Hitler</i> by Albert Marrin <i>Victory in the Pacific</i> by Marrin. History Alive: Industrial Revolution Large Group Discussion
8.3.12.B – Identify and evaluate primary documents, material artifacts and historic sites important in United States history from 1890 to present.	National Museum of American History Holocaust Museum in Washington “I Have a Dream” speech- MLK <i>Letters from a Birmingham Jail</i> MLK Constitutional Amendments Air and Space Museum, Washington DC US Capitol Building World Trade Center Site. Metropolitan Museum of Art African American Museum, Philadelphia Large Group Discussion
8.3.12.C – Evaluate how continuity and change has influenced United States history from the 1890 to present.	<i>Are you a Liberal, Conservative or Confused</i> , by Richard Maybury. <i>Whatever Happened to Justice</i> , by Richard Marbury <i>FDR Nation in Crisis</i> <i>Short History of the 20th Century</i> by Geoffrey Blainey World History Atlas History Alive: Large Group Discussion
8.3.12.D – Identify and evaluate how	World History Atlas

continuity and change have influenced United States history from 1890 to present.	<i>Kids Caps: Cold War, Korean War, Vietnam, Cuban Missile Crisis</i> University of Pennsylvania Museum Short History of the 20 th Century, by Geoffrey Blainey History Alive Current Events: www.newsela.com Large Group Discussion
8.4 World History	
Standard	Books/Activities Used
8.4.12.A – Evaluate the significance of individuals and groups who made major political and cultural contributions to World History since 1450.	<i>Renaissance and Reformation</i> by Dorothy Mills <i>FDR A Nation in Crisis</i> <i>Communist Manifesto</i> , Marx and Engels <i>Stalin</i> by Albert Marrin <i>Hitler</i> by Albert Marrin <i>Victory in the Pacific</i> by Marrin. <i>Spread of the British Empire</i> by M.B. Syngé <i>Long Walk to Freedom</i> –Nelson Mandela <i>Animal Farm</i> , George Orwell History Alive: Soviets, China, Africa, Latin America Large Group Discussion
8.4.12.B – Evaluate historical documents, material artifacts and historic sites important to world history since 1450.	Declaration of Independence University of Pennsylvania Metropolitan Museum of Art Holocaust Museum, Washington DC <i>In Flanders Field</i> <i>Diary of Anne Frank</i> <i>Anne Frank: Beyond the Diary</i> , Rian Verhoeven Large Group Discussion
8.4.12.C – Evaluate how continuity and	<i>FDR Nation in Crisis</i>

<p>change throughout history has impacted belief systems and religions, commerce and industry, innovations, settlement patterns, social organization, transportation and roles of women since 1450.</p>	<p><i>Animal Farm</i>, George Orwell <i>Short History of the 20th Century</i> by Geoffrey Blainey World History Atlas <i>Cry Beloved Country</i>, Alan Paton History Alive; Modern Middle East, Modern Latin America, Soviet Union, China Large Group Discussion</p>
<p>8.4.12.D – Evaluate how conflict and cooperation among special groups and organizations impacted world history from 1450 to present in Africa, Americas, Asia and Europe.</p>	<p>World History Atlas <i>Kids Caps: Cold War, Korean War, Vietnam, Cuban Missile Crisis</i> University of Pennsylvania Museum <i>The Great Republic</i>, Winston Churchill <i>Short History of the 20th Century</i>, by Geoffrey Blainey History Alive; Modern Middle East, Modern Latin America Current Events: www.newsela.com Large Group Discussion</p>

**Pennsylvania State Standards
CURRICULUM MAPPING**

Grade K-6

Subject: Geography

Standard Area - 7.1: Basic Geographic Literacy

Grade Level - 7.1.K: GRADE K	Books/Activities Used
7.1.K.A: Interpret a simple map of a known environment.	Students will locate familiar class furnishings on a representational classroom map.** <i>Mapmaking with Children: Sense of Place Education for the Elementary Years</i> by David Sobel**
7.1.K.B: Describe the location of places in the home, school, and community to gain an understanding of relative location.	Whole Group Discussions Outdoor Walks around Community Field studies to places in the community (ex. fire station, Giant grocery store, dairy farm) <i>Roxaboxen</i> by Alice McLerran

Standard Area - 7.2: Physical Characteristics of Places and Regions

Grade Level - 7.2.K: GRADE K	Books/Activities Used
7.2.K.A: Describe the characteristics of homes and businesses located in the community to gain an understanding of physical features.	Whole Group Discussions Outdoor Walks around Community Field studies to places in the community (ex. fire station, Giant grocery store, dairy farm) <i>Mapmaking with Children: Sense of Place Education for the Elementary Years</i> by David Sobel**
7.2.K.B: Identify land and water forms.	Local field studies** <i>Water Dance</i> by Thomas Locker <i>Where the River Begins</i> by Thomas Locker

	<i>Letting Swift River Go</i> by Jane Yolen <i>Appalachia: The Voices of Sleeping Birds</i> by C. Rylant
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Standard Area - 7.3: Human Characteristics of Places and Regions

Grade Level - 7.3.K: GRADE K	Books/Activities Used
7.3.K.A: Describe how weather affects daily life.	Whole Group discussions during circle time/calendar time <i>The Oxcart Man</i> by Donald Hall <i>Bringing the Rain to Kapiti Plain</i> by Verna Aardema <i>The Storm Book</i> by Zoloto

Standard Area - 7.4: Interactions Between People and the Environment

Grade Level - 7.4.K: GRADE K	Books/Activities Used
7.4.K.A: Identify local bodies of water and landforms to gain an understanding of their impact on the local community.	Whole Group Discussions Students study county map Exploring the mountain behind the school Field study to Sweet Arrow Lake School Wide Clean Up Local field studies** <i>Letting Swift River Go</i> by Jane Yolen
7.4.K.B: Intentionally Blank	

Pennsylvania State Standards CURRICULUM MAPPING

Grade 1

Subject: Geography

Standard Area - 7.1: Basic Geographic Literacy

Grade Level - 7.1.1: GRADE 1	Books/Activities Used
7.1.1.A: Identify geographic tools.	World Globe USA Physical Map World Physical Map <i>Mapmaking with Children: Sense of Place Education for the Elementary Years</i> by David Sobel**
7.1.1.B: Describe places in geographic reference in physical features.	World Globe USA Physical Map World Physical Map <i>The United States of America: A Step-by-Step Guide</i> by Millie Miller and Cyndi Nelson**

Standard Area - 7.2: Physical Characteristics of Places and Regions

Grade Level - 7.2.1: GRADE 1	Books/Activities Used
7.2.1.A: Identify physical characteristics in the community and region.	Walking Field Study - around community to determine directions (north, south, east, west), street names, street locations, etc.
7.2.1.B: Identify the basic physical processes that affect the physical characteristics of places.	Field Studies with Porcupine Pat in the local community <i>Home Geography for the Primary Grades</i> by Long School wide Clean-up

Standard Area - 7.3: Human Characteristics of Places and Regions

Grade Level - 7.3.1: GRADE 1	Books/Activities Used
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7.3.1.A: Identify the local climate and how it determines the way people live.	Whole Group Conversations <i>Home Geography for the Primary Grades</i> by Long
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Standard Area - 7.4: Interactions Between People and the Environment

Grade Level - 7.4.1: GRADE 1	Books/Activities Used
7.4.1.A: Describe how lakes, rivers, and streams impact people.	Oral and drawing narrations from Paddle to the Sea by Holling C. Holling <i>Home Geography for the Primary Grades</i> by Long Field Studies to parks/forests (Porcupine Pat) <i>Mapmaking with Children: Sense of Place Education for the Elementary Years</i> by David Sobel**
7.4.1.B: Intentionally Blank	

Pennsylvania State Standards CURRICULUM MAPPING

Grade 2

Subject: Geography

Standard Area - 7.1: Basic Geographic Literacy

Grade Level - 7.1.2: GRADE 2	Books/Activities Used
7.1.2.A: Identify how basic geographic tools are used to organize information.	World Globe USA Physical Map World Physical Map <i>Children's World Atlas</i> <i>Mapmaking with Children: Sense of Place Education for the Elementary Years</i> by David Sobel**

	<i>The United States of America: A Step-by-Step Guide</i> by Millie Miller and Cyndi Nelson**
7.1.2.B: Describe regions in geographic reference using physical features..	World Globe USA Physical Map World Physical Map <i>Children's World Atlas</i> <i>The United States of America: A Step-by-Step Guide</i> by Millie Miller and Cyndi Nelson** <i>Mapmaking with Children: Sense of Place Education for the Elementary Years</i> by David Sobel**

Standard Area - 7.2: Physical Characteristics of Places and Regions

Grade Level - 7.2.2: GRADE 2	Books/Activities Used
7.2.2.A: Identify the physical characteristics of places.	Walking Field Study - around community to determine directions (north, south, east, west), street names, street locations, etc. Group Activity describing surroundings of the school house * <i>Mapmaking with Children: Sense of Place Education for the Elementary Years</i> by David Sobel**
7.2.2.B: Identify the basic physical processes that affect the physical characteristics of regions	Field Studies with Porcupine Pat in the local community <i>Home Geography for the Primary Grades</i> by Long School wide Clean-up <i>Mapmaking with Children: Sense of Place Education for the Elementary Years</i> by David Sobel**

Standard Area - 7.3: Human Characteristics of Places and Regions

Grade Level - 7.3.2: GRADE 2	Books/Activities Used
7.3.2.A: Identify the effect of local geography on the residents of the region (food, clothing, industry, trade, types of shelter, etc.).	Field study with Porcupine Pat Discussion of the coal region Discussion of the relationship between climate and clothing The Pennsylvania Colony by Hirsch** The Farm: Life in Colonial Pennsylvania by Knight**

Standard Area - 7.4: Interactions Between People and the Environment

Grade Level - 7.4.2: GRADE 2	Books/Activities Used
7.4.2.A: Identify how environmental changes can impact people.	<i>Home Geography for the Primary Grades</i> by Long <i>Child's Introduction to Geography</i> <i>Planting the Trees of Kenya: The Story of Wanguari Maathai</i> by Claire Nicola <i>Mapmaking with Children: Sense of Place Education for the Elementary Years</i> by David Sobel**
7.4.2.B: Intentionally Blank	

Pennsylvania State Standards CURRICULUM MAPPING

Grade 3

Subject: Geography

Standard Area - 7.1: Basic Geographic Literacy

Grade Level - 7.1.3: GRADE 3	Books/Activities Used
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7.1.3.A: Identify how basic geographic tools are used to organize and interpret information about people, places and environment	<i>Historical Atlas of the World</i> by Rand McNally World Globe USA Physical Map World Physical Map Compass Rose <i>The United States of America: A Step-by-Step Guide</i> by Millie Miller and Cyndi Nelson** <i>Mapmaking with Children: Sense of Place Education for the Elementary Years</i> by David Sobel** Whole Group Conversations
7.1.3.B: Identify and locate places and regions as defined by physical and human features	<i>Historical Atlas of the World</i> by Rand McNally <i>Mapmaking with Children: Sense of Place Education for the Elementary Years</i> by David Sobel** World Globe USA Physical Map World Physical Map <i>The United States of America: A Step-by-Step Guide</i> by Millie Miller and Cyndi Nelson**

Standard Area - 7.2: Physical Characteristics of Places and Regions

Grade Level - 7.2.3: GRADE 3	Books/Activities Used
7.2.3.A: Identify the physical characteristics of places and region	<i>Historical Atlas of the World</i> by Rand McNally <i>The Silk Route: 7,000 Miles of History</i> by John Major <i>Stickeen</i> by John Muir <i>Bunches and Bunches, How Bananas Grow in Rwanda</i> by TEACH Rwanda <i>A is for Asia</i> by Cynthia Chin Lee

	<i>Mapmaking with Children: Sense of Place Education for the Elementary Years</i> by David Sobel** Whole Group Conversations
7.2.3.B: Identify the basic physical processes that affect the physical characteristics of places	<i>Stickeen</i> by John Muir <i>The Silk Route: 7,000 Miles of History</i> by John Major <i>Bunches and Bunches, How Bananas Grow in Rwanda</i> by TEACH Rwanda <i>Mapmaking with Children: Sense of Place Education for the Elementary Years</i> by David Sobel**

Standard Area - 7.3: Human Characteristics of Places and Regions

Grade Level - 7.3.3: GRADE 3	Books/Activities Used
7.3.3.A: Identify the human characteristics of places and regions using the following criteria: Population Culture Settlement Economic activities Political activities	<i>The Silk Route: 7,000 Miles of History</i> by John Major <i>Bunches and Bunches, How Bananas Grow in Rwanda</i> by TEACH Rwanda <i>A is for Asia</i> by Cynthia Chin Lee Class discussions about factors affecting the early colonization of PA through books <i>Elin's Amerika</i> by De Angeli, <i>The Pennsylvania Colony</i> by Hirsch in grade 2 , and biography of William Penn Founder of Pennsylvania in grade 4** ** Whole Group Conversations

Standard Area - 7.4: Interactions Between People and the Environment

Grade Level - 7.4.3: GRADE 3	Books/Activities Used
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7.4.3.A: Identify the effect of the physical systems on people within a community.	<p>Whole Group Conversations</p> <p>School Wide Community Clean Up Day</p> <p>Class discussions about factors affecting the early colonization of PA through books Elin's Amerika by De Angeli, The PA Colony, and biography of William Penn**</p> <p>FOSS: Water</p>
7.4.3.B: Identify the effect of people on the physical systems within a community	<p>Whole Group Conversations</p> <p>Class discussions about factors affecting the early colonization of PA through books Elin's Amerika by De Angeli, The PA Colony, and biography of William Penn**</p> <p>School Wide Community Clean Up Day</p> <p>7th & Walnut by Knight in grade 2**</p> <p>FOSS: Water</p>

**Pennsylvania State Standards
CURRICULUM MAPPING**

Grade 4

Subject: Geography

Standard Area - 7.1: Basic Geographic Literacy

Grade Level - 7.1.4: GRADE 4	Books/Activities Used
7.1.4.A: Describe how common geographic tools are used to organize and interpret information about people, places, and environment.	<p><i>Historical Atlas of the World</i> by Rand McNally</p> <p>World Globe</p> <p>USA Physical Map</p> <p>World Physical Map</p> <p>Compass Rose</p> <p><i>The United States of America: A Step-by-Step Guide</i> by Millie Miller and Cyndi Nelson**</p>

	<i>Mapmaking with Children: Sense of Place Education for the Elementary Years</i> by David Sobel** Whole Group Conversations
7.1.4.B: Describe and locate places and regions as defined by physical and human features.	<i>Historical Atlas of the World</i> by Rand McNally World Globe USA Physical Map World Physical Map <i>The United States of America: A Step-by-Step Guide</i> by Millie Miller and Cyndi Nelson** Whole Group Conversations

Standard Area - 7.2: Physical Characteristics of Places and Regions

Grade Level - 7.2.4: GRADE 4	Books/Activities Used
7.2.4.A: Identify the physical characteristics of places and regions.	<i>Historical Atlas of the World</i> by Rand McNally <i>The Silk Route: 7,000 Miles of History</i> by John Major <i>Stickeen</i> by John Muir <i>Bunches and Bunches, How Bananas Grow in Rwanda</i> by TEACH Rwanda <i>A is for Asia</i> by Cynthia Chin Lee <i>Mapmaking with Children: Sense of Place Education for the Elementary Years</i> by David Sobel** Whole Group Conversations
7.2.4.B: Identify the basic physical processes that affect the physical characteristics of places and regions.	<i>Stickeen</i> by John Muir <i>The Silk Route: 7,000 Miles of History</i> by John Major <i>Bunches and Bunches, How Bananas Grow in Rwanda</i> by TEACH Rwanda <i>Planting the Trees of Kenya: The Story of Wanguari Mathau</i> by Claire Nicola in grade 2**

Standard Area - 7.3: Human Characteristics of Places and Regions

Grade Level - 7.3.4: GRADE 4	Books/Activities Used
7.3.4.A: Identify the human characteristics of places and regions using the following criteria: Population Culture Settlement Economic activities Political activities	<i>The Silk Route: 7,000 Miles of History</i> by John Major <i>Bunches and Bunches, How Bananas Grow in Rwanda</i> by TEACH Rwanda <i>A is for Asia</i> by Cynthia Chin Lee <i>The United States of America: A Step-by-Step Guide</i> by Millie Miller and Cyndi Nelson <i>Mapmaking with Children: Sense of Place Education for the Elementary Years</i> by David Sobel**

**Pennsylvania State Standards
CURRICULUM MAPPING**

Grade 5

Subject: Geography

Standard Area - 7.1: Basic Geographic Literacy

Grade Level - 7.1.5: GRADE 5	Books/Activities Used
7.1.5.A: Describe how common geographic tools are used to organize and interpret information about people, places, and environment.	World Globe USA Physical Map World Physical Map <i>Mapmaking with Children: Sense of Place Education for the Elementary Years</i> by David Sobel** ● see block above

7.1.5.B: Describe and locate places and regions as defined by physical and human features.	World Globe USA Physical Map World Physical Map Use of world atlas <i>Mapmaking with Children: Sense of Place Education for the Elementary Years</i> by David Sobel**
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Standard Area - 7.2: Physical Characteristics of Places and Regions

Grade Level - 7.2.5: GRADE 5	Books/Activities Used
7.2.5.A: Describe the characteristics of places and regions	Whole group discussions Book <i>They Put Out to Sea</i>
7.2.5.B: Identify the basic physical processes that affect the physical characteristics of places and regions.	Research, compare and contrast the physical characteristics of PA and Rwanda. <i>Bunches and Bunches, How Bananas Grow in Rwanda</i> by TEACH Rwanda

Standard Area - 7.3: Human Characteristics of Places and Regions

Grade Level - 7.3.5: GRADE 5	Books/Activities Used
7.3.5.A: Identify the human characteristics of places and regions using the following criteria: Population Culture Settlement Economic activities Political activities	Use of Atlas <i>Growing Up in Coal Country</i> Group discussions

Standard Area - 7.4: Interactions Between People and the Environment

Grade Level - 7.4.5: GRADE 5	Books/Activities Used
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7.4.5.A: Describe and explain the effects of the physical systems on people within regions	Field Study to Pioneer Coal Tunnel Group Discussions <i>Growing Up in Coal Country</i>
7.4.5.B: Identify the effect of people on the physical systems within a community	School Wide Cleanup Whole Group Discussions and Grand Conversations

**Pennsylvania State Standards
CURRICULUM MAPPING**

Grade 6

Subject: Geography

Standard Area - 7.1: Basic Geographic Literacy

Grade Level - 7.1.6: GRADE 6	Books/Activities Used
7.1.6.A: Describe how common geographic tools are used to organize and interpret information about people, places, and environment.	Use of Atlas Use of world and local maps Use of a variety of maps (physical, political, etc.)
7.1.6.B: Describe and locate places and regions as defined by physical and human features.	<i>Growing Up in Coal Country</i> Field study to Pioneer Coal Tunnel Group discussion

Standard Area - 7.2: Physical Characteristics of Places and Regions

Grade Level - 7.2.6: GRADE 6	Books/Activities Used
7.2.6.A: Describe the characteristics of places and regions.	<i>Growing Up in Coal Country</i> Field study to Pioneer Coal Tunnel Use of World Atlas

7.2.6.B: Describe the physical processes that shape patterns on Earth's surface.	Use of atlas and group discussions Nature Walks
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Standard Area - 7.3: Human Characteristics of Places and Regions

Grade Level - 7.3.6: GRADE 6	Books/Activities Used
7.3.6.A: Describe the human characteristics of places and regions using the following criteria: Population Culture Settlement Economic activities Political activities	Use of Atlas <i>Growing Up in Coal Country</i> <i>The Singing Tree</i> <i>40 Acres and Maybe a Mule</i>

Standard Area - 7.4: Interactions Between People and the Environment

Grade Level - 7.4.6: GRADE 6	Books/Activities Used
7.4.6.A: Describe and explain the effects of the physical systems on people within regions.	<i>Growing Up in Coal Country</i> <i>Breaker Boys</i> Group discussions
7.4.6.B: Describe and explain the effects of people on the physical systems within regions.	<i>Growing Up in Coal Country</i> Field study to Pioneer Coal Tunnel Group discussions

**Pennsylvania [Common Core or State] Standards
CURRICULUM MAPPING**

Grade: 7, 8, 9

Subject: Geography

7.1 - Basic Geography Literacy.

Standard	Books/Activities Used
7.1.9 A – Explain geographic tools and their uses.	World History Atlas Nature Walks <u>Around the World in 80 Days</u> – Jules Verne Large Group Discussion
7.2.9 B – Explain and locate places and regions.	World History Atlas Nature Walks Illustrated Copy work of Maps Large Group Discussion <u>Around the World in 80 Days</u> – Jules Verne

7.2 – The Physical Characteristics of Places and Region.

Standard	Books/Activities Used
7.2.9 A – Explain the physical characteristics of places and regions including spatial patterns of Earth's physical systems.	World History Atlas Nature Walks <u>Around the World in 80 Days</u> – Jules Verne Large Group Discussion see earth and science mapping
7.2.9 B – Explain the dynamics of the fundamental processes that underlie the operation of Earth's physical systems.	World History Atlas Nature Walks <u>Around the World in 80 Days</u> – Jules Verne see earth and science mapping

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7.3 – The Human Characteristics of Places and Region.

Standard	Books/Activities Used
7.3.9 A – Explain the human characteristics of places and regions by their popular characteristics.	World History Atlas <u>Around the World in 80 Days</u> – Jules Verne <u>Bold Voyage: West With Lewis and Clark</u> by Charles Bohner Blogging With Current Events on www.newsela.com / www.kidblog.com Large Group Discussion <u>In the Land of the Jaguar: South America and It's People</u> - Gorrell
7.3.9 B – Explain the human characteristics of places and regions by their cultural characteristics.	World History Atlas <u>Around the World in 80 Days</u> – Jules Verne <u>Bold Voyage: West With Lewis and Clark</u> by Charles Bohner <u>In the Land of the Jaguar: South America and It's People</u> - Gorrell Blogging With Current Events on www.newsela.com / www.kidblog.com Large Group Discussion
7.3.9 C – Explain the human characteristics of places and regions by their settlement characteristics.	World History Atlas <u>Around the World in 80 Days</u> – Jules Verne <u>Bold Voyage: West With Lewis and Clark</u> by Charles Bohner Blogging With Current Events on www.newsela.com / www.kidblog.com Large Group Discussion <u>In the Land of the Jaguar: South America and It's People</u> - Gorrell

7.3.9 D – Explain the human characteristics of places and regions by their economic activities.	World History Atlas <u>Around the World in 80 Days</u> – Jules Verne <u>Bold Voyage: West With Lewis and Clark</u> by Charles Bohner Large Group Discussion <u>In the Land of the Jaguar: South America and It's People-</u> Gorrell
7.3.9 E – Explain the human characteristics of places and regions by their political activities.	World History Atlas <u>Around the World in 80 Days</u> – Jules Verne <u>Bold Voyage: West With Lewis and Clark</u> by Charles Bohner Large Group Discussion <u>In the Land of the Jaguar: South America and It's People-</u> Gorrell

7.4 – The Interactions Between and Places.

Standard	Books/Activities Used
7.4.9 A – Explain the impacts of physical systems on people.	World History Atlas <u>Growing Up in Coal Country</u> by Susan Campbell Bertolotti <u>Bold Voyage: West With Lewis and Clark</u> by Charles Bohner Blogging With Current Events on www.newsela.com / www.kidblog.com Large Group Discussion Field Study to National Museum of Natural History in D.C.
7.4.9 B – Explain the impacts of people on physical systems.	World History Atlas <u>Growing Up in Coal Country</u> by Susan Campbell Bertolotti

	<p><u>Bold Voyage: West With Lewis and Clark</u> by Charles Bohner Bloggng With Current Events on www.newsela.com / www.kidblog.com Large Group Discussion Field Study to National Museum of Natural History in D.C.</p>
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**Pennsylvania [Common Core or State] Standards
CURRICULUM MAPPING**

Grade 10, 11, 12

Subject: Geography

7.1 – Basic Geographic Literacy.

Standard	Books/Activities Used
7.1.12 A – Analyze data and issues from a spatial perspective using the appropriate geographic tools.	World History Atlas <u>The Mapmakers</u> by Wilford Mapping the World With Art
7.1.12 B – Analyze the location of places and regions.	World History Atlas <u>The Mapmakers</u> by Wilford Nature Walks Illustrated Copy Work of Maps Mapping the World With Art

7.2 – The Physical Characteristics of Places and Regions.

Standard	Books/Activities Used
7.2.12 A – Analyze the physical characteristics of places and regions including the interrelationships among the components of Earth’s physical systems.	World History Atlas <u>The Mapmakers</u> by Wilford <u>Mapping the World With Art</u> by McHenry Nature Walks Illustrated Copy Work of Maps see earth and science mapping
7.2.12 B – Analyze the significance of physical processes in shaping the character of places and regions.	World History Atlas <u>The Mapmakers</u> by Wilford <u>Mapping the World With Art</u> by McHenry Nature Walks see earth and science mapping

7.3 – The Human Characteristics of Places and Regions.

Standard	Books/Activities Used
7.3.12 A – Analyze the significance of human activity in shaping places and regions by their population characteristics.	World History Atlas <u>The Mapmakers</u> by Wilford Video Clip of Aladdin and Grand Conversation <u>Short History of the 20th Century</u> by Geoffrey Blainey
7.3.12 B – Analyze the significance of human activity in shaping places and regions by their cultural characteristics.	World History Atlas <u>The Mapmakers</u> by Wilford Video Clip of Aladdin and Grand Conversation <u>Short History of the 20th Century</u> by Geoffrey Blainey
7.3.12 C – Analyze the significance of human activity in shaping places and regions by their settlement characteristics.	World History Atlas <u>The Mapmakers</u> by Wilford Video Clip of Aladdin and Grand Conversation <u>Short History of the 20th Century</u> by Geoffrey Blainey
7.3.12 D – Analyze the significance of human activity in shaping places and regions by their economic characteristics.	World History Atlas <u>The Mapmakers</u> by Wilford Video Clip of Aladdin and Grand Conversation <u>Short History of the 20th Century</u> by Geoffrey Blainey
7.3.12 E – Analyze the significance of human activity in shaping places and regions by their political characteristics.	World History Atlas <u>The Mapmakers</u> by Wilford Video Clip of Aladdin and Grand Conversation <u>Short History of the 20th Century</u> by Geoffrey Blainey

7.4– The Interactions Between People and Places.

Standard	Books/Activities Used
7.4.12- A – Analyze the impacts of physical systems on people.	World History Atlas <u>The Mapmakers</u> by Wilford Blogging with Current Events – www.newsela.org / www.kidblog.com Field Study to National Museum of Natural History in D.C. History Alive: Geography
7.4.12 B – Analyze the impacts of people on physical systems.	World History Atlas <u>The Mapmakers</u> by Wilford Blogging with Current Events – www.newsela.org / www.kidblog.com Field Study to National Museum of Natural History in D.C. History Alive: Geography

**Pennsylvania State Standards
CURRICULUM MAPPING**

Grade Level - 15.1.2: GRADES PreK - 2

Subject Area - 15: Business, Computer and Information Technology

Standard Area - 15.1: Accounting

Grade Level - 15.1.2: GRADES PreK - 2	Books/Activities Used
15.1.2.A: With help and support, ask and answer questions about careers in accounting.	Visits From Local Accountants*
15.1.2.B: Ask and answer questions about right and wrong (ethics) in the classroom.	Restorative Practice and Circles Whole Group Conversations <i>If You Made a Million</i> <i>Beatrice's Goat</i> by McBrier <i>Naughty Little Sister</i> by Dorothy Edwards
15.1.2.C: Intentionally Blank	
15.1.2.D: Intentionally Blank	
15.1.2.E: Intentionally Blank	
15.1.2.F: Ask and answer questions about items you or your family own	Grand Conversations Morning and Afternoon Meeting Discussions <i>If You Made a Million</i> <i>Ox Cart Man</i> by Donald Hall
15.1.2.G: Ask and answer questions about money you or your family owes.	Grand Conversations Morning and Afternoon Meeting Discussions <i>Beatrice's Goat</i> by McBrier <i>If You Made a Million</i> <i>A Chair for Mother</i> by Vera B. Williams
15.1.2.H: Intentionally Blank	
15.1.2.I: Intentionally Blank	
15.1.2.J: Intentionally Blank	

15.1.2.K: Intentionally Blank	
15.1.2.L: Intentionally Blank	
15.1.2.M: Ask and answer questions about being compensated for completing a task.	Grand Conversations Peer Modeling Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assembly Presented by Local Author/Community Member <i>A Chair for Mother</i> by Vera B. Williams <i>The Farm: Life in Colonial Pennsylvania</i> by James E. Knight
15.1.2.N: Ask and answer questions about business ownership in the community.	Grand Conversations Visits From Local Business Owners Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assembly Presented by Local Author/Community Member Field Studies to local businesses (Dairy Farm) From <i>Green Grass to White Milk</i> by Alik>**
15.1.2.O: Intentionally Blank	
15.1.2.P: Intentionally Blank	
15.1.2.Q: Intentionally Blank	
15.1.2.R: Intentionally Blank	
15.1.2.S: Intentionally Blank	
15.1.2.T: Intentionally Blank	
15.1.2.U: Intentionally Blank	
15.1.2.V: Intentionally Blank	
15.1.2.W: Intentionally Blank	
15.1.2.X: Intentionally Blank	
15.1.2.Y: Intentionally Blank	
15.1.2.Z: Intentionally Blank	

Standard Area - 15.2: Career Management

Grade Level - 15.2.2: GRADES PreK - 2	Books/Activities Used
15.2.2.A: Ask and answer questions related to personal likes and dislikes of home and school responsibilities. Reference Career Education and Work 13.1.1.A - B	Grand Conversations Peer Modeling Mock Interviews with Older Students Daily Chores <i>Beatrice's Goat</i> by McBrier <i>Naughty Little Sister</i> by Dorothy Edwards <i>Abe Lincoln: The Boy Who Loved Books</i> by KAy Winters and Nancy Carpenter
15.2.2.B: Identify occupations of familiar adults.	Grand Conversations School Assemblies Mock Interviews Career Day Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assembly Presented by Local Author/Community Member Assembly presented by local firefighters Assembly presented by local policemen* Veteran's Day assembly with local veterans.**
15.2.2.C: With prompting and support, discuss the concept of a global community.	<i>Home Geography for the Primary Grades</i> Grand Conversations School Wide Community Days <i>Planting the Trees of Kenya</i> <i>Schoolwide international relationship</i>
15.2.2.D: Ask and answer questions about different types of work.	Grand Conversations Career Days Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assembly Presented by Local Author/Community Member Assembly presented by local firefighters Assembly presented by local policemen* Veteran's Day Assembly with local veterans**
15.2.2.E: Intentionally Blank Reference Career Education and Work 13.1.3.D	
15.2.2.F: Reference Mathematics 2.1.K.B	

15.2.2.G: Intentionally Blank	
15.2.2.H: With prompting and support, ask appropriate questions about work activities.	Grand Conversations Career Day Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assembly Presented by Local Author/Community Member Assembly presented by local firefighters Assembly presented by local policemen* Veteran's Day assembly with local veterans**
15.2.2.I: Identify rules within the school and community.	Restorative Practices Grand Conversations Gillingham Charter School Handbook School Wide Community Days Assembly presented by local policemen*
15.2.2.J: Intentionally Blank Reference Career Education and Work 13.1.3.G, 13.1.3.H	
15.2.2.K: With prompting and support, explain the importance of social connections such as friends and family.	Grand Conversations Peer Modeling <i>Beatrice's Goat</i> by McBrier <i>Naughty Little Sister</i> by Dorothy Edwards <i>A Chair for My Mother</i> by Vera Williams
15.2.2.L: With prompting and support, ask and answer questions about criteria for success at home and school.	Grand Conversations <i>Beatrice's Goat</i> by McBrier <i>Skippack School</i>
15.2.2.M: With prompting and support, explain the types of dispositions necessary for success in school and community. Reference Career Education and Work 13.3.3.A - B	Grand Conversations Mock Interviews with Older Students* Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assembly Presented by Local Author/Community Member Assembly presented by local policemen* <i>Beatrice's Goat</i> by McBrier
15.2.2.N: Reference Business, Computer and Information Technology 15.3.2.X	
15.2.2.O: With prompting and support, ask and answer questions relating to differences among individuals	Grand Conversations Restorative Practices Mock Interviews*

	<i>Aesop's Tales</i> <i>A Boy Called Slow</i> by Bruchec <i>Stories of Great Americans for Little Americans</i> by Eggleston <i>Mufaro's Beautiful Daughters</i> by John Steptoe** <i>The Talking Eggs</i> by San Souci**
15.2.2.P: Reference Career Education and Work 13.3.3.C; Student Interpersonal Skills 16.2.K.B	
15.2.2.Q: Ask and answer questions related to interests and careers. Reference Career Education and Work 13.3.3.F; Student Interpersonal Skills 16.2.K.B	School Assemblies Grand Conversations Mock Interviews Career Day Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assembly Presented by Local Author/Community Members Assembly presented by local firefighters Assembly presented by local policemen* Veteran's Day Assembly with local veterans**

Standard Area - 15.3: Communication

Grade Level - 15.3.2: GRADES PreK - 2	Books/Activities Used
15.3.2.A: Intentionally Blank Reference English Language Arts CC.1.4.2.F, CC.1.4.2.L, CC.1.4.2.R	
15.3.2.B: Intentionally Blank	
15.3.2.C: Intentionally Blank Reference English Language Arts CC.1.2.2.C	
15.3.2.D: Intentionally Blank Reference English Language Arts CC.1.1.2.D	
15.3.2.E: With prompting and support, use digital tools for guided research projects.	Chromebooks - GoogleEarth

Reference English Language Arts CC.1.4.2.U	
15.3.2.F: Intentionally Blank Reference English Language Arts CC.1.5.2.G, CC.1.5.2.C, CC.1.5.2.D	
15.3.2.G: Intentionally Blank	
15.3.2.H: Intentionally Blank	
15.3.2.I: Intentionally Blank Reference English Language Arts CC.1.5.2.C	
15.3.2.J: Reproduce active listening techniques modeled by familiar adults. Reference English Language Arts CC.1.5.2.C	Daily Habit Formation Restorative Practices Circles Assemblies
15.3.2.K: Reference Student Interpersonal Skills 16.3.K.B	
15.3.2.L: Identify role models in various contexts (real vs. fiction)	<i>Story of George Washington Carver</i> by Moore <i>My Brother Martin</i> by Farris <i>Grimm's Fairy Tales</i> by Wilhelm Grimm <i>Stories of Great Americans for Little Amers</i> by Eggleston <i>Abe Lincoln: The Boy Who Loved Books</i> by Kay Winters and Nancy Carpenter <i>Abe Lincoln Comes Home</i> Roxaboxen by Alice McLerran Miss Rumphias by B. Cooney Whole Group Discussions
15.3.2.M: With prompting and support, demonstrate proper etiquette while using technology.	Peer/Teacher Modeling With Chrome Books*
15.3.2.N: Identify positive work habits in the classroom.	Daily Habit Formation Restorative Circles
15.3.2.O: With prompting and support, ask and answer questions about various	Grand Conversations Restorative Circles

communication strategies used in diverse settings (classroom, home or social event).	
15.3.2.P: Intentionally Blank	
15.3.2.Q: Intentionally Blank	
15.3.2.R: Intentionally Blank	
15.3.2.S: With prompting and support, ask and answer questions about electronic communication.	Grand Conversations Restorative Circles Assembly on Proper Internet Communication*
15.3.2.T: With prompting and support, answer questions related to digital citizenship. Reference Business, Computer and Information Technologies 15.4.2.B	Discussions Restorative Circles Assembly on Proper Internet Communication*
15.3.2.U: Intentionally Blank	
15.3.2.V: Intentionally Blank	
15.3.2.W: Intentionally Blank	
15.3.2.X: Reference Student Interpersonal Skills 16.2.K.B	

Standard Area - 15.4: Computer and Information Technologies

Grade Level - 15.4.2: GRADES PreK - 2	Books/Activities Used
15.4.2.A: Identify various technologies used in the classroom and at home.	Grand Conversation Restorative Circles Assembly on Proper Internet Communication* Mouse Basics Computer Basics and the Web Introduction to Keyboards Beginning Graphics Visual Mapping Basics Database Basics Keyboarding Computer Navigation Computer Fundamentals

	Web Browsing Communicating Online
15.4.2.B: Demonstrate responsible use of technology and equipment.	Modeling of the uses of Chromebooks for students Mouse Basics Computer Basics and the Web Introduction to Keyboards Beginning Graphics Visual Mapping Basics Database Basics Keyboarding Computer Navigation Computer Fundamentals Web Browsing Communicating Online
15.4.2.C: With prompting and support, identify peripheral devices of computer system including input and output devices.	Student Training on Proper Use of Listening Center Discussion Mouse Basics Computer Basics and the Web Introduction to Keyboards Keyboarding Computer Navigation Computer Fundamentals Web Browsing
15.4.2.D: Demonstrate the correct use of simple input technologies (e.g., mouse, touch-screen, microphone, etc.).	Model Use of Chromebooks for Students Student Training on Proper Use of Listening Center Discussion Mouse Basics Computer Basics and the Web Introduction to Keyboards Keyboarding Computer Navigation Computer Fundamentals
15.4.2.E: Intentionally Blank	
15.4.2.F: Intentionally Blank	

15.4.2.G: With help and support, select and use various software/applications for an intended purpose.	Audio Retelling of a Story GoogleEarth Mouse Basics Computer Basics and the Web Introduction to Keyboards Beginning Graphics Visual Mapping Basics Database Basics Keyboarding Computer Navigation Computer Fundamentals Web Browsing Communicating Online
15.4.2.H: Intentionally Blank	
15.4.2.I: Intentionally Blank	
15.4.2.J: Intentionally Blank	
15.4.2.K: With help and support, identify similarities and differences between text, graphics, audio, animation, and video	Use projector to show differences Discussions to explore differences Use videos in instruction Mouse Basics Computer Basics and the Web Introduction to Keyboards Beginning Graphics Visual Mapping Basics Database Basics Keyboarding Computer Navigation Computer Fundamentals Web Browsing Communicating Online
15.4.2.L: With help and support, use web browser to locate content-specific websites	Background information modeled through "Googling"* Mouse Basics Computer Basics and the Web Introduction to Keyboards Keyboarding Computer Navigation Computer Fundamentals Web Browsing Communicating Online

15.4.2.M: With help and support, identify various technologies used in the workplace.	Brainstorming/modeling different types of technology that can be used in the classroom Mouse Basics Computer Basics and the Web Introduction to Keyboards Beginning Graphics Visual Mapping Basics Database Basics Keyboarding Computer Navigation Computer Fundamentals Web Browsing Communicating Online
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Standard Area - 15.5: Entrepreneurship

Grade Level - 15.5.2: GRADES PreK - 2	Books/Activities Used
15.5.2.A: Identify people in the community who own a business.	School Assemblies Field Study of local businesses (Dairy Farm, Costa Candy)
15.5.2.B: With prompting and support, list skills needed to run your own business (lemonade stand, etc.). Reference Career Education and Work 13.4.3 A - B	Small/large group discussions <i>Beatrice's Goat</i> by McBrier Field Study of local businesses (Dairy Farm, Costa Candy)
15.5.2.C: Intentionally Blank	
15.5.2.D: With prompting and support, name local small business owners in your community.	Grand Conversation School Assemblies with local business owners Field Study of local businesses (Dairy Farm, Costa Candy)
15.5.2.E: Intentionally Blank	
15.5.2.F: Intentionally Blank	
15.5.2.G: Intentionally Blank	
15.5.2.H: Intentionally Blank	

15.5.2.I: Intentionally Blank	
15.5.2.J: Intentionally Blank	
15.5.2.K: Intentionally Blank	
15.5.2.L: Intentionally Blank Reference Career Education and Work 13.4.3 A - B	
15.5.2.M: Intentionally Blank	

Standard Area - 15.6: Finance and Economics

Grade Level - 15.6.2: GRADES PreK - 2	Books/Activities Used
15.6.2.A: With prompting and support, discuss the difference between a need and a want	Grand Conversations <i>Aesop's Fables</i> <i>If You Made a Million</i> <i>Jakata Tales</i> <i>Ox Cart</i> by Donald Hall
15.6.2.B: Ask and answer questions about a monetary decision.	<i>Skippack School</i> <i>Beatrice's Goat</i> by McBrier <i>A Chair for Mother</i> by Vera B Williams
15.6.2.C: Intentionally Blank	
15.6.2.D: Intentionally Blank	
15.6.2.E: Intentionally Blank	
15.6.2.F: Intentionally Blank	
15.6.2.G: Intentionally Blank Reference Career Education and Work 13.3.2.G	
15.6.2.H: Intentionally Blank	
15.6.2.I: Intentionally Blank	
15.6.2.J: With prompting and support, ask and answer questions about borrowing and paying back money.	Grand Conversations Field study to a bank* <i>If You Made A Million</i> <i>The Farm: Life in Colonial Pennsylvania</i> by James E. Knight**
15.6.2.K: Intentionally Blank	

15.6.2.L: Intentionally Blank	
15.6.2.M: Intentionally Blank	
15.6.2.N: With prompting and support, ask and answer questions about items of value that could be lost or damaged.	Grand Conversations <i>Beatrice's Goat</i> by McBrier <i>A Chair for Mother</i> by Vera B Williams Restorative Practices Circles
15.6.2.O: Intentionally Blank	
15.6.2.P: Reference Economics 6.5.3.G	
15.6.2.Q: Intentionally Blank	
15.6.2.R: Intentionally Blank	
15.6.2.S: Intentionally Blank	

Standard Area - 15.7: Global Business

Grade Level - 15.7.2: GRADES PreK - 2	Books/Activities Used
15.7.2.A: Intentionally Blank	
15.7.2.B: With prompting and support, identify products manufactured in other countries.	<i>Geography A-Z</i> Rwanda Bananas
15.7.2.C: Intentionally Blank	
15.7.2.D: Intentionally Blank	
15.7.2.E: Intentionally Blank	
15.7.2.F: Intentionally Blank	
15.7.2.G: Intentionally Blank	
15.7.2.H: Intentionally Blank	
15.7.2.I: Ask and answer questions to demonstrate understanding that communication differs across the globe.	<i>Geography A-Z</i> Learn Spanish songs**
15.7.2.J: Intentionally Blank	

15.7.2.K: With prompting and support, provide examples of responsible behavior related to the use of natural resources	<i>Geography A-Z</i> <i>Planting Trees of Kenya: The Story of Wanguari Maathai</i> by Claire Nivola Field Study to a park/forest School Wide clean up Restorative Circle Practices <i>The Farm: Life in Colonial Pennsylvania</i> by James E. Knight**
15.7.2.L: Intentionally Blank	
15.7.2.M: Intentionally Blank	
15.7.2.N: Intentionally Blank	
15.7.2.O: Intentionally Blank	

Standard Area - 15.8: Management

Grade Level - 15.8.2: GRADES PreK - 2	Books/Activities Used
15.8.2.A: Ask and answer questions about the different businesses and jobs in the community.	School Assemblies Grand Conversations Field Study to local businesses <i>From Green Grass to White Milk</i> by Alik
15.8.2.B: Intentionally Blank	
15.8.2.C: Ask and answer questions about right and wrong (ethics) in the classroom.	Restorative Practices and circles <i>Among the Farmyard People</i> <i>Naughty Little Sisters</i> by Dorothy Edwards
15.8.2.D: With prompting and support, engage in project planning and completion	Grand Conversations Handwork
15.8.2.E: With prompting and support, ask and answer questions about roles and functions of managers and workers.	Grand Conversations Local Business Assemblies Field Study to Giant Grocery Store
15.8.2.F: Ask and answer questions about right and wrong (ethics) in the classroom	Grand Conversations Restorative Practices and circles
15.8.2.G: Identify leaders in your school and community; define their roles.	Grand Conversations Assemblies with local community members

15.8.2.H: Intentionally Blank	
15.8.2.I: Identify communication skills necessary for successful interacting with others.	Grand Conversations Restorative Practices and circles Discussions <i>Among the Farmyard People</i> <i>Naughty Little Sisters</i> by Dorothy Edwards
15.8.2.J: With prompting and support, identify technologies used to help schools run efficiently.	Grand Conversations Discussions School tour of the administration building
15.8.2.K: Intentionally Blank	
15.8.2.L: Intentionally Blank	
15.8.2.M: Intentionally Blank	
15.8.2.N: Intentionally Blank	
15.8.2.O: Intentionally Blank	
15.8.2.P: Intentionally Blank	
15.8.2.Q: Intentionally Blank	
15.8.2.R: Intentionally Blank	
15.8.2.S: Intentionally Blank	
15.8.2.T: Intentionally Blank	

Standard Area - 15.9: Marketing

Grade Level - 15.9.2: GRADES PreK - 2	Books/Activities Used
15.9.2.A: With prompting and support, ask and answer questions about careers in marketing.	Grand Conversations Career Day
15.9.2.B: Ask and answer questions about items you and your family purchased.	Grand Conversations Restorative Practices and circles <i>A Chair for Mother</i> by Vera Williams <i>Ox Cart Man</i> by Donald Hall
15.9.2.C: Intentionally Blank	

15.9.2.D: Intentionally Blank	
15.9.2.E: Ask and answer questions about reasons you or your family buys an item.	Grand Conversations Assemblies with local business owners <i>A Chair for Mother</i> by Vera Williams
15.9.2.F: With prompting and support, differentiate between products and services.	Grand Conversations Assemblies with local business owners Playing Store <i>The Farm: Life in Colonial Pennsylvania</i> by James E. Knight <i>Ox Cart Man</i> by Donald Hall
15.9.2.G: Give examples of where consumers purchase products and services.	Grand Conversations Assemblies with local business owners Yea! Presenters <i>A Chair for Mother</i> by Vera Williams <i>Ox Cart Man</i> by Donald Hall
15.9.2.H: Ask and answer questions about costs of products and services.	Grand Conversations Assemblies with local business owners <i>The Farm: Life in Colonial Pennsylvania</i> by James E. Knight
15.9.2.I: Provide examples of promotional items and advertisements.	Grand Conversations Discussion on local newspaper
15.9.2.J: Intentionally Blank	
15.9.2.K: Intentionally Blank	
15.9.2.L: Intentionally Blank	
15.9.2.M: Ask and answer questions about right and wrong (ethics) in the classroom.	Grand Conversations Restorative Practices Student Handbook <i>Naughty Little Sister</i> by Dorothy Edwards

**Pennsylvania State Standards
CURRICULUM MAPPING**

Grade Level - GRADES 3 - 5

Subject Area - 15: Business, Computer and Information Technology

Standard Area - 15.1: Accounting

Grade Level - 15.1.5: GRADES 3 - 5	Books/Activities Used
15.1.5.A: Explore various accounting careers.	School assemblies Career day
15.1.5.B: Explain the need for ethics in the classroom and business.	Classroom Conversations Restorative circles Gillingham Handbook Assemblies with local business owners <i>The Pushcart War</i> by Jean Merrill**
15.1.5.C: Intentionally Blank	
15.1.5.D: Intentionally Blank	
15.1.5.E: Intentionally Blank	
15.1.5.F: Identify family and business assets	<i>Grand conversation</i> <i>Capitalism for Kids: Growing Up to Be Your Own Boss</i> by Karl Hess <i>The Pushcart War</i> by Jean Merrill** <i>Uncle Jed's Barber Shop</i> by Margaree King Mitchell**
15.1.5.G: Identify family and business liabilities.	<i>Grand conversation</i> Assemblies and field studies with local business owners <i>Capitalism for Kids: Growing Up to Be Your Own Boss</i> by Karl Hess <i>The Pushcart War</i> by Jean Merrill** <i>Uncle Jed's Barber Shop</i> by Margaree King Mitchell**
15.1.5.H: Intentionally Blank	
15.1.5.I: Ask and answer questions about ownership in a business.	<i>Grand conversation</i> Assemblies and field studies with local business owners <i>The Pushcart War</i> by Jean Merrill** <i>Uncle Jed's Barber Shop</i> by Margaree King Mitchell**

15.1.5.J: Discuss supplies needed to run a business.	Grand Conversation Use computers to research different businesses Assemblies and field studies with local business owners <i>Uncle Jed's Barber Shop</i> by Margaree King Mitchell**
15.1.5.K: Recognize and give examples of revenue.	Grand Conversation <i>Capitalism for Kids: Growing Up to Be Your Own Boss</i> by Karl Hess Assemblies and field studies with local business owners <i>The Pushcart War</i> by Jean Merrill** <i>Uncle Jed's Barber Shop</i> by Margaree King Mitchell**
15.1.5.L: Recognize and give examples of expenses.	Grand Conversation <i>Capitalism for Kids: Growing Up to Be Your Own Boss</i> by Karl Hess Assemblies and field studies with local business owners <i>The Pushcart War</i> by Jean Merrill** <i>Uncle Jed's Barber Shop</i> by Margaree King Mitchell**
15.1.5.M: Describe the different methods of how people are compensated	Grand Conversation Assemblies and field studies with local business owners In grade 2 students discuss tips in <i>A Chair for Mother</i> by Vera Williams** <i>Uncle Jed's Barber Shop</i> by Margaree King Mitchell**
15.1.5.N: Discuss the different forms of business ownership in the community.	Grand Conversations Assemblies and field studies with local business owners <i>Uncle Jed's Barber Shop</i> by Margaree King Mitchell**
15.1.5.O: Intentionally Blank	
15.1.5.P: Intentionally Blank	
15.1.5.Q: Intentionally Blank	
15.1.5.R: Intentionally Blank	

15.1.5.S: Intentionally Blank	
15.1.5.T: Intentionally Blank	
15.1.5.U: Intentionally Blank	
15.1.5.V: Intentionally Blank	
15.1.5.W: Discuss problems associated not having enough cash.	Grand Conversations Restorative circles <i>Uncle Jed's Barber Shop</i> by Margaree King Mitchell**
15.1.5.X: Identify costs in business.	Research about various businesses (what it takes to start one) Grand Conversations Assemblies and field studies with local business owners <i>Uncle Jed's Barber Shop</i> by Margaree King Mitchell**
15.1.5.Y: Discuss the price of an item and the actual amount paid.	Grand Conversations Study local business advertisements to find the cost of items*
15.1.5.Z: Intentionally Blank	

Standard Area - 15.2: Career Management

Grade Level - 15.2.5: GRADES 3 - 5	Books/Activities Used
15.2.5.A: Identify personality and character traits about yourself as related to hobbies, activities, and interests. Reference Career Education and Work 13.1.5.A - B	Discussion prior to Career Day Restorative Circles <i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Reingold**
15.2.5.B: Discuss career pathways and describe business people in those pathways within the community.	Grand Conversations <i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Reingold**
15.2.5.C: Identify and compare occupations within the global marketplace.	Identify what a global marketplace is Take a walk through Pottsville to see how many reflect globally

	Bring back to class to compare through discussions
15.2.5.D: Discuss traditional and virtual work environments.	Grand Conversations
15.2.5.E: Intentionally Blank Reference Career Education and Work 13.1.5.D	
15.2.5.F: Discuss the costs associated with post-secondary education.	Grand Conversations Discussions with people who've had post-secondary edu.
15.2.5.G: With prompting and support, ask and answer questions about forms completed for school	Grand Conversations Examples of forms (applications, essays, etc) Conversations with guidance counselor*
15.2.5.H: Discuss interviewing as it relates to school and community.	Grand Conversations Mock interview
15.2.5.I: Explain why the U.S. has employment laws.	Grand Conversations Assembly with a local politician
15.2.5.J: Describe the importance of career planning. Reference Career Education and Work 13.1.5.G, 13.1.5.H	Grand Conversations Assembly with career counselor*
15.2.5.K: Define personal networks and their functions.	Grand Conversations Assembly with career counselor* <i>Uncle Jed's Barber Shop</i> by Margaree King Mitchell**
15.2.5.L: Describe personal qualities and behavior related to being a successful student	Discussions during the first few weeks of school Restorative Circles Assembly with graduate student*
15.2.5.M: Explain the importance of adhering to expectations defined in the home, school, and community. Reference Career Education and Work 13.3.5.A - B	Discussions during the first few weeks of school Restorative Circles Assembly with local politicians/police
15.2.5.N: Reference Business, Computer and Information Technology 15.3.5.X	

15.2.5.O: Explain the importance of accepting diverse populations.	Discussions during the first few weeks of school Restorative Circles
15.2.5.P: Explain how conflicts can be resolved. Reference Career Education and Work 13.3.5.C	Discussions during the first few weeks of school Restorative Practices The Pushcart War by Jean Merrill**
15.2.5.Q: Identify recent occupations emerging in the workplace. Reference Career Education and Work 13.3.5.F	School Wide Career Day Whole Group Discussions Assembly with career counselor*

Standard Area - 15.3: Communication

Grade Level - 15.3.5: GRADES 3 - 5	Books/Activities Used
15.3.5.A: Create work product with a variety of formats including note taking, outlines, essays, correspondence, journals and presentations. Reference English Language Arts CC.1.4.2.T, CC.1.4.5.F, CC.1.4.5.L, CC.1.4.5.R	Dramatic narrations Illustrated narrations Written narrations Oral narrations Reading journaling Commonplace journaling
15.3.5.B: Compose simple requests for information to respond to needs of audience.	Oral narrations Grand conversations
15.3.5.C: Apply strategies to understand directions. Reference English Language Arts CC.1.1.2.E, CC.1.2.5.C	Classroom habits Students read handwork instructions.
15.3.5.D: Explain and use vocabulary terms related to business and commerce. Reference English Language Arts CC.1.1.5.D	Dictation <i>Uncle Jed's Barber Shop</i> by Margaree King Mitchell**
15.3.5.E: Distinguish between age appropriate and inappropriate print and electronic resources used for introductory research. Reference English Language Arts CC.1.4.5.U	Grand Conversations Reading groups
15.3.5.F: Ask meaningful questions based upon a speaker's premise. Reference	Grand Conversations

English Language Arts CC.1.5.5.G. CC.1.5.2.D	
15.3.5.G: Prepare appropriate information for impromptu and planned presentations. Reference English Language Arts CC.1.5.2.D	Pick a character from a story to act out (prepare with correct info) Dramatic narration Oral narration Illustrated narration Written narration Grand conversation
15.3.5.H: Present information as an individual or in a small group. Reference English Language Arts CC.1.5.5.A, CC.1.5.5.C, CC.1.5.5.D, CC.1.5.5.E	Read books to younger grades (individually or as a small group) Dramatic narration Oral narration Illustrated narration Written narration Grand conversation
15.3.5.I: Demonstrate note taking and questioning skills. Reference English Language Arts CC.1.5.2.C	Model for students Watch press conferences? Dramatic narration Oral narration Illustrated narration Written narration Grand conversation
15.3.5.J: Demonstrate active listening techniques.	Model for students Narrations** Grand Conversation
15.3.5.K: Model appropriate verbal and non-verbal behaviors in various contexts.	Classroom conversations, Teacher/peer modeling, habit formation charts
15.3.5.L: Identify traits (e.g., personal boundaries, confidence) that contribute to positive role models.	Grand Conversations Discussion about role models found in literature and history readings.**
15.3.5.M: Apply proper etiquette when using technology.	Classroom Discussions
15.3.5.N: Apply appropriate work ethic in the classroom	Classroom conversations, Teacher/peer modeling, habit formation charts Restorative practices
15.3.5.O: Discuss appropriate communication skills within organizations	Grand Conversations <i>The Pushcart War</i> by Jean Merrill**

15.3.5.P: Intentionally Blank	
15.3.5.Q: Identify communication channels at school, home, and social events.	Parent portal, newsletters, email, monthly contact, weekly memos, social media, web site
15.3.5.R: Intentionally Blank	
15.3.5.S: Explain electronic communication options (e.g., formal vs. informal, time constraints, geographic location) based on the intended message	Parent portal, newsletters, email, monthly contact, weekly memos, social media, web site
15.3.5.T: Explain the importance of digital citizenship. Reference Business, Computer and Information Technologies 15.4.5.B	Classroom discussions, S.A.R.C. program
15.3.5.U: Intentionally Blank	
15.3.5.V: Identify mobile communications used in various settings	Grand Conversations
15.3.5.W: Intentionally Blank	
15.3.5.X: Identify diversity within groups and its effect on communications	<i>Growing Up in Coal Country</i> <i>Breaker Boys</i> <i>We Were there with the Lafayette Escadrille</i> Class discussions Restorative practices

Standard Area - 15.4: Computer and Information Technologies

Grade Level - 15.4.5: GRADES 3 - 5	Books/Activities Used
15.4.5.A: Identify emerging technologies used for educational and personal success.	Applications on phones (dictionary, test prep games, news sites-edu / mint finance, weight loss, etc - personal) Computer Basics and the Web Database Basics Keyboarding Visual Mapping Computer Navigation Spreadsheet Basics Word Processing Graphing in Spreadsheets

	Email Basics Presentation Basics Graphics Software Database Searches Computer Fundamentals Web Browsing Basic HTML Communicating Online
15.4.5.B: Identify and demonstrate understanding of ethical, safe, and social online behavior and potential consequences of unethical, unsafe, and inappropriate behavior.	Grand Conversations Restorative practices Internet Safety assembly Computer Basics and the Web Keyboarding Computer Navigation Email Basics Presentation Basics Computer Fundamentals Web Browsing Basic HTML Communicating Online
15.4.5.C: Describe the purpose, use, and care of peripheral devices of computer systems including input, processing, storage, and output devices.	Class conversation Computer Basics and the Web Database Basics Keyboarding Computer Navigation Spreadsheet Basics Word Processing Graphing in Spreadsheets Email Basics Presentation Basics Graphics Software Database Searches Computer Fundamentals Web Browsing Basic HTML Communicating Online
15.4.5.D: Demonstrate the ergonomically correct use of more sophisticated input technologies.	Class conversation Computer Basics and the Web Database Basics Keyboarding Visual Mapping Computer Navigation

	Spreadsheet Basics Word Processing Graphing in Spreadsheets Email Basics Presentation Basics Graphics Software Database Searches Computer Fundamentals Web Browsing Basic HTML Communicating Online
15.4.5.E: Intentionally Blank	
15.4.5.F: Intentionally Blank	
15.4.5.G: Create a digital project using appropriate software/application for an authentic task	Prezi Computer Basics and the Web Database Basics Keyboarding Visual Mapping Computer Navigation Spreadsheet Basics Word Processing Graphing in Spreadsheets Email Basics Presentation Basics Graphics Software Database Searches Computer Fundamentals Web Browsing Basic HTML Communicating Online
15.4.5.H: Intentionally Blank	
15.4.5.I: Intentionally Blank	
15.4.5.J: Intentionally Blank	
15.4.5.K: Use digital media to enhance a content-specific work product.	Research on chromebooks Computer Basics and the Web Database Basics Keyboarding Visual Mapping Computer Navigation

	Spreadsheet Basics Word Processing Graphing in Spreadsheets Email Basics Presentation Basics Graphics Software Database Searches Computer Fundamentals Web Browsing Basic HTML Communicating Online
15.4.5.L: Discuss the characteristics of a credible website.	Grand Conversations Internet Safety assembly Computer Basics and the Web Database Basics Keyboarding Visual Mapping Computer Navigation Computer Fundamentals Web Browsing Basic HTML Communicating Online
15.4.5.M: Discuss the impact of emerging technologies on a variety of careers.	Grand Conversations Computer Basics and the Web Database Basics Keyboarding Visual Mapping Computer Navigation Spreadsheet Basics Word Processing Graphing in Spreadsheets Email Basics Presentation Basics Graphics Software Database Searches Computer Fundamentals Web Browsing Basic HTML Communicating Online

Standard Area - 15.5: Entrepreneurship

Grade Level - 15.5.5: GRADES 3 - 5	Books/Activities Used
15.5.5.A: Define the qualities of an entrepreneur.	<i>Capitalism for Kids: Growing Up to be Your Own Boss</i> by Karl Hess Local Business Owner Assembly
15.5.5.B: Define the skill set of an entrepreneur. Reference Career Education and Work 13.4.5 A - B	<i>Capitalism for Kids: Growing Up to be Your Own Boss</i> by Karl Hess Local Business Owner Assembly
15.5.5.C: Discuss differences and similarities between an entrepreneurship and a corporation.	Grand Conversations Local Business Owner Assembly
15.5.5.D: Discuss traditional entrepreneurships and the pros and cons of being one's own boss.	Grand Conversations Uncle Jed's Barber Shop by Margaree King Mitchell** Local Business Owner Assembly
15.5.5.E: Reference Economics 6.5.8.F	
15.5.5.F: Identify global businesses in the local or state economy	Walk through Pottsville to recognize global influence
15.5.5.G: Intentionally Blank	
15.5.5.H: Intentionally Blank	
15.5.5.I: Identify the functions of a business operation.	Visit to local business Uncle Jed's Barber Shop by Margaree King Mitchell**
15.5.5.J: Intentionally Blank	
15.5.5.K: Intentionally Blank	
15.5.5.L: Reference Economics 6.1.5.A - D; Career Education and Work 13.4.5. A - B	
15.5.5.M: Intentionally Blank	

Standard Area - 15.6: Finance and Economics

Grade Level - 15.6.5: GRADES 3 - 5	Books/Activities Used
15.6.5.A: Reference Economics 6.1.5.A - D	
15.6.5.B: Identify the steps taken when making a rational decision about money.	Grand Conversations Uncle Jed's Barber Shop by Margaree King Mitchell**
15.6.5.C: Reference Family and Consumer Sciences 11.1.3.B; Career Education and Work 13.3.5.D	
15.6.5.D: Identify sources of income.	Grand Conversations Uncle Jed's Barber Shop by Margaree King Mitchell** <i>Breaker Boys</i> <i>Growing Up in Coal Country</i>
15.6.5.E: Intentionally Blank	
15.6.5.F: Intentionally Blank	
15.6.5.G: Discuss earnings, spending, and savings for financial stability.	Grand Conversations Uncle Jed's Barber Shop by Margaree King Mitchell** <i>Breaker Boys</i> <i>Growing Up in Coal Country</i>
15.6.5.H: Explain various payment methods.	Small/large discussions
15.6.5.I: Describe different types of financial institutions in your community	Walk through Pottsville to discover Discussion afterward
15.6.5.J: Explain interest charged versus interest earned.	Field study to bank
15.6.5.K: Discuss factors that impact one's ability to borrow money.	Field study to bank
15.6.5.L: Intentionally Blank	
15.6.5.M: Discuss potential consequences of disclosing personal information.	Articles on identify theft (example: big hack at Target 2014, thousands of people's info compromised) Internet Safety Assembly
15.6.5.N: Discuss methods to protect valuable items against damage or loss.	Grand Conversations

15.6.5.O: Intentionally Blank	
15.6.5.P: Reference Economics 6.5.5.G	
15.6.5.Q: Discuss the purpose and function of investments.	Field study to bank Visit from local investment banker
15.6.5.R: Discuss investments and how they can grow in value.	Field study to bank Visit from local investment banker
15.6.5.S: Intentionally Blank	

Grade Level - 15.7.5: GRADES 3 - 5

Grade Level - 15.7.5: GRADES 3 - 5	Books/Activities Used
15.7.5.A: Identify global and domestic business and products	Walk through local grocery store Walk through town Visit from local business owner <i>Breaker Boys</i> <i>Growing Up in Coal Country</i>
15.7.5.B: Identify businesses in the community that trade products and/or services internationally.	<i>Growing Up in Coal Country</i> <i>Breaker Boys</i> Field study to Pioneer Coal Tunnel Grand conversation
15.7.5.C: Intentionally Blank	
15.7.5.D: Intentionally Blank	
15.7.5.E: Discuss laws in the U.S. that promote free enterprise.	<i>America Grows Up</i>
15.7.5.F: Intentionally Blank	
15.7.5.G: Intentionally Blank	
15.7.5.H: Describe resources used for business in the domestic and global economy.	Local business owner assembly
15.7.5.I: Identify how misunderstandings occur when speaking, writing, or incorrectly interpreting language.	Show and model examples of the following: inappropriate comma use is good (Example: Let's eat Grandma VS Let's eat, Grandma)

	Dramatic narration: body language Charades: feelings instead of characters
15.7.5.J: Identify non-verbal behaviors and their impact on communication	Peer modeling through body language Restorative practices
15.7.5.K: Explain how the responsible use of natural resources benefits the individual; the family; and local, national, and global communities.	Local business owner assembly Group discussion
15.7.5.L: Explain why business organizations should be constantly aware of external changes.	Local business owner assembly Group discussion
15.7.5.M: Identify countries that produce or specialize in a particular product or industry.	<i>A Child's History of the World</i> Grand Conversation
15.7.5.N: Intentionally Blank	
15.7.5.O: Reference Economics 6.4.3.B, 6.4.4.B, 6.4.5.B, 6.4.5.C	

Standard Area - 15.8: Management

Grade Level - 15.8.5: GRADES 3 - 5	Books/Activities Used
15.8.5.A: Identify the expansion and decline of businesses in the community.	Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assembly Presented by Local Author Kathy Miller
15.8.5.B: Identify the different forms of business ownership in the local community.	Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assembly Presented by Local Author Kathy Miller Local Business Owner assembly
15.8.5.C: Explain the importance of ethical behavior in various situations.	Whole Group Discussions - including habit formation, habit charts The Pushcart War by Jean Merrill**

	Restorative Practices
15.8.5.D: Identify the process for planning and completing a project.	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Whole Group Discussions Assembly Presented by Local Author Kathy Miller
15.8.5.E: Explain the need for management hierarchy in a business	<i>Capitalism for Kids: Growing Up to be Your Own Boss</i> by Karl Hess Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Visit from local business owner
15.8.5.F: Discuss techniques to manage individuals or businesses.	<i>Capitalism for Kids: Growing Up to be Your Own Boss</i> by Karl Hess Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assembly Presented by Local Author Kathy Miller Visit from local business owners
15.8.5.G: Discuss characteristics of good leaders.	Whole Group Discussions Narrations from books in history, literature, citizenship.
15.8.5.H: Explain strategies designed to motivate individuals.	Whole Group Discussions Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assembly Presented by Local Author Kathy Miller
15.8.5.I: Identify communication skills necessary for success as a leader.	Whole Group Discussions Restorative Practices
15.8.5.J: Identify technology tools used by business management.	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assembly Presented by Local Author Kathy Miller

15.8.5.K: Intentionally Blank	
15.8.5.L: Intentionally Blank	
15.8.5.M: Intentionally Blank	
15.8.5.N: Intentionally Blank	
15.8.5.O: Intentionally Blank	
15.8.5.P: Intentionally Blank	
15.8.5.Q: Intentionally Blank	
15.8.5.R: Intentionally Blank	
15.8.5.S: Intentionally Blank	
15.8.5.T: Intentionally Blank	

Standard Area - 15.9: Marketing

Grade Level - 15.9.5: GRADES 3 - 5	Books/Activities Used
15.9.5.A: Identify marketing careers and organizations within the field of marketing.	Define marketing Classroom Discussions and Grand Conversations *Visit from college professor
15.9.5.B: Ask and answer questions about reasons you and your family made specific purchases	Classroom Discussions and Grand Conversations Morning meeting
15.9.5.C: Intentionally Blank	
15.9.5.D: Reference Business, Computer and Information Technologies 15.3.5.D	
15.9.5.E: Give examples of various consumer behaviors and characteristics.	
15.9.5.F: Identify types of products and services that have changed over time	Visual Timeline (BCE from Stone Age to present) in Classroom Whole Group Discussions <i>The Farm: Life in Colonial Pennsylvania</i> by Knight in grade 2** Readings throughout <i>A Child's History of the World</i>

	<i>Growing Up in Coal Country</i> <i>America Grows Up</i> Visit to Pioneer Coal Tunnel
15.9.5.G: Explain the process used to obtain and maintain product and service availability.	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assembly Presented by Local Author Kathy Miller
15.9.5.H: Discuss elements affecting a product's price.	Grand Conversations Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assembly Presented by Local Author Kathy Miller <i>America Grows Up</i>
15.9.5.I: Distinguish types of promotions and their goal: education, awareness building, persuasion, and loyalty.	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assembly Presented by Local Author Kathy Miller Visit from Local Business Owner
15.9.5.J: Provide examples of marketing related data collection methods used by companies.	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assembly Presented by Local Author Kathy Miller Visit from Local Business Owner
15.9.5.K: Intentionally Blank	
15.9.5.L: Identify technologies that are used in marketing.	Through class conversation discuss various marketing technologies used by GCS.*
15.9.5.M: Provide examples of problems businesses and consumers have with unethical or illegal behavior.	The Pushcart War by Jean Merrill** <i>America Grows Up</i>

**Pennsylvania State Standards
CURRICULUM MAPPING**

Grade Level - 15.1.2: GRADES 6-8

Subject Area - 15: Business, Computer and Information Technology

Standard Area - 15.1: Accounting

Grade Level - 15.1.8: GRADES 6 - 8	Books/Activities Used
15.1.8.A: Identify knowledge, skills, and attitudes needed for careers in accounting.	CPA/Accountant Presentation* Foundations of Personal Finance: Dave Ramsey Rich Dad, Poor Dad: Robert Kiyosaki
15.1.8.B: Describe ethical and unethical business practices related to accounting.	CPA/Accountant Presentation*
15.1.8.C: Identify the parts of the accounting equation.	CPA/Accountant Presentation*
15.1.8.D: Describe the components of the accounting cycle.	CPA/Accountant Presentation*
15.1.8.E: Explore various technologies used in accounting	CPA/Accountant Presentation*
15.1.8.F: Identify, recognize, and classify short- and long-term assets.	CPA/Accountant Presentation*
15.1.8.G: Identify, recognize, and classify short- and long-term liabilities.	CPA/Accountant Presentation*
15.1.8.H: Discuss the value of family and business assets over time.	CPA/Accountant Presentation*
15.1.8.I: Identify and classify the classes and rights of types of stock.	Visit stock exchange* Invest in a (mock) stock*
15.1.8.J: Explain the concept of inventory and its role in business.	YEA! Presenters Local business owners
15.1.8.K: Identify and classify revenue.	YEA! Presenters Local business owners
15.1.8.L: Identify and classify expenses.	YEA! Presenters Local business owners
15.1.8.M: Identify and give examples of net	The Mill by David Macaulay

pay and gross pay.	Beginning Econ class*
15.1.8.N: Discuss the advantages and disadvantages of the different forms of business ownership (proprietorship, partnership, and corporation, etc.).	Visit from local business owner
15.1.8.O: Intentionally Blank	
15.1.8.P: Identify and describe bank statements.	The Mill by David Macaulay Beginning Econ class* Field study to local bank*
15.1.8.Q: Identify and recognize financial reports and their purpose.	The Mill by David Macaulay Beginning Econ class* Field study to local bank*
15.1.8.R: Intentionally Blank	
15.1.8.S: Intentionally Blank	
15.1.8.T: Identify and give examples of possible financial indicators for various types of business.	The Mill by David Macaulay Beginning Econ class* Field study to local bank*
15.1.8.U: Intentionally Blank	
15.1.8.V: Intentionally Blank	
15.1.8.W: Identify and give examples of problems associated with a business not having enough cash on hand.	The Mill by David Macaulay Beginning Econ class* Visit from local business owner*
15.1.8.X: Identify and list examples of fixed and variable costs.	The Mill by David Macaulay Beginning Econ class* Visit from local business owner* CMP3 Grade 6 Data About Us
15.1.8.Y: Identify and list examples of taxes.	The Mill by David Macaulay Beginning Econ class*
15.1.8.Z: Identify the importance of good record keeping for businesses.	CPA/Accountant Presenter* Visit from local business owner*

Standard Area - 15.2: Career Management

Grade Level - 15.2.8: GRADES 6 - 8	Books/Activities Used
15.2.8.A: Examine various occupation options based on career assessments results, personal characteristics, talents, skills, abilities, and aptitudes as related to career pathways, clusters, or occupations. Reference Career Education and Work 13.1.8.A - B	Career and college club Career Day
15.2.8.B: Apply various online and traditional career management tools to explore career clusters.	Career and college club
15.2.8.C: Correlate individual career interests to job opportunities within the global marketplace.	Career and college club
15.2.8.D: Compare and contrast occupations in a virtual versus a traditional work environment.	Career and college club
15.2.8.E: Examine school program offerings related to individual career options. Reference Career Education and Work 13.1.8.D	Career and college club
15.2.8.F: Analyze financial options and costs associated with post-secondary education.	Career and college club
15.2.8.G: Evaluate applications to define the purpose and audience.	Career and college club
15.2.8.H: Identify interview strategies.	Career and college club
15.2.8.I: Examine laws associated with employment including Child Labor Laws and Civil Rights Act of 1964.	<i>Breaker Boys</i> <i>Growing Up in Coal Country</i>
15.2.8.J: Develop a career plan based on	Career and college club

career assessment results, occupational research and high school course offerings. Reference Career Education and Work 13.1.8.G, 13.1.8.H	
15.2.8.K: Explain the importance of personal networking and its impact on achieving a career goal. Reference Career Education and Work 13.2.8.B	Career and college club
15.2.8.L: Illustrate how personal qualities and behavior affect school and work success.	Career and college club
15.2.8.M: Explain the importance of workplace expectations. Reference Career Education and Work 13.3.8.A - B	Career and college club
15.2.8.N: Reference Business, Computer and Information Technology 15.3.8.X	Career and college club
15.2.8.O: Explore diversity as related to occupations	Career and college club
15.2.8.P: Identify strategies for conflict resolution. Reference Career Education and Work 13.3.8.C	Career and college club Restorative practices handbook
15.2.8.Q: Explain how changes in society influence the job market (creation of new positions and elimination of obsolete work). Reference Career Education and Work 13.3.8.F	Career and college club 8th Grade history class

Standard Area - 15.3: Communication

Grade Level - 15.3.8: GRADES 6 - 8	Books/Activities Used
15.3.8.A: Selecting the appropriate writing type to produce a work product. Reference English Language Arts CC.1.4.8.T	Writing in English class Narrations

15.3.8.B: Produce a variety of business documents and reports; focus on content, style, and format.	Career and college club
15.3.8.C: Apply strategies to understand complex directions. Reference English Language Arts CC.1.2.8.C	Grand conversations Utilize chalkboard CMP units
15.3.8.D: Distinguish between appropriate and inappropriate business work products. Reference English Language Arts CC.1.2.8.F	Grand conversations Cotillion class College and Career Club
15.3.8.E: Choose appropriate print and electronic resources to meet project need. Reference English Language Arts CC.1.4.8.U	Grand conversations Cotillion class College and Career Club
15.3.8.F: Define a position, support it with claims, and respond to questions to support claim. Reference English Language Arts CC.1.5.8.G., CC.1.5.8.C, CC.1.5.8.D	Grand conversations Science exam- defend position on evolution College and Career Club
15.3.8.G: Develop appropriate information and content for presentations, meetings, discussions, and group assignments. Reference English Language Arts CC.1.5.8.A, CC.1.5.8.D	Grand conversations Cotillion class College and Career Club Class projects in science and history
15.3.8.H: Deliver presentations using a variety of techniques and media; employ conventions of language. Reference English Language Arts CC.1.5.8.E, CC.1.5.8.G	Grand conversations Science presentations: Solar System and simple machines History building assignment
15.3.8.I: Distinguish between relevant and non-relevant information for note taking, questioning, or decision making. Reference English Language Arts CC.1.5.9-10.C	Grand conversations Cotillion class Narrations
15.3.8.J: Identify barriers to active listening (e.g., environmental, peer, time, and cultural	Grand conversations Restorative practices

distractions).	Cotillion class
15.3.8.K: Determine the situational appropriateness of verbal and non-verbal behaviors.	Grand conversations Cotillion class Restorative Practices
15.3.8.L: Describe the characteristics of positive role models for development of work ethic and leadership skills.	Grand conversations Cotillion class College and Career Club
15.3.8.M: Demonstrate proper etiquette when networking either face-to-face or online.	Grand conversations Cotillion class College and Career Club
15.3.8.N: Examine the impact of work ethic in various contexts.	Grand conversations Cotillion class College and Career Club
15.3.8.O: Discuss types of communication skills (e.g., internal, external) in organizations.	Grand conversations Cotillion class College and Career Club Restorative Practices
15.3.8.P: Describe leadership communication skills necessary for goal setting and generating ideas.	Grand conversations Cotillion class College and Career Club Habit Charts Restorative Practices
15.3.8.Q: Identify communication channels and their purpose in the business community.	Grand conversations Cotillion class College and Career Club
15.3.8.R: Discuss appropriate communication strategies between supervisors and subordinates.	Grand conversations Cotillion class College and Career Club
15.3.8.S: Apply appropriate electronic communication based on message requirements.	Grand conversations Cotillion class College and Career Club
15.3.8.T: Discuss the rules of digital citizenship. Reference Business, Computer and Information Technologies 15.4.8.B	Grand conversations Cotillion class College and Career Club

15.3.8.U: Identify and employ various electronic communication options related to desired outcomes.	Grand conversations Cotillion class College and Career Club
15.3.8.V: Describe varieties of mobile communication used within businesses and/or organizations.	Grand conversations Cotillion class College and Career Club
15.3.8.W: Use electronic communication with peers and/or educators to produce a work product.	Grand conversations Cotillion class Science projects: solar system and simple machines
15.3.8.X: Demonstrate effective techniques for good communication.	Grand conversations Cotillion class College and Career Club Restorative Practices

Standard Area - 15.4: Computer and Information Technologies

Grade Level - 15.4.8: GRADES 6 - 8	Books/Activities Used
15.4.8.A: Analyze the influence of emerging technologies on daily life.	Breaker Boys Blogging with Current Events class newsela.com kidblog.com chromebooks Visual Mapping Computer Mapping Spreadsheet Basics Graphing in Spreadsheets Email Basics Presentation Basics Graphics Software Database Searches Creating a Database Computer Fundamentals Word Processing Software Spreadsheet Software Presentation Software

	Web Browsing Multimedia Basic HTML Communicating Online
15.4.8.B: Interpret and apply appropriate social, legal, ethical, and safe behaviors of digital citizenship.	Blogging with Current Events class newsela.com kidblog.com chromebooks Email Basics Presentation Basics Database Searches Creating a Database Computer Fundamentals Web Browsing Multimedia Basic HTML Communicating Online
15.4.8.C: Compare and contrast peripheral devices of computing systems for specific needs.	Blogging with Current Events class newsela.com kidblog.com chromebooks
15.4.8.D: Create projects using emerging input technologies.	Blogging with Current Events class newsela.com kidblog.com chromebooks
15.4.8.E: Explain the different operating systems.	Blogging with Current Events class newsela.com kidblog.com chromebooks Visual Mapping Computer Mapping Spreadsheet Basics Graphing in Spreadsheets Email Basics Presentation Basics Graphics Software

	Database Searches Creating a Database Computer Fundamentals Word Processing Software Spreadsheet Software Presentation Software Web Browsing Multimedia Basic HTML Communicating Online
15.4.8.F: Identify network communication technologies..	Bloggng with Current Events class newsela.com kidblog.com chromebooks Email Basics Computer Fundamentals Word Processing Software Web Browsing Multimedia Basic HTML Communicating Online
15.4.8.G: Create an advanced digital project using appropriate software/application for an authentic task.	Bloggng with Current Events class newsela.com kidblog.com chromebooks Visual Mappng Computer Mapping Spreadsheet Basics Graphing in Spreadsheets Email Basics Presentation Basics Graphics Software Database Searches Creating a Database Computer Fundamentals Word Processing Software Spreadsheet Software Presentation Software

	Web Browsing Multimedia Basic HTML Communicating Online
15.4.8.H: Explain the differences between a scripting language and a coding language.	Khan Academy: computer programming and hour of code Independent Research in math Blogging with Current Events class newsela.com kidblog.com chromebooks Visual Mapping Computer Mapping Graphics Software Database Searches Creating a Database Computer Fundamentals Basic HTML
15.4.8.I: Solve a problem with an algorithm.	CMP3 Grades 6-8 assorted problems
15.4.8.J: Explain the basic differences between encoding and decoding.	Blogging with Current Events class newsela.com kidblog.com chromebooks Computer Mapping Spreadsheet Basics Database Searches Creating a Database Computer Fundamentals Basic HTML
15.4.8.K: Create a multimedia project using student-created digital media.	Blogging with Current Events class newsela.com kidblog.com chromebooks Presentation Basics Graphics Software Presentation Software Web Browsing Multimedia

	Basic HTML Communicating Online
15.4.8.L: Evaluate the accuracy and bias of online sources of information; appropriately cite online resources.	Blogging with Current Events class newsela.com kidblog.com chromebooks Web Browsing Multimedia
15.4.8.M: Explore and describe how emerging technologies are used across different career paths	Blogging with Current Events class newsela.com kidblog.com chromebooks Career and College Club Visual Mapping Computer Mapping Spreadsheet Basics Graphing in Spreadsheets Email Basics Presentation Basics Graphics Software Database Searches Creating a Database Computer Fundamentals Word Processing Software Spreadsheet Software Presentation Software Web Browsing Multimedia Basic HTML Communicating Online Group Discussions

Standard Area - 15.5: Entrepreneurship

Grade Level - 15.5.8: GRADES 6 - 8	Books/Activities Used
15.5.8.A: Explore pathways to becoming an entrepreneur.	YEA! Presenters Visit from local business owner Rich Dad Poor Dad (9th)
15.5.8.B: Identify management and organizational skills needed for entrepreneurship. Reference Career Education and Work 13.4.8 A - B	YEA! Presenters Visit from local business owner
15.5.8.C: Reference Economics 6.5.12.F.	YEA! Presenters Visit from local business owner
15.5.8.D: Compare and contrast entrepreneurship in emerging fields, (e.g., social media, online business, alternative energy sources and uses, agriculture and industrial) with traditional entrepreneurships.	YEA! Presenters Visit from local business owners
15.5.8.E: Intentionally Blank	
15.5.8.F: Identify interconnectivity of global and local business operating in the local/state economy.	YEA! Presenters Visit from local business owners
15.5.8.G: Identify the impact of global business on pricing for local entrepreneurs.	YEA! Presenters Visit from local business owners
15.5.8.H: Identify entrepreneurial opportunities in the global economy.	YEA! Presenters Visit from local business owners
15.5.8.I: Compare and contrast the various functions of operations management.	YEA! Presenters Visit from local business managers
15.5.8.J: Define the impact of emerging technologies on business management.	YEA! Presenters Visit from local business managers
15.5.8.K: Identify government agencies and regulations that impact business.	YEA! Presenters, Little History of the World
15.5.8.L: Reference Economics 6.1.12.A - D; Career Education and Work 13.4.8. A - B	YEA! Presenters

15.5.8.M: Reference Career Education and Work 13.4.11.C	YEA! Presenters
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Standard Area - 15.6: Finance and Economics

Grade Level - 15.6.8: GRADES 6 - 8	Books/Activities Used
15.6.8.A: Reference Economics 6.1.12.A - D	Economics in One Lesson Foundations of Personal Finance Beginning Econ class*
15.6.8.B: Discuss the importance of developing short-, medium-, and long-term personal financial goals.	Economics in One Lesson Foundations of Personal Finance Beginning Econ class* Class discussions and personal goal setting
15.6.8.C: Reference Career Education and Work 13.3.8.D	Economics in One Lesson Foundations of Personal Finance Beginning Econ class*
15.6.8.D: Identify employee benefits and their impact on income.	Economics in One Lesson Foundations of Personal Finance Beginning Econ class*
15.6.8.E: Explain the difference between sales and income tax. Reference Family and Consumer Sciences 11.1.12.E; Economics 6.5.12.A	Economics in One Lesson Foundations of Personal Finance Beginning Econ class*
15.6.8.F: Evaluate assets as related to personal wealth and spending.	Economics in One Lesson Foundations of Personal Finance Beginning Econ class*
15.6.8.G: Discuss the need for money management.	Economics in One Lesson Foundations of Personal Finance Beginning Econ class*
15.6.8.H: Compare and contrast advantages and disadvantages of various options of	Economics in One Lesson Foundations of Personal Finance

paying for short- and long-term purchases.	Beginning Econ class*
15.6.8.I: Compare advantages and disadvantages of different financial institutions relating to saving, investing, and borrowing.	Economics in One Lesson Foundations of Personal Finance Beginning Econ class*
15.6.8.J: Explain the difference between simple and compound interest. Reference Family and Consumer Sciences 11.1.9.B	Economics in One Lesson Foundations of Personal Finance Beginning Econ class*
15.6.8.K: Investigate factors that contribute to a positive or negative credit history.	Economics in One Lesson Foundations of Personal Finance Beginning Econ class*
15.6.8.L: Analyze the components and value of credit reports for consumers, borrowers and lenders.	Economics in One Lesson Foundations of Personal Finance Beginning Econ class*
15.6.8.M: Examine steps to minimize exposure to identity theft.	Economics in One Lesson Foundations of Personal Finance Beginning Econ class*
15.6.8.N: Examine the purpose and importance of various types of insurances.	Economics in One Lesson Foundations of Personal Finance Beginning Econ class*
15.6.8.O: Intentionally Blank	
15.6.8.P: Reference Economics 6.5.12.G - H	Economics in One Lesson Foundations of Personal Finance Beginning Econ class*
15.6.8.Q: Calculate investment growth using varying rates of return.	Economics in One Lesson Foundations of Personal Finance Beginning Econ class*
15.6.8.R: Evaluate the benefits of a diversified investment portfolio.	Economics in One Lesson Foundations of Personal Finance Beginning Econ class*
15.6.8.S: Intentionally Blank	

Standard Area - 15.7: Global Business

Grade Level - 15.7.8: GRADES 6 - 8	Books/Activities Used
15.7.8.A: Trace and discuss the effect of international trade on the U.S. throughout history.	Economics in One Lesson
15.7.8.B: Identify barriers (time zones, transportation, language, regulations, social customs) to international trade and determine how these barriers can be overcome.	Atlas of World History Economics in One Lesson
15.7.8.C: Explain how current global events impact the business climate.	Current Event Study Stock Market and Commodities Exchange Analysis Economics in One Lesson
15.7.8.D: Explain the advantages and disadvantages of different types of governments on business.	Economics in One Lesson
15.7.8.E: Compare legal structure and laws of other countries as they relate to global business. Reference Economics	Economics in One Lesson
15.7.8.F: Identify economic indicators that define the health of a nation's businesses.	Stock Market and Commodities Exchange Analysis Current Events Study
15.7.8.G: Classify products and services as imports or exports.	Economics in One Lesson
15.7.8.H: Compare and contrast the efficient use of natural and human resources and the impact on participation in the global economy.	Economics in One Lesson
15.7.8.I: Analyze the impact of tone, style, and language in sending and receiving communications.	English Class discussions Grand Conversations

15.7.8.J: Explain the importance of non-verbal behaviors on cultural business relationships.	English Class discussions Grand Conversations
15.7.8.K: Discuss ethical business conduct and identify how companies may act in a globally responsible manner.	Cotillion class
15.7.8.L: Explain how historic international relationships impact current business.	Economics in One Lesson Current Events Study
15.7.8.M: Investigate resources, agencies, and organizations that promote global trade.	Independent Research
15.7.8.N: Intentionally Blank	
15.7.8.O: Reference Economics 6.3.6.D, 6.3.7.D, 6.3.8.D, 6.4.8.C, 6.4.8.E	Economics in One Lesson

Standard Area - 15.8: Management

Grade Level - 15.8.8: GRADES 6 - 8	Books/Activities Used
15.8.8.A: Explain how economic growth and decline impact business.	Economics in One Lesson Beginning Econ class*
15.8.8.B: Explain the characteristics of different forms of business ownership, such as sole proprietorship, partnership, and corporation.	Foundations of Personal Finance Beginning Econ class*
15.8.8.C: Discuss ethical and unethical behaviors and their impact on business and organizations. Reference Economics 6.5.8.C	Foundations of Personal Finance Beginning Econ class*
15.8.8.D: Discuss the function of mission, vision, goals, and objectives within a business plan. Reference Career Education and Work 13.4.8.C	Foundations of Personal Finance Beginning Econ class*

15.8.8.E: Identify business management styles (e.g., autocratic, democratic, laissez-faire) used in a business or organization.	Foundations of Personal Finance Beginning Econ class*
15.8.8.F: Discuss strategies to motivate and compensate employees.	Beginning Econ class* YEA! Presenters
15.8.8.G: Compare and contrast leadership styles.	YEA! Presenters History Alive Plutarch Career and College Club
15.8.8.H: Compare and contrast motivational theories used in a business or organization.	YEA! Presenters
15.8.8.I: Demonstrate communication skills necessary for success within an organization. Reference Economics 6.5.8.D; Health, Safety, and Physical Education 10.3.6.C; Career Education and Work 13.3.8.C; Student Interpersonal Skills SIS 2.D	Cotillion class Career and College Club
15.8.8.J: Explain how technology tools are used in business management.	Career and College Club
15.8.8.K: Discuss the benefits of lifelong learning on career growth.	Career and College Club
15.8.8.L: Intentionally Blank	
15.8.8.M: Describe the interview and selection process for applicants in various businesses.	Career and College Club
15.8.8.N: Intentionally Blank	
15.8.8.O: Intentionally Blank	
15.8.8.P: Describe the role and function of performance evaluations in business.	Career and College Club
15.8.8.Q: Discuss employee compensation	Career and College Club

plans for various careers.	
15.8.8.R: Interpret data on financial statements as it relates to management decisions. Reference Business, Computer and Information Technology 15.1.8.W	Beginning Econ class*
15.8.8.S: Identify the processes used to design, redesign, supply, and schedule production for a business product.	Beginning Econ class*
15.8.8.T: Identify management strategies used by global businesses. Reference Business, Computer and Information Technology 15.7.8.L	

Standard Area - 15.9: Marketing

Grade Level - 15.9.8: GRADES 6 - 8	Books/Activities Used
15.9.8.A: Explore various marketing careers and analyze their role in the business world.	Career and College Club
15.9.8.B: Describe how businesses influence purchasing decisions.	Beginning Econ class
15.9.8.C: Distinguish among members of a marketing channel, including company, intermediaries, retailer, and consumer.	Local business owners Guest speaker: Marketing Professor*
15.9.8.D: Reference Business, Computer and Information Technologies 15.3.8.D	Grand conversations Cotillion class College and Career Club
15.9.8.E: Differentiate types of consumer behavior and characteristics including but not limited to spending habits, emotional buying, rational buying and buying power.	Local business owners Guest speaker: Marketing Professor*

15.9.8.F: Compare and contrast processes used to obtain, develop, maintain, and improve products or services including product development, packaging, branding, product mix and product life cycle.	Local business owners Guest speaker: Marketing Professor*
15.9.8.G: Compare and contrast different processes of distribution.	Local business owners Guest speaker: Marketing Professor*
15.9.8.H: Analyze pricing strategies and practices used by local, domestic, and global industries.	Local business owners Guest speaker: Marketing Professor*
15.9.8.I: Compare and contrast existing promotional plans used by local, domestic, and global industries.	Local business owners Guest speaker: Marketing Professor*
15.9.8.J: Summarize data collection methods as related to marketing.	CMP Comparing and Scaling Unit (Grade 7)
15.9.8.K: Explain the components of a marketing plan.	Local business owners Guest speaker: Marketing Professor*
15.9.8.L: Explain how technologies are used in marketing to gain a competitive advantage.	Local business owners Guest speaker: Marketing Professor*
15.9.8.M: Discuss the laws and regulations that impact marketing and its consumers (e.g., Consumer Product Safety, Consumer Pricing Act, Trademark Counterfeiting Act, Federal Trade Commission Act)	Local business owners Guest speaker: Marketing Professor*

**Pennsylvania State Standards
Business
CURRICULUM MAPPING**

Grade Level - 9-12

Standard Area - 15.1: Accounting

<u>Grade Level - 15.1.12: GRADES 9 - 12</u>	Books/Activities Used
15.1.12.A: Summarize professional designations, careers, and organizations within the field of accounting, including education and certification requirements.	Foundations of Personal Finance, by Ramsey
15.1.12.B: Analyze the roles of policy-setting bodies in the accounting profession, e.g., American Institute of Certified Public Accountants (AICPA), Pennsylvania Institute of Certified Public Accountants (PICPA), Generally Accepted Accounting Principles (GAAP), and Securities and Exchange Commission (SEC).	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.C: Analyze business transactions using T-accounts to determine their impact on a business.	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.D: Analyze, journalize, and post transactions to general & subsidiary ledgers.	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.E: Perform accounting functions using technology as a tool.	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.F: Analyze and journalize transactions for short- and long-term assets.	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.G: Analyze and journalize transactions involving short- and long-term liabilities.	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.H: Identify, calculate, and record depreciation, depletion and amortization; explain their effect on the financial statements.	Foundations of Personal Finance, by Ramsey Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.I: Differentiate between and journalize entries for issuance or repurchase of stock and the declaration and payment of dividends.	Foundations of Personal Finance, by Ramsey Individual research project.

15.1.12.J: Analyze the various methods for maintaining and valuing inventory (FIFO, LIFO, etc.) and describe their effect on financial statements.	Foundations of Personal Finance, by Ramsey Individual research project
15.1.12.K: Describe, calculate, and journalize the sales and cost of sales including purchases, transportation costs, sales taxes, and trade discounts.	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.L: Describe and explain the criteria used to determine expenses and journalize the expense transactions.	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.M: Analyze and calculate gross pay and net pay, including regular and overtime wages, commission, and piece rate.	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.N: Explain how the different forms of business ownership and business operations are reported on financial statements.	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.O: Compare and contrast the accrual basis and the cash basis of accounting; assess the impact of each on the financial statements.	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.P: Analyze and perform the reconciliation of accounts.	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.Q: Prepare financial statements (including a Balance Sheet, Profit & Loss and Owner's Equity) and understand their relevance.	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.R: Explain the primary areas of analysis (trend analysis, profitability, liquidity, capital structure) and the information that can be obtained from each.	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.S: Analyze and perform a horizontal and vertical analysis of the income statement and balance sheet.	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.T: Assess profitability, liquidity, and solvency by calculating and interpreting financial ratios.	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.U: Assess capital structure by calculating and interpreting financial ratios.	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.V: Analyze and explain the use of industry averages in assessing the financial condition, operating results, profitability, liquidity, and capital structure.	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.W: Analyze business activities using cash flow statements.	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.X: Analyze and perform breakeven and cost benefit analyses to support financial decisions.	Foundations of Personal Finance, by Ramsey Individual research project.
15.1.12.Y: Determine and calculate taxable income and tax liability for both personal and business taxes.	Foundations of Personal Finance, by Ramsey

	Individual research project.
15.1.12.Z: Demonstrate an auditing procedure that provides assurance that financial records are accurate.	Foundations of Personal Finance, by Ramsey Individual research project.

Standard Area - 15.2: Career Management

<u>Grade Level - 15.2.12: GRADES 9 - 12</u>	Books/Activities Used
15.2.12.A: Analyze personal characteristics, talents, skills, abilities and career assessment results as related to career pathways, clusters, or occupations. Reference Career Education and Work 13.1.11.A - B	Linchpin: Are you indispensable, by Godin. Business Internship
15.2.12.B: Analyze a specific occupation within a career cluster.	Linchpin: Are you indispensable, by Godin. Business Internship
15.2.12.C: Analyze and compare global employment opportunities relative to career interests, including but not limited to, the country's culture, legitimacy of a global business, prospective employers, and social network/virtual identity.	Linchpin: Are you indispensable, by Godin. Business Internship
15.2.12.D: Analyze job tasks and responsibilities when working in a virtual versus a traditional work environment.	Linchpin: Are you indispensable, by Godin. Business Internship
15.2.12.E: Compare and contrast career interests with post-secondary opportunities. Reference Career Education and Work 13.1.12.D	Foundations of Personal Finance by Ramsey. Linchpin: Are you indispensable, by Godin. Business Internship
15.2.12.F: Evaluate various methods for financing a post-secondary education.	Foundations of Personal Finance by Ramsey
15.2.12.G: Analyze and complete an application (e.g., job, scholarship, financial aid, post-secondary) in a focused and effective manner.	Linchpin: Are you indispensable, by Godin. Business Internship
15.2.12.H: Demonstrate appropriate behavior for an interview.	Linchpin: Are you indispensable, by Godin. Business Internship
15.2.12.I: Compare and contrast employment laws including, but not limited to, American with Disabilities Act (ADA), Child Labor Laws, Civil Rights Act of 1964, Consolidated Omnibus Reconciliation Act (COBRA), and Family Medical Leave Act (FMLA).	Individual Research Project
15.2.12.J: Analyze career goals based on, but not limited to, interest, lifestyle, skills, and values in order to transition from high school. Reference	Linchpin: Are you indispensable, by Godin. Business Internship

Career Education and Work 13.1.11.G, 13.1.11.H	
15.2.12.K: Apply networking skills as a resource for further career portfolio development and career opportunities.	Linchpin: Are you indispensable, by Godin. Business Internship
15.2.12.L: Analyze how personal qualities and behavior apply in the workplace.	Linchpin: Are you indispensable, by Godin. Business Internship
15.2.12.M: Evaluate the impact of workplace expectations on job performance. Reference Career Education and Work 13.3.12.A - B	Linchpin: Are you indispensable, by Godin. Business Internship
15.2.12.N: Reference Business, Computer and Information Technology 15.3.12.X	Linchpin: Are you indispensable, by Godin. Business Internship
15.2.12.O: Formulate and demonstrate strategies for working with diverse populations.	Linchpin: Are you indispensable, by Godin. Business Internship
15.2.12.P: Evaluate conflicts within the workplace and demonstrate procedures to acquire a positive resolution. Reference Career Education and Work 13.3.12.C	Linchpin: Are you indispensable, by Godin. Business Internship Restorative Practices Handbook by Costello and Wachtel.
15.2.12.Q: Evaluate the impact of change, work/life balance, and lifelong learning on one's life. Reference Career Education and Work 13.3.12.F	Linchpin: Are you indispensable, by Godin. Business Internship

Standard Area - 15.3: Communication

<u>Grade Level - 15.3.12: GRADES 9 - 12</u>	Books/Activities Used
15.3.12.A: Evaluate work product and make recommendations based on content. Reference English Language Arts CC.1.4.11-12.T	Linchpin: Are you indispensable, by Godin. Large Group discussion.
15.3.12.B: Analyze business documents for content and effectiveness.	Linchpin: Are you indispensable, by Godin. Group discussion.
15.3.12.C: Create a research project based upon defined parameters. Reference English Language Arts CC.1.4.11-12.V	Group research project. Linchpin: Are you indispensable, by Godin.
15.3.12.D: Evaluate business materials (including web based resources) for value related to purpose, quality, and appropriateness.	Foundations of personal finance. Individual research project. Large group discussion Linchpin: Are you indispensable, by Godin.
15.3.12.E: Evaluate chosen print and electronic resources for advanced research. Reference	Teacher directed research.

English Language Arts CC.1.4.11-12.U	Large group discussion.
15.3.12.F: Evaluate a speaker's reasoning and intent; ask questions to deepen understanding. (individual, team, employment, and business). Reference English Language Arts CC.1.5.11-12.G. CC.1.5.11-12.C	Large group discussion. Individual presentations with student Q & A.
15.3.12.G: Employ appropriate presentation skills to lead discussions and team activities. Reference English Language Arts CC.1.5.11-12.A	Linchpin: Are you indispensable, by Godin.
15.3.12.H: Evaluate presentations for language, proper techniques and media choices. Reference English Language Arts CC.1.5.11-12.C, CC.111-12.E	Linchpin: Are you indispensable, by Godin. Individual Research Project
15.3.12.I: Synthesize information gathered from multiple sources (e.g., digital, print, face to face).	Linchpin: Are you indispensable, by Godin. Business Internship
15.3.12.J: Apply strategies to overcome barriers to active listening.	Linchpin: Are you indispensable, by Godin. Business Internship
15.3.12.K: Apply cultural mores to evaluate intent of verbal and non-verbal behaviors.	Linchpin: Are you indispensable, by Godin. Business Internship
15.3.12.L: Evaluate characteristics of positive role models and their contribution to the development of a professional image.	Linchpin: Are you indispensable, by Godin. Business Internship
15.3.12.M: Critique etiquette skills for building and maintaining a professional image.	Linchpin: Are you indispensable, by Godin. Restorative Practices Handbook, by Costello and Wachtel www.cotillionacademy.com
15.3.12.N: Demonstrate appropriate work ethic in the workplace, community, and classroom.	Linchpin: Are you indispensable, by Godin. Restorative Practices Handbook, by Costello and Wachtel
15.3.12.O: Identify the diverse communication skills necessary within an organization (e.g., customer relations, sales, management).	Linchpin: Are you indispensable, by Godin. Plutarch's Lives, Plutarch
15.3.12.P: Demonstrate leadership communication skills through delegating, negotiating, goal setting, and generating ideas.	Linchpin: Are you indispensable, by Godin. Plutarch's lives, Plutarch
15.3.12.Q: Analyze communication channels and their effectiveness within the corporate culture.	Linchpin: Are you indispensable, by Godin. Large group discussion.
15.3.12.R: Evaluate best practices of communication based on culture, practice, and	Linchpin: Are you indispensable, by Godin. Large group discussion.

laws related to supervising others in a corporate entity.	
15.3.12.S: Evaluate electronic communication options based on need.	Linchpin: Are you indispensable, by Godin. Large group discussion.
15.3.12.T: Demonstrate application of digital citizenship in work and personal situations. Reference Business, Computer and Information Technologies 15.4.12.B	Linchpin: Are you indispensable, by Godin. Practical exercise.
15.3.12.U: Critique the effectiveness of various electronic communication options related to desired outcomes.	Linchpin: Are you indispensable, by Godin. Large group discussion.
15.3.12.V: Evaluate how mobile communication impacts businesses or organizations.	Linchpin: Are you indispensable, by Godin. Large group discussion.
15.3.12.W: Collaborate via electronic communication with peers, educators, and/or professionals to meet organizational goals.	Linchpin: Are you indispensable, by Godin. Large group discussion.
15.3.12.X: Identify the diversity within a work group and the strategies for effective communication.	Linchpin: Are you indispensable, by Godin. Large group discussion.

Standard Area - 15.4: Computer and Information Techniques

<u>Grade Level - 15.4.12: GRADES 9 - 12</u>	Books/Activities Used
15.4.12.A: Apply the creative and productive use of emerging technologies for educational and personal success.	http://www.digitalcitizenship.net/
15.4.12.B: Evaluate the impact of social, legal, ethical, and safe behaviors on digital citizenship.	http://www.digitalcitizenship.net/
15.4.12.C: Develop criteria for analyzing hardware options to meet defined needs.	http://www.digitalcitizenship.net/
15.4.12.D: Evaluate emerging input technologies.	MIT Open Courseware "Introduction to Computer Science and Programming" http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-00-introduction-to-computer-science-and-programming-fall-2008/
15.4.12.E: Analyze the different operating systems and recommend the appropriate	MIT Open Courseware "Introduction to Computer Science and Programming"

system for specific user needs.	http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-00-introduction-to-computer-science-and-programming-fall-2008/
15.4.12.F: Compare and contrast network environments, including the function of network devices and connectivity issues.	MIT Open Courseware "Introduction to Computer Science and Programming" http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-00-introduction-to-computer-science-and-programming-fall-2008/
15.4.12.G: Create an advanced digital project using sophisticated design and appropriate software/applications.	MIT Open Courseware "Introduction to Computer Science and Programming" http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-00-introduction-to-computer-science-and-programming-fall-2008/
15.4.12.H: Use programming languages to develop logical thinking and problem solving skills.	MIT Open Courseware "Introduction to Computer Science and Programming" http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-00-introduction-to-computer-science-and-programming-fall-2008/
15.4.12.I: Compare and contrast programming languages; select most appropriate one to complete a specific task.	MIT Open Courseware "Introduction to Computer Science and Programming" http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-00-introduction-to-computer-science-and-programming-fall-2008/
15.4.12.J: Create a complex computer program to solve a problem.	MIT Open Courseware "Introduction to Computer Science and Programming" http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-00-introduction-to-computer-science-and-programming-fall-2008/
15.4.12.K: Evaluate advanced multimedia work products and make recommendations based on the evaluation.	MIT Open Courseware "Introduction to Computer Science and Programming" http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-00-introduction-to-computer-science-and-programming-fall-2008/

	duction-to-computer-science-and-programming-fall-2008/ Graphics Design
15.4.12.L: Find and use primary documentation; employ an accepted protocol for citation	Internship Prezi Culminating Project <i>The Elements of Style</i>
15.4.12.M: Evaluate the impact of emerging technologies on various career paths and provide examples of industry certifications within the field.	Career & College Club: "Exploration" & "Engagement" Linchpin: Are you indispensable, by Godin

Standard Area - 15.5: Entrepreneurship

<u>Grade Level - 15.5.12: GRADES 9 - 12</u>	Books/Activities Used
15.5.12.A: Analyze personal choices in preparation for entrepreneurship.	Foundations in Personal Finance by Ramsey YEA Program Presentation
15.5.12.B: Evaluate personal management and organizational abilities to succeed in entrepreneurship. Reference Career Education and Work 13.4.12 A - B	YEA Program Presentation <i>Rich Dad, Poor Dad</i>
15.5.12.C: Analyze the impact of entrepreneurship in the domestic economy.	Foundations in Personal Finance by Ramsey YEA Program Presentation
15.5.12.D: Create a business plan using appropriate data to support the business concept.	Foundations in Personal Finance by Ramsey YEA Program Presentation
15.5.12.E: Evaluate legal forms of business entities when considering entrepreneurship (e.g., existing business, franchise, new business, corporation, LLC, partnership, sole proprietorship).	<i>Rich Dad, Poor Dad</i>
15.5.12.F: Research the opportunities for local entrepreneurship in the global economy and discuss the impact of government regulations.	Foundations in Personal Finance by Ramsey
15.5.12.G: Analyze factors affecting global pricing including international currency fluctuations, tariffs, price controls, and anti-dumping laws.	Economics in One Lesson by Hazlitt
15.5.12.H: Assess advantages and disadvantages for entrepreneurial business in foreign markets; including language and trade barriers, marketing, and regulations.	Economics in One Lesson by Hazlitt

15.5.12.I: Evaluate the functions of operations management as influenced by the business parameters.	<i>Rich Dad, Poor Dad</i>
15.5.12.J: Evaluate strategies for incorporating emerging technologies into specific business operations.	<i>Rich Dad, Poor Dad</i>
15.5.12.K: Analyze issues and cases associated with government regulation.	Newsela.com
15.5.12.L: Analyze an innovation/ business concept and develop a comprehensive business plan. Reference Career Education and Work 13.4.12 A - B	<i>Rich Dad, Poor Dad</i>
15.5.12.M: Analyze funding sources for an entrepreneurship including, IPO, venture capital, loans, and owner capital.	<i>Rich Dad, Poor Dad</i>

Standard Area - 15.6: Finance and Economics

<u>Grade Level - 15.6.12: GRADES 9 - 12</u>	Books/Activities Used
15.6.12.A: Evaluate the impact of internal and external influences on financial decisions.	Johnstown Flood by David McCullough FDR & America in Crisis by Albert Marrin
15.6.12.B: Analyze financial decisions for major purchasing events occurring at different stages in life, systematically considering alternatives and consequences.	Foundations in Personal Finance by Ramsey <i>Rich Dad, Poor Dad</i> <i>A Tree Grows in Brooklyn</i>
15.6.12.C: Reference Career Education and Work 13.3.11.D	Lesson Plan: A Career Journey-The Drive of Your Life http://www.pdesas.org/module/content/resources/24839/view.ashx Foundations in Personal Finance by Ramsey <i>Rich Dad, Poor Dad</i>
15.6.12.D: Develop criteria to evaluate employment options.	Career & College Club: "Exploration" & "Engagement"
15.6.12.E: Assess the purpose, source, and impact of various taxes.	Foundation of Personal Finance by Ramsey
15.6.12.F: Evaluate criteria for personal spending in relation to the economic climate.	<i>Rich Dad, Poor Dad</i>

15.6.12.G: Identify strategies for personal financial management.	Foundations of Personal Finance by Ramsey
15.6.12.H: Evaluate payment methods for major purchases.	Foundations of Personal Finance by Ramsey
15.6.12.I: Analyze the functions of the Federal Reserve and other financial institutions.	Foundation of Personal Finance by Ramsey
15.6.12.J: Analyze the total cost of a major purchase loan agreement using fixed and variable interest rates, calculated over time.	Foundation of Personal Finance by Ramsey
15.6.12.K: Analyze the impact of a positive or negative credit history.	Foundations of Personal Finance by Ramsey
15.6.12.L: Research major consumer credit laws and their impact on individuals in debt.	Foundations of Personal Finance by Ramsey
15.6.12.M: Assess the impact of identity theft; develop a plan for correcting a negative credit report.	Foundations of Personal Finance by Ramsey
15.6.12.N: Compare and contrast various suppliers of insurance products and develop criteria to evaluate individual insurance needs.	Foundation of Personal Finance by Ramsey
15.6.12.O: Develop criteria for a disaster management plan that includes provisions for secure storage of digital and paper documents, inventory of household items, cash reserves, and medical records.	Foundation of Personal Finance by Ramsey
15.6.12.P: Develop financial investment plans to accommodate various economic and personal scenarios.	Rich Dad, Poor Dad
15.6.12.Q: Apply the “Rule of 72” to estimate the number of periods required to double an investment.	Rich Dad, Poor Dad
15.6.12.R: Compare and contrast various investment plans to achieve goals of liquidity, income, and growth.	Rich Dad, Poor Dad
15.6.12.S: Analyze the role of government in investment planning and retirement planning.	Rich Dad, Poor Dad

Standard Area - 15.7: Global Business

<u>Grade Level - 15.7.12: GRADES 9 - 12</u>	Books/Activities Used
15.7.12.A: Assess the impact of political and economic changes on global business.	http://www.global-business-initiative.org/
15.7.12.B: Evaluate logistical considerations of	Rich Dad, Poor Dad

operating an international business (e.g., integration of information, transportation, inventory, warehousing, material handling, packaging, and security).	
15.7.12.C: Examine business protocol of several countries as related to social customs, business customs, and political environment.	Interview international business men and women Blogging in Current Events
15.7.12.D: Analyze how political environments affect international business.	Economics in One Lesson by Hazlitt
15.7.12.E: Examine the legal requirements (foreign and domestic) of operating a business.	Blogging in Current Events Career and College Program
15.7.12.F: Examine economic issues in a country that engages in international business activities.	Economics in One Lesson by Hazlitt
15.7.12.G: Analyze global businesses and the impact on the countries where they operate.	http://www.global-business-initiative.org/ Blogging in Current Events Career and College Program
15.7.12.H: Analyze the effect of efficiencies in natural and human resources as it relates to global business relationships.	http://www.global-business-initiative.org/ Blogging in Current Events Career and College Program
15.7.12.I: Identify and examine effective global business communications strategies.	http://www.global-business-initiative.org/ Blogging in Current Events Career and College Program
15.7.12.J: Compare and contrast various nonverbal behaviors and their impact on business in a global environment.	http://www.global-business-initiative.org/ Blogging in Current Events Career and College Program
15.7.12.K: Analyze how economic and environmental factors may conflict; explain how responsible behavior can help sustain natural and human communities at local, regional, national, and global levels.	http://www.global-business-initiative.org/ Blogging in Current Events Career and College Program
15.7.12.L: Identify worldviews and their impact on global business.	http://www.global-business-initiative.org/ Blogging in Current Events Career and College Program
15.7.12.M: Identify strategies employed to promote global business opportunities.	http://www.global-business-initiative.org/ Blogging in Current Events Career and College Program
15.7.12.N: Identify business strategies related to international marketing.	http://www.global-business-initiative.org/ Blogging in Current Events Career and College Program
15.7.12.O: Reference Economics 6.3.9.D, 6.3.12.D, 6.4.9.B, 6.4.9.C., 6.4.12 B, 6.4.12.C, 6.4.12.D	

Standard Area - 15.8: Management

<u>Grade Level - 15.8.12: GRADES 9 - 12</u>	Books/Activities Used
15.8.12.A: Predict and chart trends that show how future economic growth/decline impacts business.	Economics in One Lesson by Hazlitt Market Analysis Project
15.8.12.B: Analyze the costs and benefits of organizing a business as a sole proprietorship, partnership, or corporation.	Economics in One Lesson by Hazlitt Foundations of Personal Finance by Ramsey Large Group Discussion
15.8.12.C: Critique major social and ethical decisions made by business and organizations throughout history. Reference Economics 6.5.12.C	Economics in One Lesson by Hazlitt Large Group Discussion
15.8.12.D: Analyze the effectiveness of a business plan for setting and achieving objectives. Reference Career Education and Work 13.4.11.C	Economics in One Lesson Marketing Analysis Project
15.8.12.E: Evaluate how businesses are organized to achieve desired goals.	Foundations of Personal Finance by Ramsey Marketing Analysis Project
15.8.12.F: Critique business strategies designed to balance the needs of the business with the work force.	Economics in One Lesson by Hazlitt Foundations of Personal Finance
15.8.12.G: Analyze leadership skills necessary for leading at various management levels.	Plutarch's Lives Large Group Discussion Internship
15.8.12.H: Analyze motivational theories and their application in a business or organization.	Internship
15.8.12.I: Analyze and select appropriate managerial communication skills based upon context. Reference Economics 6.5.9.D; Health, Safety, and Physical Education 10.3.9.C; Career Education and Work 13.3.11.C; Student Interpersonal Skills SIS 2.D	Internship
15.8.12.J: Analyze the use and purpose of various technology tools used by management.	Internship
15.8.12.K: Design a career plan that incorporates personal interests, education, and societal trends, as related to lifelong learning in the changing global environment.	College and Career Club program
15.8.12.L: Explain the purpose and activities of a human resource department in a business or organization.	Linchpin: Are you indispensable, by Godin Large Group Discussion Internship
15.8.12.M: Evaluate selection criteria for a position in a business or organization.	Linchpin: Are you indispensable, by Godin Large Group Discussion

15.8.12.N: Analyze existing federal, state and local legislation (such as harassment, employee rights, privacy, discrimination, substance abuse) as related to recruitment, selection, retention of employees within a business or organization.	Blogging in Current Events
15.8.12.O: Explain the collective bargaining process and its impact on the legal requirements of management.	Internship Blogging in Current Events Career and College Program
15.8.12.P: Design appropriate orientation, training, and evaluation activities to meet established skill development requirements.	Internship Career and College Club
15.8.12.Q: Assess compensation, benefit plans, incentive packages, and possible career paths in businesses.	Economics in One Lesson, by Hazlitt
15.8.12.R: Compare a firm's financial position against industry standards. Reference Business, Computer and Information Technology 15.1.12.W	Blogging in Current Events
15.8.12.S: Compare and contrast the processes used for the design, redesign, supply, and/or production of a current industry product.	Rich Dad, Poor Dad: Independent Research Project
15.8.12.T: Analyze the impact of different management strategies used by global businesses. Reference Business, Computer and Information Technology 15.7.12.L	Guest Speaker: Lisa Halteman, Johnson and Johnson

Standard Area - 15.9: Marketing

<u>Grade Level - 15.9.12: GRADES 9 - 12</u>	Books/Activities Used
15.9.12.A: Analyze and summarize professional designations, careers, and organizations within the field of marketing, including the educational and certification requirements for each.	Marketing research activity Large Group Discussion Guest Speaker: Lisa Halteman, Johnson and Johnson
15.9.12.B: Analyze how marketing influences today's households, businesses, and society; including but not limited to business-to-consumer, business-to-business, and consumer-to-consumer.	Economics in One Lesson by Hazlitt Retail marketing field study.
15.9.12.C: Evaluate the influence of members of a marketing channel, including company, intermediaries, retailer, and consumer.	Marketing research activity Guest Speaker: Lisa Halteman, Johnson and Johnson Large Group Discussion
15.9.12.D: Reference Business, Computer and Information Technologies 15.3.12.D	Marketing research activity Large Group Discussion

15.9.12.E: Research and analyze consumer behavior patterns and the effect of those patterns on business and the economy.	Economics in One Lesson by Hazlitt Retail marketing field study. Foundations of Personal Finance by Ramsey
15.9.12.F: Evaluate processes needed to obtain, develop, maintain, and improve products or services; including product development, packaging, branding, product mix, product life cycle, and product positioning.	Economics in One Lesson by Hazlitt Retail marketing field study. Foundations of Personal Finance by Ramsey
15.9.12.G: Assess the distribution process of various companies and industries.	Marketing research activity Large Group Discussion Guest Speaker: Lisa Halteman, Johnson and Johnson
15.9.12.H: Evaluate the impacts of various pricing strategies on the consumer and businesses at the local, domestic, and global level; including penetration, skimming, supply/demand, and exchange rates.	Economics in One Lesson by Hazlitt Retail marketing field study.
15.9.12.I: Design a comprehensive promotion plan for a product or service.	Marketing research activity Economics in One Lesson by Hazlitt Foundations of Personal Finance, by Ramsey
15.9.12.J: Analyze data collection methods when entering into or expanding a market.	Economics in One Lesson, by Hazlitt Large group discussion.
15.9.12.K: Create a comprehensive marketing plan.	Economics in One Lesson, by Hazlitt Large group discussion. Marketing research activity
15.9.12.L: Analyze the costs and benefits of using technology in marketing to gain a competitive advantage.	Marketing research activity Economics in One Lesson
15.9.12.M: Evaluate laws and regulations impacting marketing.	Economics in One Lesson, by Hazlitt Large Group discussion

Pennsylvania State Standards
CURRICULUM MAPPING
K-6
Grade Kindergarten
Subject Civics / Government

Standard Area - 5.1: Principles and Documents of Government

Grade Level - 5.1.K: GRADE K	Books/Activities Used
5.1.K.A: Explain the purpose of rules.	Dogwood Charter School Handbook Whole Group Discussions Grand Conversations Modeling by students' peers and teachers Restorative Practices Model <i>Naughty Little Sister</i> by Dorothy Edwards
5.1.K.B: Explain the need for rules.	Dogwood Charter School Handbook Whole Group Discussions Grand Conversations Modeling by students' peers and teachers Restorative Practices Model <i>Naughty Little Sister</i> by Dorothy Edwards
5.1.K.C: Define respect for self and others.	Peer Modeling Whole Group Discussions Grand Conversations Modeling by students' peers and teachers Restorative Practices Model and Morning Meetings <i>Naughty Little Sister</i> by Dorothy Edwards

5.1.K.D: Intentionally Blank	
5.1.K.E: Demonstrate responsibilities in the classroom.	Classroom Chores Peer Modeling Whole Group Discussions Modeling by students' peers and teachers
5.1.K.F: Identify significant American holidays and their symbols.	Whole Group Discussions/ Short Read Alouds about National Holidays* <i>Thanksgiving Story</i> by Dalglish

Standard Area - 5.2: Rights and Responsibilities of Citizenship

Grade Level - 5.2.K: GRADE K	Books/Activities Used
5.2.K.A: Identify responsibilities at school	Dogwood Charter School Handbook Classroom Chores Peer Modeling Restorative Practices Model
5.2.K.B: Identify a problem and discuss possible solutions.	Restorative Circle Practices Discussions Peer Modeling <i>Naughty Little Sister</i> by Dorothy Edwards

5.2.K.C: Identify classroom projects/activities that support leadership and service.	Whole Group Discussions Blankets for love Jump rope for heart Plant Dogwood Valentines day cards for local fire fighters
5.2.K.D: Explain responsible classroom behavior.	Peer Modeling Discussions Habit Formation Restorative Circle Practices <i>Naughty Little Sister</i> by Dorothy Edwards

Standard Area - 5.3: How Government Works

Grade Level - 5.3.K: GRADE K	Books/Activities Used
5.3.K.A: Intentionally Blank	
5.3.K.B: Identify the role of adults in authority at home or in school	Whole Group Discussions Restorative Practices Model Assembly Introducing School Administration Team <i>Naughty Little Sister</i> by Dorothy Edwards
5.3.K.C: Identify roles of fire fighters, police officers, and emergency workers	Assembly presented by local firefighters Assembly presented by local policemen* Field Study to local fire department Class Discussions
5.3.K.D: Intentionally Blank	
5.3.K.E: Intentionally Blank	

5.3.K.F: Identify and explain behaviors for responsible classroom citizens.	Classroom Chores Peer Modeling Whole Group Discussions Restorative Practices Model Habit Formation <i>Naughty Little Sister</i> by Dorothy Edwards
5.3.K.G: Intentionally Blank	
5.3.K.H: Intentionally Blank	
5.3.K.I: Intentionally Blank	
5.3.K.J: Intentionally Blank	

Standard Area - 5.4: How International Relationships Function

Grade Level - 5.3.K: GRADE K	Books/Activities Used
5.4.K.A: Identify conflict in the classroom	Whole Group Discussions Restorative Circle Practices Peer Modeling
5.4.K.B: Identify how students can work together.	Peer Modeling Whole Group Discussions Restorative Circle Practices Center Time
5.4.K.C: Intentionally Blank	
5.4.K.D: Intentionally Blank	

5.4.K.E: Intentionally Blank	
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**Pennsylvania State Standards
CURRICULUM MAPPING**

Grade 1

Subject Civics / Government

Standard Area - 5.1: Principles and Documents of Government

Grade Level - 5.1.1: GRADE 1	Books/Activities Used
5.1.1.A: Explain the purposes of rules in the classroom and school community	Dogwood Charter School Handbook Classroom Chores Habit Expectations Whole Group Discussions Peer Modeling Restorative Practices Model
5.1.1.B: Explain the importance of rules in the classroom	Dogwood Charter School Handbook Classroom Chores Habit Expectations Whole Group Discussions Peer Modeling Restorative Practices Model
5.1.1.C: Define equality and the need to treat everyone equally.	Peer Modeling Whole Group Discussions Restorative Practices Model <i>Jakata Tales</i>

	<i>Stories of Famous Americans for Little Americans</i>
5.1.1.D: Explain the importance of written rules and laws	<p>Whole Group Discussions Visits from: State Representatives State Senators County Commissioners</p> <p>Assembly presented by local firefighters Assembly presented by local policemen*</p> <p>Restorative Practices Model</p> <p><i>Stories of Famous Americans for Little Americans</i></p>
5.1.1.E: Describe students' responsibilities in the school and community.	<p>Visits from: State Representative State Senator County Commissioners</p> <p>Assembly presented by local firefighters Assembly presented by local policemen* Habit Formation Daily Classroom Chores School Wide Cleanup Restorative Practices Model</p>
5.1.1.F: Identify national symbols.	<p>Grand Conversation "Gallery" around the room Field Study to Philadelphia- Independence Hall</p>

Standard Area - 5.2: Rights and Responsibilities of Citizenship

Grade Level - 5.2.1: GRADE 1	Books/Activities Used
5.2.1.A: Identify and explain the importance of responsibilities at school and at home.	Dogwood Charter School Handbook Whole Group Discussions Habit Expectations Daily Classroom Chores School wide chores
5.2.1.B: Identify a problem and attempt to solve with adult or peer assistance.	Restorative Circle Practices Whole Group Discussions Peer Modeling Peer Mentors with High School Students*
5.2.1.C: Identify school projects / activities that support leadership and public service.	Whole Group Discussions Plant Dogwood Class Clean Up Day School Wide Clean Up Day School Community Days
5.2.1.D: Explain responsible school behavior.	Dogwood Charter School Handbook Whole Group Discussions Habit Expectations Peer Modeling

Standard Area - 5.3: How Government Works

Grade Level - 5.3.1: GRADE 1	Books/Activities Used
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5.3.1.A: Identify the roles of local government (fire, police, etc.).	<p>Whole Group Discussions</p> <p>Assembly presented by local firefighters Assembly presented by local policemen*</p> <p>Visits from: State Representatives State Senators County Commissioners</p>
5.3.1.B: Identify the services of local government	<p>Whole Group Discussions</p> <p>Visits from: State Representatives State Senators County Commissioners</p>
5.3.1.C: Identify the value of firefighters, police officers and emergency workers in the community.	<p>Whole Group Discussions Restorative Circles Assembly presented by local firefighters Assembly presented by local policemen*</p>
5.3.1.D: Identify positions of authority in the classroom community.	<p>Whole Group Discussions Restorative Practices Model Assemblies to Introduce Administration Team</p>
5.3.1.E: Identify situations in the school or community when it is beneficial to have an elected official represent the people.	<p>Whole Group Discussions Grand Conversations</p> <p>Visits from: State Representatives State Senators County Commissioners</p>

5.3.1.F: Identify and explain behaviors for responsible classroom citizens and possible consequences for inappropriate action.	Dogwood Charter School Handbook Classroom Chores Habit Expectations Habit Formation Charts Peer Modeling Whole Group Discussions Grand Conversations
5.3.1.G: Intentionally Blank	
5.3.1.H: Explain how information/news is conveyed to the public.	Grand Conversation Small/large group discussions Whole Class News Project* Newspaper Studies*
5.3.1.I: Provide examples of taxation.	Start Discussion on Defining Taxes* Graphic Organizer showing different examples* Visit from: Local Government Officials
5.3.1.J: Describe situations where voting eases conflict	Visits from: State Representatives State Senators County Commissioners Use of voting to make classroom decisions Mock Elections with Classroom Voting*

Standard Area - 5.4: How International Relationships Function

Grade Level - 5.4.1: GRADE 1	Books/Activities Used
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5.4.1.A: Identify ways to avoid conflict	Grand Conversation Restorative Practices Habit Formation SARCC assembly and classroom presentations
5.4.1.B: Describe how classrooms can work together.	Grand Conversations Peer Modeling Classroom and School Wide Chores Plant Dogwood School Wide Clean Up Day
5.4.1.C: Intentionally Blank	
5.4.1.D: Identify different means of receiving information/news.	Small/whole group discussions Morning meeting discussion on how to receive news Class News Project* Newspaper Studies*
5.4.1.E: Explain how a classroom community reaches compromise.	Grand Conversations Peer modeling Class voting while decisions making

**Pennsylvania State Standards
CURRICULUM MAPPING**

Grade 2

Subject Civics / Government

Standard Area - 5.1: Principles and Documents of Government

Grade Level - 5.1.2: GRADE 2	Books/Activities Used
5.1.2.A: Explain the purposes of rules and their consequences in the classroom and school community.	Dogwood Charter School Handbook Classroom Chores Habit Expectations Habit Formation Charts Restorative Practice Circles Whole Group Discussions
5.1.2.B: Explain the importance of rules in the classroom and school community.	Dogwood Charter School Handbook Classroom Chores Habit Expectations Whole Group Discussions Restorative Practice Circles
5.1.2.C: Define fairness in working with others	Whole Group Conversations Peer Modeling Classroom Chores Assigned Classroom Roles
5.1.2.D: Explain why school rules are written and posted.	Dogwood Charter School Handbook Classroom Chores Habit Expectations Restorative Practices Whole Group Discussions
5.1.2.E: Describe citizens' responsibilities to the state of Pennsylvania and the nation.	Whole Group Discussions Visits from: State Representatives State Senators County Commissioners
5.1.2.F: Identify state symbols.	Activity /Coloring book :

	"A Journey Across the Commonwealth, Pennsylvania" Provided by Senator Argall Picture Study of Symbols
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Standard Area - 5.2: Rights and Responsibilities of Citizenship

Grade Level - 5.2.2: GRADE 2	Books/Activities Used
5.2.2.A: Identify and explain the importance of responsibilities at school at home and the community.	School Wide Community Service Days Whole Group Discussions Plant Dogwood Classroom Chores School Wide Chores
5.2.2.B: Identify a problem and probable solution.	Restorative Circle Practices Whole Group Discussions Peer Modeling <i>Aesop's Tales</i>
5.2.2.C: Identify community projects/activities that support leadership and public service.	School Wide Community Service Days Whole Group Discussions Plant Dogwood Blankets of Love Jump Rope for Heart
5.2.2.D: Explain responsible community behavior	School Wide Community Service Days Whole Group Discussions Habit Formation Modeling on Class Field Studies Assembly presented by local firefighters Assembly presented by local policemen*

Standard Area - 5.3: How Government Works

Grade Level - 5.3.2: GRADE 2	Books/Activities Used
5.3.2.A: Identify the role government plays in the community (education, transportation).	Whole Group Discussions <i>7th and Walnut</i> Visits from: State Representatives State Senators County Commissioners
5.3.2.B: Identify local government leaders.	Whole Group Discussions Visits from: State Representatives State Senators County Commissioners County Sheriff* Assembly presented by local policemen*
5.3.2.C: Identify other types of services provided by local government	Visits from: State Representatives State Senators County Commissioners County Sheriff* Assembly presented by local policemen* Assembly presented by local firefighters
5.3.2.D: Identify positions of authority at school.	Assemblies to Introduce Administration Team Whole Group Discussions

5.3.2.E: Describe situations in the state or nation when having an elected official represent the people is beneficial.	Whole Group Discussions Visits from: State Representatives State Senators County Commissioners
5.3.2.F: Identify and explain behaviors for responsible school citizens and possible consequences for inappropriate action.	Dogwood Charter School Handbook Classroom Chores Habit Expectations Whole Group Discussions Individual Habit Charts
5.3.2.G: Intentionally Blank	
5.3.2.H: Identify different forms of media.	Small/whole group discussions including newspapers, television, internet, etc. Class News Project *
5.3.2.I: Define taxes and why they are paid	Dictionary - literal definition of taxes Discussion to express ideas and thoughts on "why they are paid" <i>George Washington</i> by D'aulaire
5.3.2.J: Identify the responsibilities of voters after the vote.	Discussion Visits from local politicians or voters Mock Classroom Elections with Voting*

Standard Area - 5.4: How International Relationships Function

Grade Level - 5.4.2: GRADE 2	Books/Activities Used
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5.4.2.A: Explain examples of conflict in the community, state, and nation.	Whole Class Discussion Read aloud of specific news/conflict within the community or nation Visits from: State Representatives State Senators County Commissioners
5.4.2.B: Identify ways that countries can work together.	Whole Class Discussion <i>100 American Stories</i> Videos of United Nations*
5.4.2.C: Explain why nations need to work together for peace.	Whole Group Discussions <i>George Washington</i> by D'auliare <i>100 American Stories</i> Define "peace" Discussions of war and its effects*
5.4.2.D: Identify the different types of media	Discussions including newspapers, television, internet, etc.* Class News project* Graphic Organizer*
5.4.2.E: Explain how a community reaches compromise.	Restorative Circles Whole Class Discussions Visits to/from local politicians or "government" workers (mayor, judge, etc)*

Grade 3**Subject Civics / Government****Standard Area - 5.1: Principles and Documents of Government**

Grade Level - 5.1.3:	Books/Activities Used
5.1.3.A: Explain the purposes of rules, laws, and consequences.	<p><i>William Penn, Founder of Pennsylvania</i> by Ronald Syme <i>Freedom Train</i> by Dorothy Sterling</p> <p>Visits from: State Representative State Senator County Commissioners County Sheriff*</p> <p>Dogwood Charter School Handbook</p> <p>Assembly presented by local police officers*</p>
5.1.3.B: Explain rules and laws for the classroom, school, and community.	<p>Visits from: State Representative State Senator County Commissioners County Sheriff*</p> <p>Dogwood Charter School Handbook Discussion on Habits</p> <p>Assembly presented by local police officers*</p>

<p>5.1.3.C: Define the principles and ideals shaping local government. Liberty / Freedom Democracy Justice Equality</p>	<p><i>William Penn, Founder of Pennsylvania</i> by Ronald Syme <i>Freedom Train</i> by Dorothy Sterling</p> <p>Dictionary definitions of “liberty”, “freedom”, “democracy”, “justice”, “equality” - discussions of literal meanings*</p> <p>Visits from: State Representative State Senator County Commissioners County Sheriff*</p>
<p>5.1.3.D: Identify key ideas about government found in significant documents: Declaration of Independence United States Constitution Bill of Rights Pennsylvania Constitution</p>	<p><i>Freedom Train</i> by Dorothy Sterling</p> <p>Whole Group Discussions Whole group readings of Declaration of Independence, Constitution, Bill of Rights Research behind these documents</p> <p>kids.gov</p>
<p>5.1.3.E: Intentionally Blank</p>	
<p>5.1.3.F: Identify state symbols, national symbols, and national holidays.</p>	<p>Field study to observe and discuss historical markers around the community Classroom Gallery Walk of National and State Symbols* Short Read Aloud on National Holidays* Whole Group Discussions</p>

Standard Area - 5.2: Rights and Responsibilities of Citizenship

Grade Level - 5.2.3:	Books/Activities Used
5.2.3.A: Identify personal rights and responsibilities	<p><i>William Penn, Founder of Pennsylvania</i> by Ronald Syme <i>Freedom Train</i> by Dorothy Sterling</p> <p>SARCC Assemblies and Classroom Presentations</p> <p>Restorative Practices</p> <p>Whole Group Discussions</p>
5.2.3.B: Identify the sources of conflict and disagreement and different ways conflict can be resolved.	<p><i>William Penn, Founder of Pennsylvania</i> by Ronald Syme <i>Freedom Train</i> by Dorothy Sterling</p> <p>Whole Group Discussions Restorative Practices Morning and Afternoon Meetings</p> <p>SARCC Assemblies and Classroom Presentations</p>
5.2.3.C: Identify leadership and public service opportunities in the school, community, state, and nation.	<p>Assembly presented by local firefighters Assembly presented by local police officers* Assembly introducing Administration Team</p> <p>Visits from: State Representative State Senator County Commissioners County Sheriff*</p> <p>Whole Group Discussions</p>

5.2.3.D: Describe how citizens participate in school and community activities.	School wide community service days Plant Dogwood School Wide Chores Classroom Chores School Wide Clean Up
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Standard Area - 5.3: How Government Works

Grade Level - 5.3.3:	Books/Activities Used
5.3.3.A: Identify the roles of the three branches of government	Visits from: State Representative State Senator County Commissioners County Sheriff*
5.3.3.B: Identify how laws are made in the local community.	Visits from: State Representative State Senator County Commissioners County Sheriff* Assembly presented by local police officers*
5.3.3.C: Identify services performed by the local governments.	Visits from: State Representative State Senator County Commissioners County Sheriff* Assembly presented by local firefighters

	Assembly presented by local police officers*
5.3.3.D: Identify positions of authority at school and community.	<p>Assembly presented by local firefighters Assembly presented by local police officers* Assembly to introduce school administration team</p> <p>Visits from: State Representative State Senator County Commissioners</p>
5.3.3.E: Explain the purpose for elections.	<p><i>William Penn, Founder of Pennsylvania</i> by Ronald Syme</p> <p>Visits from: State Representative State Senator County Commissioners County Sheriff*</p> <p>Mock Classroom Elections with Voting*</p>
5.3.3.F: Explain how an action may be just or unjust.	<p><i>William Penn, Founder of Pennsylvania</i> by Ronald Syme</p> <p>Visits from: State Representative State Senator County Commissioners George Halcovage, Frank Staudenmeier, and Gary Hess</p> <p>Whole Group Discussions Peer Modeling</p>
5.3.3.G: Identify individual interests and explain ways to influence others.	<p><i>William Penn, Founder of Pennsylvania</i> by Ronald Syme <i>Freedom Train</i> by Dorothy Sterling</p>

	Whole Group Discussions Peer Modeling
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Standard Area - 5.4: How International Relationships Function

Grade Level - 5.4.3:	Books/Activities Used
5.4.3.A: Intentionally Blank.	
5.4.3.B: Intentionally Blank	
5.4.3.C: Intentionally Blank	
5.4.3.D: Intentionally Blank	
5.4.3.E: Intentionally Blank	

**Pennsylvania State Standards
CURRICULUM MAPPING**

Grade 4

Subject Civics / Government

Standard Area - 5.1: Principles and Documents of Government

Grade Level - 5.1.4:	Books/Activities Used
5.1.4.A: Examine school rules and consequences	Dogwood Charter School Handbook Whole Group Discussions
5.1.4.B: Explain rules and laws for the classroom, school, community, and state.	Visits from: State Representative State Senator County Commissioners County Sheriff* Dogwood Charter School Handbook Discussion on Habits Assembly presented by local policemen* Restorative Practices Model*
5.1.4.C: Explain the principles and ideals shaping local and state government. Liberty / Freedom Democracy Justice Equality	Visits from: State Representative State Senator County Commissioners Dictionary definitions of “liberty”, “freedom”, “democracy”, “justice”, “equality” - discussions of literal meanings and copywork
5.1.4.D: Identify key ideas about government found in significant documents: Declaration of Independence United States Constitution Bill of Rights Pennsylvania Constitution	Internet sources: StudyZone.com * Whole Group Discussions Research behind these documents

5.1.4.E: Intentionally Blank	
5.1.4.F: Identify state symbols, national symbols, and national holidays.	<p>Activity /Coloring book : "A Journey Across the Commonwealth, Pennsylvania" Provided by a local senator</p> <p>Whole Group Discussions</p>

Standard Area - 5.2: Rights and Responsibilities of Citizenship

Grade Level - 5.2.4:	Books/Activities Used
5.2.4.A: Identify individual rights and needs and the rights and needs of others in the classroom, school, and community.	<p>Classroom discussions Morning and Afternoon Meetings Restorative Circle Practices</p>
5.2.4.B: Describe the sources of conflict and disagreement and different ways conflict can be resolved.	<p>Morning and Afternoon Meetings Restorative Circles</p>
5.2.4.C: Describe the roles of leadership and public service in school, community, state, and nation.	<p>Assembly presented by local firefighters Assembly presented by local policemen* Assembly introducing Administration Team</p> <p>Visits from: State Representative State Senator County Commissioners</p> <p>Whole Group Discussions</p>

5.2.4.D: Describe how citizens participate in school and community activities.	Classroom discussions Daily Memos Listening to descriptions of upper school internship programs at GCS* School Wide Community Days Short newspaper readings *
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Standard Area - 5.3: How Government Works

Grade Level - 5.3.4:	Books/Activities Used
5.3.4.A: Identify the roles of the three branches of government	FactMonster.com * Visits from: State Representative State Senator County Commissioners
5.3.4.B: Describe how the elected representative bodies function in making local and state laws.	Visits from: State Representative State Senator County Commissioners Assembly presented by local policemen and county sheriff*
5.3.4.C: Identify the services performed by local and state governments.	Visits from: State Representative State Senator County Commissioners

	<p>Assembly presented by local firefighters</p> <p>Assembly presented by local policemen*</p>
5.3.4.D: Identify positions of authority at the local and state, and national level.	<p>Visits from:</p> <p>State Representative</p> <p>State Senator</p> <p>County Commissioners George Halcovage, Frank Staudenmeier, and Gary Hess</p> <p>Assembly presented by local firefighters</p> <p>Assembly presented by local policemen*</p> <p>Assembly presented by local government officials (judge, mayor, etc.)*</p>
5.3.4.E: Explain the voting process.	Mock Classroom Elections with Voting*
5.3.4.F: Explain how different perspectives can lead to conflict	<p><u>Capitalism for Kids: Growing Up To Be Your Own Boss</u> by Karl Hess</p> <p>Restorative Circle Practices</p> <p>Peer Modeling</p> <p>Whole Group Discussions</p>
5.3.4.G: Identify individual interests and explain ways to influence others.	<p><u>Capitalism for Kids: Growing Up To Be Your Own Boss</u> by Karl Hess</p> <p>Peer Modeling</p> <p>Whole Group Discussions</p>

Standard Area - 5.4: How International Relationships Function

Grade Level - 5.3.4:	Books/Activities Used
5.4.4.A - 5.4.4.E All left Intentionally Blank	

**Pennsylvania State Standards
CURRICULUM MAPPING**

Grade 5

Subject Civics / Government

Standard Area - 5.1: Principles and Documents of Government

Grade Level - 5.1.5:	Books/Activities Used
5.1.5.A: Understand the rule of law in protecting property rights, individual rights and the common good	Classroom discussion Assembly presented by local policemen* Visits from: State Representative State Senator County Commissioners <i>Children's History of the World</i> by Hilyer <i>Plutarch</i>
5.1.5.B: Describe the basic purposes of government in the classroom, school, community, state, and nation.	Visits from: State Representative State Senator

	<p>County Commissioners</p> <p>Dictionary Definition of “government” - discussion*</p> <p><i>Children’s History of the World</i> by Hilyer</p> <p><i>Plutarch</i></p>
<p>5.1.5.C: Describe the principles and ideals shaping local state, and national government.</p> <p>Liberty / Freedom</p> <p>Democracy</p> <p>Justice</p> <p>Equality</p>	<p>Visits from local politicians</p> <p>Field study to State Capitol</p> <p>Visits from:</p> <p>State Representative</p> <p>State Senator</p> <p>County Commissioners</p> <p><i>Child’s History of the World</i> by Hilyer</p> <p><i>Plutarch</i></p>
<p>5.1.5.D: Interpret key ideas about government found in significant documents:</p> <p>Declaration of Independence</p> <p>United States Constitution</p> <p>Bill of Rights</p> <p>Pennsylvania Constitution</p>	<p><i>Child’s History of the World</i> by Hilyer</p> <p><i>Plutarch</i></p> <p>Highlight “key ideas” in docs</p> <p>Small group discussions</p> <p>Grand Conversations</p> <p>Research these documents**</p>
<p>5.1.5.E: Identify the individual rights guaranteed by the PA Constitution and the U.S. Constitution.</p>	<p>Whole Group Discussions</p> <p>Reading of select passages from the US Constitution, followed by discussions*</p> <p><i>Child’s History of the World</i> by Hilyer</p>
<p>5.1.5.F: Explain the significance of state symbols, national symbols, and national holidays.</p>	<p>Activity /Coloring book :</p> <p>“A Journey Across the Commonwealth, Pennsylvania”</p> <p>Provided by Senator Argall</p> <p><i>Child’s History of the World</i> by Hilyer</p> <p>Whole Group Discussions</p>

Standard Area - 5.2: Rights and Responsibilities of Citizenship

Grade Level - 5.2.5:	Books/Activities Used
5.2.5.A: Identify individual rights and needs and the rights and needs of others in the classroom, school, community, state, and nation.	Classroom discussions Morning and Afternoon Meetings Restorative Circle Practices <i>Child's History of the World</i> by Hilyer <i>Plutarch</i>
5.2.5.B: Identify behaviors that promote cooperation among individuals.	Classroom discussion Habit Discussions <i>Plutarch</i> <i>Child's History of the World</i> by Hilyer <i>Pushcart Wars</i> by Jean Merrill
5.2.5.C: Explain why individuals become involved in leadership and public service.	Assembly presented by local firefighters Assembly presented by local policemen* Assembly presented by local educator about Successful People of the Past: ways in which they overcame struggles and hardships to positively affect others' lives Visits from: State Representative State Senator County Commissioners <i>Plutarch</i> <i>Child's History of the World</i> by Hilyer <i>Pushcart Wars</i> by Jean Merrill
5.2.5.D: Identify specific ways individuals participate in school and community activities.	School wide community service days: multiple times throughout the school year

	Plant Dogwood School wide chores Classroom Chores
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Standard Area - 5.3: How Government Works

Grade Level - 5.3.5:	Books/Activities Used
5.3.5.A: Describe the responsibilities and powers of the three branches of government.	<i>Plutarch</i> <i>Child's History of the World</i> by Hilyer Merrill https://kids.usa.gov/teachers/lesson-plans/government/3-branches/index.shtml * Reading of select passages from the US Constitution and conducting group discussions following*
5.3.5.B: Describe how the elected representative bodies function in making local, state, and national laws.	Visits from: State Representative State Senator County Commissioners Assembly Presented by Local Policemen* <i>Plutarch</i> <i>Child's History of the World</i> by Hilyer <i>Pushcart Wars</i> by Jean Merrill <i>Growing Up in Coal Country</i> Whole Group Discussions
5.3.5.C: Describe the role of local and state government officials.	Visits from: State Representative State Senator

	<p>County Commissioners <i>Plutarch</i> <i>Child's History of the World</i> by Hilyer</p> <p>Assembly presented by local policemen* Mock Elections within classrooms and at assemblies</p>
5.3.5.D: Describe the primary duties of elected local, state, and national positions.	<p>Visits from: State Representative State Senator County Commissioners</p> <p><i>Plutarch</i> <i>Child's History of the World</i> by Hilyer</p> <p>Visits from local government officials (mayor, judge, etc.)* Mock Elections within classrooms and at assemblies</p>
5.3.5.E: Identify the requirements to vote in local, state, and national elections.	<p>Visits from: State Representative State Senator County Commissioners</p> <p><i>Plutarch</i> <i>Child's History of the World</i> by Hilyer</p> <p>Visits from local government officials (mayor, judge, etc.)* Mock Elections within classrooms and at assemblies</p>
5.3.5.F: Examine different ways conflicts can be resolved.	<p>Classroom discussion <i>Pushcart wars</i> by Merrill</p> <p>Restorative Circle Practices Peer Modeling Staff modeling at assemblies and during classroom circles*</p>

5.3.5.G: Describe how groups try to influence others.	Classroom discussion SARCC assembly and classroom presentations Peer Modeling <i>Pushcart Wars</i> by Merrill
5.3.5.H: Identify various sources of mass media.	Classroom discussion SARCC assembly and classroom presentations Media Studies - including newspaper, television, internet, etc.*

Standard Area - 5.4: How International Relationships Function

Grade Level - 5.4.5:	Books/Activities Used
5.4.5.A: Intentionally Blank.	
5.4.5.B: Describe the difference between nation and country.	Classroom discussion World Map Studies <i>Child's History of the Word</i> by Merrill

**Pennsylvania State Standards
CURRICULUM MAPPING**

Grade 6

Subject Civics / Government

Standard Area - 5.1: Principles and Documents of Government

<u>Grade Level - 5.1.6:</u>	<u>Books/Activities Used</u>
5.1.6.A: Explain the effect of the rule of law in protecting property rights, individual rights, and the common good.	<i>The Supreme Court</i> <i>40 Acres and Maybe a Mule</i> <i>Bully for You, Teddy Roosevelt</i> <i>George Washington's World</i> <i>A Child's History of the World</i>
5.1.6.B: Compare and contrast a direct democracy with a republican form of government.	<i>Plutarch</i>
5.1.6.C: Explain how the principles and ideals shape local, state, and national government. Liberty / Freedom Democracy Justice Equality	<i>40 Acres and Maybe a Mule</i> <i>The Supreme Court</i> <i>A Child's History of the World</i> <i>Growing Up in Coal Country</i> <i>George Washington's World</i> <i>Bully for You, Teddy Roosevelt</i> Study of primary document sources Visits from local politicians
5.1.6.D: Explain the basic principles and ideals within documents and the roles played by the framers as found in significant documents: Declaration of Independence United States Constitution Bill of Rights Pennsylvania Constitution	<i>The Supreme Court</i> <i>George Washington's World</i> <i>A Child's History of the World</i>
5.1.6.E: Summarize individual rights guaranteed by the PA	Copywork and dictation of primary sources

Constitution and the U.S. Constitution.	Grand Conversation <i>George Washington's World</i>
5.1.6.F: Describe how citizens and leaders use political symbols.	Visits from local politicians <i>Plutarch</i>

Standard Area - 5.2: Rights and Responsibilities of Citizenship

<u>Standard</u>	<u>Books/Activities Used</u>
5.2.6.A: Compare and contrast rights and responsibilities of citizenship in the community, state, and nation.	<i>The Supreme Court</i> <i>George Washington's World</i>
5.2.6.B: Explain how citizens resolve conflicts in society and government.	<i>The Supreme Court</i> <i>Bully for You, Teddy Roosevelt</i> <i>Breaker Boys</i> <i>Growing Up in Coal Country</i>
5.2.6.C: Describe the importance of political leadership and public service.	<i>The Supreme Court</i> <i>Bully for You, Teddy Roosevelt</i> Visits from local politicians
5.2.6.D: Explain why participation in government and civic life is important.	<i>Bully for You, Teddy Roosevelt</i> Visits from local politicians

Standard Area - 5.3: How Government Works

<u>Grade Level - 5.3.6:</u>	<u>Books/Activities Used</u>
5.3.6.A: Describe the responsibilities and powers of the three branches of government.	Group conversations <i>The Supreme Court</i>
5.3.6.B: Define and compare the role and structure of local, state, and national governments.	Group conversations <i>The Supreme Court</i> <i>America Grows Up</i>
5.3.6.C: Describe how local, state, and national governments provide services.	Group Discussions <i>Plutarch</i> <i>George Washington's World</i> <i>America Grows Up</i>
5.3.6.D: Identify leadership positions and their primary duties at the local, state, and national levels.	Visits from local politicians <i>The Supreme Court</i> <i>Bully For You Teddy Roosevelt</i> <i>George Washington's World</i> Group discussions
5.3.6.E: Describe the voting process, including registration, primaries, and general elections.	Group Discussions Visits from local politicians
5.3.6.F: Explain how courts resolve conflicts.	<i>The Supreme Court</i> Grand Conversations
5.3.6.G: Identify individual interest groups and how they	<i>Growing Up in Coal Country</i>

impact government.	<i>Breaker Boys</i>
5.3.6.H: Describe the influence of mass media on society.	Group discussions Current Event Circles
5.3.6.I: Explain what taxes are and why they are necessary.	Group discussions Dictionary definition and discussion <i>Plutarch</i> <i>George Washington's World</i>
5.3.6.J: Intentionally Blank	

Standard Area - 5.4: How International Relationships Function

<u>Grade Level - 5.4.6:</u>	<u>Books/Activities Used</u>
5.4.6.A: Identify how countries have varying interests.	<i>George Washington's World</i> <i>A Child's History of the World</i> <i>America Grows Up</i> <i>We Were there with the Lafayette Escadrille</i> <i>The Singing Tree</i> Group Discussions
5.4.6.B: Explain the difference between allies and adversaries.	<i>George Washington's World</i> <i>A Child's History of the World</i> <i>America Grows Up</i> <i>We Were there with the Lafayette Escadrille</i> <i>The Singing Tree</i>

	Group Discussions
5.4.6.C: Intentionally Blank	
5.4.6.D: Intentionally Blank	
5.4.6.E: Intentionally Blank	

**Pennsylvania [Common Core or State] Standards
CURRICULUM MAPPING**

Grade – 7, 8, 9

Subject – Civics and Government

5.1 Principles and Documents of Government.

Standard	Books/Activities Used
5.1.9 A – Identify and explain the major arguments advanced for the necessity of government.	<i>Whatever Happened to Justice?</i> by Richard Maybury Large Group Discussion <i>In Defense of Liberty: The Story of America's Bill of Rights</i> by Russell Freedman
5.1.9 B – Describe historical examples of the importance of the rule of law. <ul style="list-style-type: none"> · Sources · Purposes · Functions 	<i>Whatever Happened to Justice?</i> by Richard Maybury Large Group Discussion <i>America Grows Up</i> by Johnson <i>In Defense of Liberty: The Story of America's Bill of Rights</i> by Russell Freedman
5.1.9 C – Analyze the principles and ideals that shape government. <ul style="list-style-type: none"> · Constitutional government · Liberal Democracy · Classical republicanism · Federalism 	<i>Whatever Happened to Justice?</i> by Richard Maybury Large Group Discussion <i>Sh! They're Writing the Constitution</i> by Fritz <i>In Defense of Liberty: The Story of America's Bill of Rights</i> by Russell Freedman
5.1.9 D – Interpret significant changes in the basic documents shaping the government of Pennsylvania. <ul style="list-style-type: none"> · The Great Law of 1682 · Constitution of 1776 · Constitution of 1790 · Constitution of 1838 · Constitution of 1874 · Constitution of 1968 	Primary Documents: <i>The Great Law of 1682, Constitution of 1776, Constitution of 1790, Constitution of 1838, Constitution of 1874, Constitution of 1968</i>

5.1.9 E – Analyze the basic documents shaping the government of the United States. <ul style="list-style-type: none"> · Magna Carta · English Bill of Rights · Mayflower Compact · Articles of Confederation · Declaration of Independence · Federalist papers · Anti-federalist writings · United States Constitution 	Primary Documents and Large Group Discussion – <i>Magna Carta, English Bill of Rights, Mayflower Compact, Articles of Confederation, Declaration of Independence, Constitution, Federalist Papers, Anti- Federalist Papers</i> Large Group Discussion
5.1.9 F – Contrast the individual rights created by the Pennsylvania Constitution and those created by the Constitution of the United States.	PA Constitution US Constitution Large Group Discussion
5.1.9 G – Describe the procedures for proper uses, display and respect for the United States Flag as per the National Flag Code.	National Flag Code Grand Conversation
5.1.9 H – Explain and interpret the roles of framers of basic documents of government from a national and Pennsylvania perspective.	<i>Shh! They're Writing the Constitution</i> by Fritz
5.1.9 I – Explain the essential characteristics of limited and unlimited governments and explain the advantages and disadvantages of systems of government. <ul style="list-style-type: none"> · Confederal · Federal · Unitary 	Large Group Discussion
5.1.9 J – Explain how law protects individual rights and the common good.	<i>Whatever Happened to Justice?</i> by Richard Maybury
5.1.9 K – Explain why symbols and holidays were created and the ideals they commemorate.	Individual Research Grand Conversation
5.1.9 L – Interpret Pennsylvania and United States court decisions that have impacted the principles and ideals of government.	<i>United States vs. Nixon</i> <i>Marbury vs. Madison</i> <i>McCulloch v. Maryland, 1819</i>

5.1.9 M – Interpret the impact of famous speeches and writings on civic life (e.g., <i>The Gospel of Wealth</i>, <i>Declaration of Sentiments</i>).	<i>The Gospel of Wealth</i> <i>Declaration of Sentiments</i>
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5.2 Rights and Responsibilities of Citizenship.

Standard	Books/Activities Used
5.2.9 A – Contrast the essential rights and responsibilities of citizens in systems of government. <ul style="list-style-type: none"> · Autocracy · Democracy · Oligarchy · Republic 	<i>Watership Down</i> by Richard Adams Plutarch's Lives <i>In Defense of Liberty: The Story of America's Bill of Rights</i> by Russell Freedman
5.2.9 B – Analyze citizens' rights and responsibilities in local, state and national government.	<i>Watership Down</i> by Richard Adams Plutarch's Lives <i>In Defense of Liberty: The Story of America's Bill of Rights</i> by Russell Freedman
5.2.9 C – Analyze skills used to resolve conflicts in society and government.	<i>Watership Down</i> by Richard Adams Plutarch's Lives
5.2.9 D – Analyze political leadership and public service in a republican form of government.	<i>Watership Down</i> by Richard Adams Plutarch's Lives
5.2.9 E – Explain the importance of the political process to competent and responsible participation in civic life.	<i>Watership Down</i> by Richard Adams Plutarch's Lives
5.2.9 F – Analyze the consequences of violating laws of Pennsylvania compared to those of the United States.	<i>Watership Down</i> by Richard Adams Plutarch's Lives
5.2.9 G – Analyze political and civic participation in government and society.	<i>Watership Down</i> by Richard Adams Plutarch's Lives

5.3 How Government Works.

Standard	Books/Activities Used
5.3.9 A – Explain the structure, organization and operation of the local, state, and national governments including domestic and national policy-making.	U.S. Constitution, Pennsylvania Constitution
5.3.9 B – Compare the responsibilities and powers of the three branches within the national government.	U.S. Constitution Large Group Discussion
5.3.9 C – Explain how a bill becomes a law on a federal, state, and local level.	U.S. Constitution Graphic Organizer Narration
5.3.9 D – Explain how independent government agencies create, amend and enforce regulatory policies. <ul style="list-style-type: none">· Local (e.g., Zoning Board)· State (e.g., Pennsylvania Public Utility Commission)· National (e.g., Federal Communications Commission)	www.usa.gov Local Government Agency Guest Speaker
5.3.9 E – Explain how citizens participate in choosing their leaders through political parties, campaigns and elections.	The U.S. Constitution Republican National Committee Democratic National Committee Current Events Analysis Large Group Discussion
5.3.9 F – Explain the election process. <ul style="list-style-type: none">· Voter registration· Primary Elections· Caucuses· Political party conventions· General Elections· Electoral College	The U.S. Constitution Large Group Discussion Graphic Organizer Narration
5.3.9 G – Explain how the government protects individual rights. <ul style="list-style-type: none">· Equal protection	U.S Constitution Whatever Happened to Justice? by Richard Maybury

<ul style="list-style-type: none"> · Habeas Corpus · Right Against Self Incrimination · Double Jeopardy · Right of Appeal · Due Process 	
5.3.9 H – Analyze how interest groups provide opportunities for citizens to participate in the political process.	www.usa.gov Independent Research
5.3.9 I – Analyze how and why government raises money to pay for its operation and services.	Current Events Analysis U.S. Tax Code P.A. Tax Code
5.3.9 J – Analyze the importance of freedom of the press.	U.S. Constitution N.Y. Times vs. United States, 1971 <i>In Defense of Liberty: The Story of America's Bill of Rights</i> by Russell Freedman
5.3.9 K – Identify and explain systems of government. <ul style="list-style-type: none"> · Autocracy · Democracy · Oligarchy · Republic 	Whatever Happened to Justice? by Richard Maybury History Alive Graphic Organizer Narration

5.4 How International Relationships Function.

Standard	Books/Activities Used
5.4.9 A – Explain how the United States is affected by policies of nation-states, governmental and non-governmental organizations.	U.N. Charter Short History of the 20 th Century by Geoffrey Blainey
5.4.9 B – Explain the role of the United	U.S. Constitution

States in world affairs.	Current Events Analysis
5.4.9 C – Explain the effects United States political ideas have had on other nations.	America In Crisis, FDR Short History of the 20 th Century by Geoffrey Blainey Current Events
5.4.9 D – Contrast how the three branches of federal government function in foreign policy.	U.S. Constitution Current Events
5.4.9 E – Explain the development and the role of the United Nations and other international organizations, both governmental and non-governmental.	<i>Short History of the 20th Century</i> by Geoffrey Blainey U.N. Charter

**Pennsylvania [Common Core or State] Standards
CURRICULUM MAPPING**

Grade – 10, 11, 12

Subject – Civics and Government

5.1 Principles and Documents of Government.

Standard	Books/Activities Used
5.1.12 A – Evaluate the major arguments advanced for the necessity of government.	U.S. Constitution Large Group Discussion <i>Ancient Rome: How it Affects You Today</i> by Maybury
5.1.12 B – Analyze the sources, purposes and functions of law.	U.S. Constitution <i>Ancient Rome: How it Affects You Today</i> by Maybury
5.1.12 C – Evaluate the importance of the principles and ideals of civic life.	Large Group Discussion <i>Ancient Rome: How it Affects You Today</i> by Maybury
5.1.12 D – Analyze the principles and ideals that shape the government of Pennsylvania and apply them to the government. <ul style="list-style-type: none"> · The Charter of 1681 · Charter of Privileges · PA Constitution, its revisions and Amendments 	The Charter of 1681 Charter of Privileges PA Constitution and Amendments Large Group Discussion
5.1.12 E – Evaluate the principles and ideals that shape the United States and compare them to documents of government.	U.S. Constitution <i>Ancient Rome: How it Affects You Today</i> by Maybury
5.1.12 F – Analyze and assess the rights of the people as listed in the Pennsylvania Constitution and the Constitution of the United States.	U.S. Constitution Large Group Discussion
5.1.12 G – Analyze and interpret the role of the United States Flag in civil disobedience and in patriotic activities.	U.S. Flag Code Large Group Discussion

5.1.12 H – Analyze the competing positions held by the framers of the basic documents of government of Pennsylvania and United States.	U.S. Constitution P.A. Constitution Large Group Discussion
5.1.12 I – Analyze historical examples of the importance of the rule of law explaining the sources, purposes and functions of law.	<i>Ancient Rome: How it Affects You Today</i> by Maybury Large Group Discussion
5.1.12 J – Analyze how the law promotes the common good and protects individual rights.	<i>Ancient Rome: How it Affects You Today</i> by Maybury Large Group Discussion
5.1.12 K – Analyze the roles of symbols and holidays in society.	Independent Research Large Group Discussion
5.1.12 L – Analyze Pennsylvania and United States court decisions that have affected principles and ideals of government in civic life. <ul style="list-style-type: none"> · Civil rights · Commerce · Judicial review · Federal supremacy 	Plessy vs. Ferguson The Dred Scott Decision Marbury vs. Madison Roe vs. Wade Other major court decisions Large Group Conversation
5.1.12 M – Evaluate and analyze the importance of significant political speeches and writings in civic life (e.g., <i>Diary of Anne Frank</i>, <i>Silent Spring</i>).	Large Group Discussion Diary of Anne Frank Silent Spring

5.2 Rights and Responsibilities of Citizenship.

Standard	Books/Activities Used
5.2.12 A – Evaluate an individual's civic rights, responsibilities and duties in various governments.	U.S. Constitution <i>Whatever Happened to Justice?</i> by Richard Maybury

5.2.12 B – Evaluate citizens’ participation in government and civic life.	U.S. Constitution <i>Whatever Happened to Justice?</i> by Richard Maybury
5.2.12 C – Interpret the causes of conflict in society and analyze techniques to resolve those conflicts.	<i>Ancient Rome: How it Affects You Today</i> by Maybury <i>Whatever Happened to Justice?</i> by Richard Maybury <i>A Short History of the 20th Century</i> by Geoffrey Blainey
5.2.12 D – Evaluate political leadership and public service in a republican form of government.	<i>Whatever Happened to Justice?</i> by Richard Maybury Large Group Conversation
5.2.12 E – Analyze how participation in civic and political life leads to the attainment of individual and public goals.	<i>Whatever Happened to Justice?</i> by Richard Maybury
5.2.12 F – Evaluate how individual rights may conflict with or support the common good.	<i>Whatever Happened to Justice?</i> by Richard Maybury <i>A Short History of the 20th Century</i> by Geoffrey Blainey
5.2.12 G – Evaluate what makes a competent and responsible citizen.	Large Group Conversation <i>Whatever Happened to Justice?</i> by Richard Maybury

5.3 How Government Works.

Standard	Books/Activities Used
5.3.12 A – Analyze and evaluate the structure, organization and operation of the local, state, and national governments	U.S. Constitution P.A. Constitution Local Laws

including domestic and national policy-making.	Local Official Guest Speaker
5.3.12 B – Analyze the responsibilities and powers of the national government.	U.S. Constitution Large Group Discussion
5.3.12 C – Evaluate the process of how a bill becomes the law on a federal, state, and local levels.	U.S. Constitution Graphic Organizer Narration
5.3.12 D – Evaluate how independent government agencies create, amend and enforce regulations.	www.usa.gov Independent Research
5.3.12 E – Evaluate the roles of political parties in election campaigns.	<i>Are You Liberal, Conservative, or Confused?</i> by Richard Maybury
5.3.12 F – Evaluate the elements of the election process.	U.S. Constitution Large Group Discussion
5.3.12 G – Evaluate how the government protects or curtails individual rights and analyze the impact of supporting or opposing those rights.	<i>Are You Liberal, Conservative, or Confused?</i> by Richard Maybury <i>Whatever Happened to Justice?</i> by Richard Maybury
5.3.12 H – Evaluate the impact of interest groups on the political process.	<i>Are You Liberal, Conservative, or Confused?</i> by Richard Maybury <i>Whatever Happened to Justice?</i> by Richard Maybury
5.3.12 I – Evaluate how and why government raises money to pay for its operations and services.	<i>Are You Liberal, Conservative, or Confused?</i> by Richard Maybury <i>Whatever Happened to Justice?</i> by Richard Maybury
5.3.12 J – Evaluate the role of media in political life in the United States and explain the role of the media in setting the public agenda.	<i>Are You Liberal, Conservative, or Confused?</i> by Richard Maybury www.newsela.org – Blogging with Current Events Large Group Conversation
5.3.12 K – Evaluate the strengths and weaknesses of various systems of government.	<i>Are You Liberal, Conservative, or Confused?</i> by Richard Maybury <i>Whatever Happened to Justice?</i> by Richard

<ul style="list-style-type: none"> · Autocracy · Democracy · Oligarchy · Republic 	Maybury
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5.4 How International Relationships Function.

Standard	Books/Activities Used
5.4.12 A – Analyze the impact of international economic, technological and cultural developments on the government of the United States.	www.newsela.com – Blogging with Current Events Large Group Discussion <i>Ancient Rome: How it Affects You Today</i> by Maybury
5.4.12 B – Analyze the United States' interaction with other nations and governmental groups in world events.	www.newsela.com – Blogging with Current Events Large Group Discussion <i>A Short History of the 20th Century</i> by Geoffrey Blainey
5.4.12 C – Compare how past and present United States' policy interests have changed over time and analyze the impact on future international relationships.	U.N. Charter Large Group Discussion www.newsela.com – Blogging with Current Events <i>America in Crisis</i> , FDR
5.4.12 D – Explain how foreign policy is developed and implemented.	Independent Research <i>A Short History of the 20th Century</i> by Geoffrey Blainey U.N. Charter
5.4.12 E – Compare the purposes and functions of international organizations. <ul style="list-style-type: none"> · Governmental (e.g., NATO, World Court, OAS) 	U.N. Charter Large Group Conversation

<ul style="list-style-type: none">· Non-governmental (e.g., International Red Cross, Amnesty International, World Council of Churches)	
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**Pennsylvania State Standards
CURRICULUM MAPPING**

Grade Kindergarten

Subject- Economics

Standard Area - 6.1: Scarcity and Choice

Grade Level - 6.1.K: GRADE K	Books/Activities Used
6.1.K.A: Identify how scarcity influences choice.	Grand conversation Class discussion Restorative Circle practice <i>The Oxcart Man</i> by Donald Hall <i>Appalachia: The Voices of Sleeping Birds</i> by Cynthia Rylant <i>Letting Swift River Go</i> by Jane Yolen <i>When I was Young in the Mountains</i> by Cynthia Rylant <i>A New Coat for Anna</i> by Harriet Ziefert <i>The Mitten</i> by Jan Brett**
6.1.K.B: Identify family wants and needs	Grand conversation Class discussion Restorative Circle practice <i>They Were Strong and Good</i> by Robert Lawson <i>The Oxcart Man</i> by Donald Hall <i>When I was Young in the Mountains</i> by Cynthia Rylant <i>A New Coat for Anna</i> by Harriet Ziefert
6.1.K.C: Identify choices to meet needs	Grand conversation Class discussion Restorative Circle practice <i>A New Coat for Anna</i> by Harriet Ziefert

	<i>They Were Strong and Good</i> by Robert Lawson <i>The Oxcart Man</i> by Donald Hall <i>When I was Young in the Mountains</i> by Cynthia Rylant <i>A New Coat for Anna</i> by Harriet Ziefert
6.1.K.D: Identify a choice based on family interest.	Grand conversation Class discussion <i>They Were Strong and Good</i> by Robert Lawson <i>The Oxcart Man</i> by Donald Hall

Standard Area - 6.2: Markets and Economic Systems

Grade Level - 6.2.K: GRADE K	Books/Activities Used
6.2.K.A: Identify goods and consumers.	Grand conversation Class discussion Playing Store (YEA!) Winners <i>The Oxcart Man</i> by Donald Hall**
6.2.K.B: Intentionally Blank	
6.2.K.C: Identify advertisements that encourage us to buy things.	Grand conversation Class discussion
6.2.K.D: Identify currency and how it is used.	Grand conversation Class discussion Learning the names and value of coins, counting coins, playing store RightStart Math lessons
6.2.K.E: Intentionally Blank	

6.2.K.F: Intentionally Blank	
6.2.K.G: Intentionally Blank	

Standard Area - 6.3: Functions of Government

Grade Level - 6.3.K: GRADE K	Books/Activities Used
6.3.K.A: Intentionally Blank	
6.3.K.B: Intentionally Blank	
6.3.K.C: Intentionally Blank	
6.3.K.D: Identify products produced in the region or state.	Class discussion and use of the following products- Guers Dairy, Hershey chocolate, Heisler's Ice Cream Field study to a local dairy farm

Standard Area - 6.4: Economic Interdependence

Grade Level - 6.4.K: GRADE K	Books/Activities Used
6.4.K.A: Identify the specialized role performed by each member of the family.	Grand conversation Class discussion SARCC assembly
6.4.K.B: Intentionally Blank	
6.4.K.C: Intentionally Blank	

6.4.K.D: Identify individual wants and needs.	Grand conversation Class discussion Restorative Circle practice <i>A New Coat for Anna</i> by Harriet Ziefert <i>Naughty Little Sister</i> by Dorothy Edwards (YEA!) Winners
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Standard Area - 6.5: Income, Profit, and Wealth

Grade Level - 6.5.K: GRADE K	Books/Activities Used
6.5.K.A: Identify individuals who volunteer in the community.	Assembly presented by local firefighters School wide clean up day Saturday clean up School wide career day
6.5.K.B: Intentionally Blank	
6.5.K.C: Identify goods and services provided by local businesses	Class discussion about the following good and services Guers Dairy, Hershey chocolate, Heisler's Ice Cream Field study to a local dairy farm (YEA!) Winners Green Grass and White Milk by Alik>** School wide career day
6.5.K.D: Intentionally Blank	
6.5.K.E: Intentionally Blank	
6.5.K.F: Intentionally Blank	
6.5.K.G: Intentionally Blank	

6.5.K.H: Intentionally Blank	
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**Pennsylvania State Standards
CURRICULUM MAPPING**

Grade 1

Subject- Economics

Standard Area - 6.1: Scarcity and Choice

Grade Level - 6.1.1: GRADE 1	Books/Activities Used
6.1.1.A: Identify scarcity of resources within the family.	Whole group discussions Restorative Practices circles Grand conversation <i>Beatrice's Goat by McBrier</i>
6.1.1.B: Identify classroom wants and needs.	Restorative Practices circles Whole group discussions about the difference between a want and a need Teacher and student modeling Role playing
6.1.1.C: Identify choice based on needs versus wants.	Restorative Practices circles Whole group discussions Peer modeling/role playing scenarios

	<i>Beatrice's Goat</i> by McBrier <i>Jakata Tales</i> by Rabbit
6.1.1.D: Identify a choice based on classroom interest.	Restorative Practices circles Whole group discussions Peer modeling Class vote to make decisions

Standard Area - 6.2: Markets and Economic Systems

Grade Level - 6.2.1: GRADE 1	Books/Activities Used
6.2.1.A: Identify goods, consumers, and producers.	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assemblies with local business owners Whole group discussions Field study to a local business* Restorative Practices circles <i>Beatrice's Goat</i> by McBrier
6.2.1.B: Intentionally Blank	
6.2.1.C: Identify advertisements that encourage us to buy things based on want rather than need.	Whole group discussions Student made advertisements
6.2.1.D: Explain the role of money in determining price.	RightStart Math <i>If You Made a Million</i> by Schwartz
6.2.1.E: Identify the impact on a community when a business opens.	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assemblies with local business owners Whole group discussions

	Grand conversation Restorative Practices circles Field study to a local business*
6.2.1.F: Intentionally Blank	
6.2.1.G: Define an economic system at the individual level.	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Whole group discussions Field study to a local business*

Standard Area - 6.3: Functions of Government

Grade Level - 6.3.1: GRADE 1	Books/Activities Used
6.3.1.A: Identify examples of goods and services.	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Whole group discussion Restorative Practices circles Assemblies by local politicians School wide career day Field study to a local business*
6.3.1.B: Intentionally Blank	
6.3.1.C: Intentionally Blank	
6.3.1.D: Identify products produced in the United States	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners School wide career day Restorative Practices circles Whole group discussion

	Field study to a local business * <i>A Child's Introduction to Geography</i> by Alexander <i>Home Geography for the Primary Grades</i> by Long
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Standard Area - 6.4: Economic Interdependence

Grade Level - 6.4.1: GRADE 1	Books/Activities Used
6.4.1.A: Identify specialization of work in the community.	School wide career day Whole group discussion Assemblies with local business owners and politicians Field study to local business*
6.4.1.B: Intentionally Blank	
6.4.1.C: Intentionally Blank	
6.4.1.D: Describe how individuals differ in their wants and needs and why people buy and sell things	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners School wide career day Whole group discussion <i>Beatrice's Goat</i> by McBrier <i>If You Made a Million</i> by Schwartz

Standard Area - 6.5: Income, Profit, and Wealth

Grade Level - 6.5.1: GRADE 1	Books/Activities Used
6.5.1.A: Identify individuals who work for wages in the community.	School wide career day Whole group discussions Grand conversation

	Assemblies with local business owners
6.5.1.B: Identify different jobs and the purpose of each.	School wide career day Whole group discussions Grand conversation Restorative Practices circles Field study to local business* Assemblies with local business owners
6.5.1.C: Identify businesses and their corresponding goods and service.	Grand conversation School wide career day Assemblies with local business owners Field study to local business*
6.5.1.D: Identify ways to earn money	School wide career day Whole group discussions Restorative Practices circles Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assemblies with local business owners <i>Beatrice's Goat</i> by McBrier
6.5.1.E: Describe what tools (tangible assets) are necessary to complete a task.	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners School wide career day Whole group discussion <i>Beatrice's Goat</i> by McBrier
6.5.1.F: Identify buyers and sellers (people) buy and sell things.	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assemblies with local business owners Field study to local business* <i>Beatrice's Goat</i> by McBrier

6.5.1.G: Explain the need to save money.	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners <i>If You Made a Million</i> by Schwartz
6.5.1.H: Intentionally Blank	

**Pennsylvania State Standards
CURRICULUM MAPPING**

Grade 2

Subject- Economics

Standard Area - 6.1: Scarcity and Choice

Grade Level - 6.1.2: GRADE 2	Books/Activities Used
6.1.2.A: Identify scarcity of resources within the school community.	<i>The Skippack School</i> Mareguerite de Angeli Whole group discussion Restorative Practice circles
6.1.2.B: Identify community wants and needs.	Grand conversations School wide community days Community walks and discussion of wants and needs* <i>The Farm: Life in Colonial Pennsylvania</i> by James E. Knight <i>The Skippack School</i> Mareguerite de Angeli <i>Judy's Journey</i>
6.1.2.C: Explain how choice has consequences	Daily habit formation reinforcement Habit formation charts

	Restorative Practices circles Peer modeling Whole group discussion on consequences <i>The Farm: Life in Colonial Pennsylvania</i> by James E. Knight <i>The Skippack School</i> Marguerite de Angeli <i>Judy's Journey</i>
6.1.2.D: Identify a choice based on community interest.	Whole group discussions Whole group decision making School wide community days Classroom votes

Standard Area - 6.2: Markets and Economic Systems

Grade Level - 6.2.2: GRADE 2	Books/Activities Used
6.2.2.A: Identify goods, services, consumers, and producers in the local community.	School Assemblies with various people representing local services. Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners School wide career day Whole group discussion Field study to local business* <i>Judy's Journey</i> <i>The Farm: Life in Colonial Pennsylvania</i> by James E. Knight
6.2.2.B: Differentiate between markets and competition.	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assembly by local business owners and authors Group discussions Field study to local business*

	<i>Judy's Journey</i> <i>The Farm: Life in Colonial Pennsylvania</i> by James E. Knight
6.2.2.C: Define personal choice as related to buying an item.	Whole group discussion Restorative Practices circles <i>A Chair for My Mother</i> by Vera Williams <i>Judy's Journey</i> <i>The Farm: Life in Colonial Pennsylvania</i> by James E. Knight
6.2.2.D: Explain how demand for a consumer good impacts price.	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assembly presented by local business owners and authors Whole group discussions Field study to local business* <i>100 American Stories</i>
6.2.2.E: Identify the impact on a community when a business closes	Grand conversation Assembly presentations from local business owners
6.2.2.F: Describe the role of financial institutions as related to consumers' financial needs.	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Field study to a Local Bank*
6.2.2.G: Identify examples of an economic system.	Grand conversation Field study to local business* <i>100 American Stories</i> <i>The Farm: Life on in Colonial Pennsylvania</i> by Knight** <i>Skippack School</i>

Standard Area - 6.3: Functions of Government

Grade Level - 6.3.2: GRADE 2	Books/Activities Used
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6.3.2.A: Identify examples of goods and services provided by the private sector.	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Field study to local business and follow up discussion* Grand conversation
6.3.2.B: Intentionally Blank	
6.3.2.C: Define taxes and who pays them.	Dictionary Definition of “taxes” (copywork, discussion, and examples)* Whole group discussion Restorative Practices circles <i>George Washington</i> by D’aulaire
6.3.2.D: Identify products produced outside the United States	Whole Class Discussions Restorative Practices circles <i>Planting the Trees of Kenya</i> <i>Geography from A-Z</i> <i>Children’s Atlas of the World</i>

Standard Area - 6.4: Economic Interdependence

Grade Level - 6.4.2: GRADE 2	Books/Activities Used
6.4.2.A: Identify local examples of specialization of work.	School wide art and talent show Assembly Presented by Local Author, Artist, Musician* Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners School wide career day
6.4.2.B: Intentionally Blank	
6.4.2.C: Identify products that come from many different countries.	Whole group discussions <i>-Planting the Trees of Kenya</i>

	Class relationship with students in Rwanda (discussions with them about different goods/compare and contrast)* Field study to local business* <i>Geography from A-Z</i> <i>Children's Atlas of the World</i>
6.4.2.D: Identify buyers and sellers and how their wants and needs are addressed.	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Whole group discussions Field study to local business* <i>Home Geography for the Primary Grades</i> by Long <i>-Planting the Trees of Kenya</i>

Standard Area - 6.5: Income, Profit, and Wealth

Grade Level - 6.5.2: GRADE 2	Books/Activities Used
6.5.2.A: Explain how money earned by individuals is used to meet needs and wants.	Grand Conversation Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners <i>A Chair for My Mother</i> by Vera Williams* <i>The Story of George Washington Carver</i>
6.5.2.B: Different how different job skills impact earnings.	Grand Conversation Assembly by Local Business Owners and Authors School wide career day Field study to local business* Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners <i>Judy's Journey</i> <i>-Planting the Trees of Kenya</i>

	<i>The Story of George Washington Carver</i>
6.5.2.C: Describe the roles of local businesses.	<p>School Assemblies Grand Conversation Assembly by Local Business Owners Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Field study to local business* <i>The Story of George Washington Carver</i></p>
6.5.2.D: Describe money saving behaviors.	<p>Grand Conversation Student/Parent Interviews* Restorative Practice circles on saving money <i>A Chair for My Mother</i> by Vera Williams* <i>The Story of George Washington Carver</i></p>
6.5.2.E: Describe the qualities that may be necessary to complete a task.	<p>Grand Conversation Restorative Practices circles Peer Modeling Field study to local business* <i>The Story of George Washington Carver</i></p>
6.5.2.F: Explain the responsibilities of a business owner	<p>Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Assembly Presented by Local Business Owners Field study to local business* <i>Story of George Washington Carver</i></p>
6.5.2.G: Identify how saving for a purchase occurs over time.	<p>Grand Conversation Student/Parent interviews* Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Restorative Practices circles <i>A Chair for My Mother</i> by Vera Williams**</p>

	<i>The Story of George Washington Carver</i>
6.5.2.H: Describe why people save money in the local bank.	Grand Conversation Field Study to Local Bank*

**Pennsylvania State Standards
CURRICULUM MAPPING**

Grade 3

Subject- Economics

Standard Area - 6.1: Scarcity and Choice

Grade Level - 6.1.3: GRADE 3	Books/Activities Used
6.1.3.A: Define scarcity and identify examples of resources, wants, and needs.	<i>Freedom Train</i> by Dorothy Sterling <i>Bunches and Bunches, How Bananas Grow in Rwanda</i> by TEACH Rwanda <i>A Child's History of the World</i> by Virgil M. Hillyer <i>The Silk Route: 7,000 Miles of History</i> by John Major <i>Stickeen</i> by John Muir Grand Conversations

	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Presentations by local business owners
6.1.3.B: Identify needs and wants of people. Identify examples of natural, human, and capital resources.	<i>Freedom Train</i> by Dorothy Sterling <i>Bunches and Bunches, How Bananas Grow in Rwanda</i> by TEACH Rwanda <i>A Child's History of the World</i> by Virgil M. Hillyer <i>The Silk Route: 7,000 Miles of History</i> by John Major <i>Stickeen</i> by John Muir Grand Conversations Presentations by local business owners
6.1.3.C: Explain what is given up when making a choice.	<i>Freedom Train</i> by Dorothy Sterling <i>Uncle Jed's Barber Shop</i> by Mitchell in grade 3** SARCC Assemblies and Classroom Presentations Presentations by local business owners Grand Conversations
6.1.3.D: Identify reasons why people make a choice.	<i>Freedom Train</i> by Dorothy Sterling <i>Uncle Jed's Barber Shop</i> by Mitchell in grade 3** SARCC Assemblies and Classroom Presentations Grand Conversations Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Presentations by local business owners

Standard Area - 6.2: Markets and Economic Systems

Grade Level - 6.2.3: GRADE 3	Books/Activities Used
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6.2.3.A: Identify goods, services, consumers, and producers in the local community.	Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Presentations by local authors Presentations by local business owners Interview the persons who provide the school lunches**
6.2.3.B: Identify competing sellers in the local market.	Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Presentations by local authors Presentations by local business owners
6.2.3.C: Identify types of advertising designed to influence personal choice.	Dictionary definition of “advertising” with samples of local ads, picture from local billboard, video TV clip** - Whole Group Discussion* Student-made
6.2.3.D: Define price and how prices vary for products.	RightStart Math Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Whole Group Discussions Presentations by local business owners
6.2.3.E: Describe the effect of local businesses opening and closing.	Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Presentations by local business owners

6.2.3.F: Identify private economic institutions.	Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Presentations by local business owners Presentations by local authors
6.2.3.G: Identify characteristics of the local economy.	Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Presentations by local business owners

Standard Area - 6.3: Functions of Government

Grade Level - 6.3.3: GRADE 3	Books/Activities Used
6.3.3.A: Identify goods and services provided by the government.	Visits from: State Representative State Senator County Commissioners County Sheriff*
6.3.3.B: Identify examples of government involvement in local economic activities.	Visits from: State Representative State Senator County Commissioners County Sheriff*
6.3.3.C: Define tax and explain the relationship between taxation and government services.	Dictionary Definition of “tax” - Whole Group Discussion*

6.3.3.D: Intentionally Blank	
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Standard Area - 6.4: Economic Interdependence

Grade Level - 6.4.3: GRADE 3	Books/Activities Used
6.4.3.A: Identify local examples of specialization and division of labor.	Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Presentations by local business owners
6.4.3.B: Identify examples of trade, imports, and exports in the local community.	Field Study to observe and discover the history of local Yuengling businesses Presentations by local business owners
6.4.3.C: Intentionally Blank	
6.4.3.D: Intentionally Blank	

Standard Area - 6.5: Income, Profit, and Wealth

Grade Level - 6.5.3: GRADE 3	Books/Activities Used
6.5.3.A: Explain why people work	School Wide Career Day Whole Group Discussions

	<i>Uncle Jed's Barber Shop</i> by Mitchell** Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Presentations by local business owners Presentations by local authors
6.5.3.B: Identify different occupations.	School Wide Career Day Whole Group Discussions <i>Uncle Jed's Barber Shop</i> by Mitchell 3** Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Presentations by local business owners Veteran Day assembly with local veterans** Discussion with Porcupine Pat about jobs that naturalists do** Presentations by local authors
6.5.3.C: Intentionally Blank	
6.5.3.D: Intentionally Blank	
6.5.3.E: Identify tangible and intangible assets.	Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Presentations by local business owners <i>Uncle Jed's Barber Shop</i> by Mitchell**
6.5.3.F: Intentionally Blank	

6.5.3.G: Define saving and explain why people save.	Field Study to a Local Bank* <i>Uncle Jed's Barber Shop</i> by Mitchell** Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Presentations by local business owners Whole Group Discussions
6.5.3.H: Identify the role of banks in our local community	Field Study to a Local Bank* Whole Group Discussions

**Pennsylvania State Standards
CURRICULUM MAPPING**

Grade 4

Subject- Economics

Standard Area - 6.1: Scarcity and Choice

Grade Level - 6.1.4: GRADE 4	Books/Activities Used
6.1.4.A: Identify scarcity of resources in a local community.	<u>Capitalism For Kids: Growing Up To Be Your Own Boss</u> <u>Bunches and Bunches: How Bananas Grow in Rwanda</u> Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
6.1.4.B: Recognize the difference between basic needs and wants.	<u>Capitalism For Kids: Growing Up To Be Your Own Boss</u> <u>Bunches and Bunches: How Bananas Grow in Rwanda</u>

Explain the role of producers in making goods and providing services.	
6.1.4.C: Illustrate what individuals or organizations give up when making a choice.	<i>Uncle Jed's Barber Shop</i> by Mitchell in grade 3** <u>Capitalism For Kids: Growing Up To Be Your Own Boss</u> Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
6.1.4.D: Explain what influences the choices people make	<u>Capitalism For Kids: Growing Up To Be Your Own Boss</u> Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners <i>Uncle Jed's Barber Shop</i> by Mitchell ** Peer Modeling Whole Group Discussions

Standard Area - 6.2: Markets and Economic Systems

Grade Level - 6.2.4: GRADE 4	Books/Activities Used
6.2.4.A: Explain how a product moves from production to consumption.	<u>Capitalism For Kids: Growing Up To Be Your Own Boss</u> <u>Bunches and Bunches: How Bananas Grow in Rwanda</u>

	Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
6.2.4.B: Determine how sellers compete with one another.	<u>Capitalism For Kids: Growing Up To Be Your Own Boss</u> <u>Bunches and Bunches: How Bananas Grow in Rwanda</u> Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
6.2.4.C: Differentiate between monetary and non-monetary incentives in advertising.	<u>Capitalism For Kids: Growing Up To Be Your Own Boss</u> Whole Group Discussions
6.2.4.D: Explain the role of buyers and sellers in determining prices of products.	<u>Capitalism For Kids: Growing Up To Be Your Own Boss</u> Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
6.2.4.E: Explain why local businesses open and close.	<u>Capitalism For Kids: Growing Up To Be Your Own Boss</u> Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
6.2.4.F: Describe the role of a private economic institution in the local community	<u>Capitalism For Kids: Growing Up To Be Your Own Boss</u> Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners

6.2.4.G: Explain the three basic questions all economic systems must answer. What to produce? How? For whom?	<u>Capitalism For Kids: Growing Up To Be Your Own Boss</u> <u>Bunches and Bunches: How Bananas Grow in Rwanda</u> Field Study to observe and discover the history of local Yuengling businesses Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
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Standard Area - 6.3: Functions of Government

Grade Level - 6.3.4: GRADE 4	Books/Activities Used
6.3.4.A: Explain how government responds to social needs by providing public goods and services. .	<u>Capitalism For Kids: Growing Up To Be Your Own Boss</u>
6.3.4.B: Describe the impact of government involvement in state and national economic activities	<u>Capitalism For Kids: Growing Up To Be Your Own Boss</u>
6.3.4.C: Explore ways in which tax revenues are used in local community.	<u>Capitalism For Kids: Growing Up To Be Your Own Boss</u>
6.3.4.D: Intentionally Blank	

Standard Area - 6.4: Economic Interdependence

Grade Level - 6.4.4: GRADE 4	Books/Activities Used
6.4.4.A: List and explain factors that promote specialization and division of labor.	<u>Capitalism For Kids: Growing Up To Be Your Own Boss</u> Field Study to observe and discover the history of local Yuengling businesses

	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
6.4.4.B: Explain why nations trade.	<u>Capitalism For Kids: Growing Up To Be Your Own Boss</u>
6.4.4.C: Intentionally Blank	
6.4.4.D: Intentionally Blank	

Standard Area - 6.5: Income, Profit, and Wealth

Grade Level - 6.5.4: GRADE 4	Books/Activities Used
6.5.4.A: Intentionally Blank	
6.5.4.B: Identify the requirements for different careers and occupations.	School Wide Career Day Whole Group Conversations Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners <i>Capitalism for Kids: Growing up to be your own Boss</i>
6.5.4.C: Intentionally Blank	
6.5.4.D: Intentionally Blank	
6.5.4.E: Intentionally Blank	
6.5.4.F: Intentionally Blank	
6.5.4.G: Compare different ways people save.	<u>Capitalism For Kids: Growing Up To Be Your Own Boss</u> <i>Uncle Jed's Barber Shop</i> by Mitchell in grade 3**

	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
6.5.4.H: Examine the basic operation of the banking system	Planned field study to the local bank

**Pennsylvania State Standards
CURRICULUM MAPPING**

Grade 5

Subject- Economics

Standard Area - 6.1: Scarcity and Choice

Grade Level - 6.1.5: GRADE 5	Books/Activities Used
6.1.5.A: Explain how limited resources and unlimited wants cause scarcity.	<i>Whatever Happened to Penny Candy</i> by R. Maybury Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
6.1.5.B: Explain ways in which people meet their basic needs and wants. Demonstrate the use of human and capital resources in the production of a specific good.	<i>Whatever Happened to Penny Candy</i> by R. Maybury <i>Growing Up in Coal Country</i> Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
6.1.5.C: Explain how people's choices have different economic consequences.	<i>Whatever Happened to Penny Candy</i> by R. Maybury <i>The Pushcart War</i> by Merrill Whole group discussion
6.1.5.D: Demonstrate how availability of resources affects choices.	Library book discussions <i>Growing Up in Coal Country</i>

	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
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Standard Area - 6.2: Markets and Economic Systems

Grade Level - 6.2.5: GRADE 5	Books/Activities Used
6.2.5.A: Describe how goods and services are distributed.	<i>The Pushcart War</i> by Merrill Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Grand conversation
6.2.5.B: Identify how pricing influences sellers and consumers.	<i>Whatever Happened to Penny Candy</i> by R. Maybury Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Whole group discussion Restorative Practices circles
6.2.5.C: Explain how advertising causes people to change their behavior in predictable ways.	SAS recsource: http://www.econedlink.org/interactives/EconEdLink-interactive-tool-player.php?lid=383&filename=CompetitionPizzaPizza-GreatPizzaBattles.swf *
6.2.5.D: Identify factors that cause changes in price.	<i>Whatever Happened to Penny Candy</i> by R. Maybury Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Restorative Practices circles Whole group discussion

6.2.5.E: Describe the impact of businesses opening and closing on Pennsylvania economy.	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners Field study to a coal mine
6.2.5.F: Compare and contrast types of private economic institutions.	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners <i>Growing Up in Coal Country</i> Whole group discussions
6.2.5.G: Describe various economic systems. Traditional Market Command	Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners <i>Growing Up in Coal Country</i> Whole group discussions

Standard Area - 6.3: Functions of Government

Grade Level - 6.3.5: GRADE 5	Books/Activities Used
6.3.5.A: Describe the cost and benefits of government economic programs.	Research Pennsylvania Department of Community & Economic Development: Programs and Funding (http://community.newpa.com/programs/) Field Study to local agencies
6.3.5.B: Describe factors that influence government's economic decision making.	<i>Whatever Happened to Penny Candy</i> by R. Maybury Current events discussion

6.3.5.C: Explore ways in which tax revenue is collected.	<i>Whatever Happened to Penny Candy</i> by R. Maybury Whole group discussion
6.3.5.D: Intentionally Blank	

Standard Area - 6.4: Economic Interdependence

Grade Level - 6.4.5: GRADE 5	Books/Activities Used
6.4.5.A: Explain why people specialize in the production of goods and services and divide labor.	<i>Growing Up in Coal Country</i> by Bartoletti Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
6.4.5.B: Explain the growth in international trade	<i>Pushcart War</i> connection <i>Bunches and Bunches, How Bananas Grow in Rwanda</i> by TEACH Rwanda Current events discussion
6.4.5.C: Explain how and where multinational corporations operate	<i>Pushcart War</i> connection <i>Bunches and Bunches, How Bananas Grow in Rwanda</i> by TEACH Rwanda Whole group discussion
6.4.5.D: Identify various economic and non-economic organizations that contribute to interaction among individuals and nations	<i>Pushcart War</i> connection <i>Bunches and Bunches, How Bananas Grow in Rwanda</i> by TEACH Rwanda

Standard Area - 6.5: Income, Profit, and Wealth

Grade Level - 6.5.5: GRADE 5	Books/Activities Used
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6.5.5.A: Describe how the availability of goods and services is made possible by the work of members of the society	<i>Whatever Happened to Penny Candy</i> by R. Maybury Whole Group Discussions
6.5.5.B: Differentiate the requirements for different careers and occupations	Career Day discussions Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
6.5.5.C: Intentionally Blank	
6.5.5.D: Explain how positive and negative incentives affect individual choices.	Peer Modeling Whole Group Discussions Restorative Practices circles
6.5.5.E: Identify tangible and intangible assets.	<i>Whatever Happened to Penny Candy</i> by R. Maybury Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
6.5.5.F: Define entrepreneurship and its role in the local community	Dictionary Definition “entrepreneurship” Whole Group Discussion Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
6.5.5.G: Identify the costs and benefits of saving.	<i>Whatever Happened to Penny Candy</i> by R. Maybury Whole Group Discussions
6.5.5.H: Identify the costs and benefits of borrowing	<i>Whatever Happened to Penny Candy</i> by R. Maybury Whole Group Discussions

**Pennsylvania State Standards
CURRICULUM MAPPING**

Grade 6

Subject- Economics

Standard Area - 6.1: Scarcity and Choice

<u>Grade Level - 6.1.6: GRADE 6</u>	<u>Books/Activities Used</u>
6.1.6.A: Explain how limited resources and unlimited wants cause scarcity.	<i>Growing Up In Coal Country</i> Group Discussions
6.1.6.C: Define opportunity cost and describe the opportunity cost of personal choice.	Group Discussions Definition of <i>opportunity cost</i>
6.1.6.D: Identify incentives that affect personal choices	Group Discussions Restorative Practices SARCC

Standard Area - 6.2: Markets and Economic Systems

<u>Grade Level - 6.2.6: GRADE 6</u>	<u>Books/Activities Used</u>
6.2.6.A: Describe the interaction of consumers and producers of goods and services in the state and national economy.	Visit from local business owners and follow up group discussion <i>America Grows Up</i>

6.2.6.B: Explain why and how market competition takes place.	<i>Growing Up in Coal Country</i> Group Discussion <i>America Grows Up</i> Visit from local business owners
6.2.6.C: Explain how advertising influences economic decisions.	Group Discussion Visit from local business owners Current events
6.2.6.D: Describe how prices influence both buyers and sellers and explain why prices may vary for similar products.	Group Discussions <i>America Grows Up</i>
6.2.6.E: Explain the causes and effects of expansion and contraction of businesses.	Visit from local business owners and follow up group discussion <i>America Grows Up</i>
6.2.6.F: Explain the influence of private economic institutions on the local and state economy.	Visit from local business owners and follow up group discussion <i>America Grows Up</i>
6.2.6.G: Examine how various economic systems address the three basic questions. What to produce? How? For whom?	Visit from local business owners and follow up group discussion

Standard Area - 6.3: Functions of Government

<u>Grade Level - 6.3.6: GRADE 6</u>	<u>Books/Activities Used</u>
6.3.6.A: Examine government's role in providing public goods and services.	Visit from local politicians Students narrate Ben Franklin's contribution concerning post roads and postal service. Whole group discussion about how those services of post, road maintenance and building are met today. <i>America Grows Up</i>
6.3.6.B: Describe the impact of government involvement in state and national economic activities.	Visit from local politicians <i>America Grows Up</i> <i>Bully for You, Teddy Roosevelt</i>
6.3.6.C: Explain the cost and benefits of taxation.	Visit from local politicians Group discussion Students explain the how the colonists
6.3.6.D: Explain the benefits of international trade	<i>America Grows Up</i>

Standard Area - 6.4: Economic Interdependence

<u>Grade Level - 6.4.6: GRADE 6</u>	<u>Books/Activities Used</u>
6.4.6.A: Explain why people specialize in the production of goods and services and divide labor.	<i>America Grows Up</i> <i>Growing Up in Coal Country</i> <i>Breaker Boys</i> Group Discussion
6.4.6.B: Explain how trade affects standards of living.	<i>Breaker Boys</i> <i>Growing Up in Coal Country</i>

	<i>America Grows Up</i> Group discussion
6.4.6.C: Explain how multinational corporations contribute to economic interdependence.	Group discussion <i>America Grows Up</i>
6.4.6.D: Explain how transportation, communication networks, and technology contribute to economic interdependence.	<i>America Grows Up</i> Whole group discussion

Standard Area - 6.5: Income, Profit, and Wealth

<u>Grade Level - 6.5.6:</u>	<u>Books/Activities Used</u>
6.5.6.A: Describe how the availability of goods and services is made possible by the work of members of the society.	<i>Growing Up in Coal Country</i> <i>Breaker Boys</i> Guest Speakers Whole group discussions
6.5.6.B: Explain the concept of labor productivity.	<i>Growing Up in Coal Country</i> <i>Breaker Boys</i> Guest Speakers Group Discussions
6.5.6.C: Intentionally Blank	
6.5.6.D: Explain how profits and losses serve as incentives.	Visits from local business owners Group Discussion
6.5.6.E: Describe how people accumulate tangible and	Visits from local business owners

intangible assets.	Group Discussion
6.5.6.F: Explain the role of the entrepreneur in Pennsylvania.	Visits from local business owners Group Discussion
6.5.6.G: Identify the costs and benefits of saving.	Group Discussion <i>Breaker Boys</i> <i>Growing Up in Coal Country</i>
6.5.6.H: Explain the differences between interest rates for saving and borrowing.	Grand conversation

**Pennsylvania [Common Core or State] Standards
CURRICULUM MAPPING**

Grade - 7, 8, 9

Subject - Economics

6.1 – Economic Systems.

Standard	Books/Activities Used
6.1.9 A – Analyze the similarities and differences in economics systems.	The Story of Mankind by Van Loon History of the World, Gombrich
6.1.9 B – Explain how traditional, command and market economies answer the basic economic questions.	The Story of Mankind by Van Loon History of the World, Gombrich Whatever happened to Justice. Maybury.
6.1.9 C – Explain how economic indicators reflect changes in the economy. Explain Consumer Price Index, Gross Domestic Product and Unemployment Rate.	Economics in One Lesson
6.1.9 D – Describe historical examples of expansion, recession and depression in the United States.	<i>America in Crisis, Roosevelt</i> <i>America Grows Up, Gerald Johnson</i>

6.2 –Markets and the Functions of Governments.

Standard	Books/Activities Used
6.2.9. A – Explain the flow of goods, services and resources in a mixed economy.	Economics in One Lesson, Hazlitt <i>Made You Look: How Advertising Works and Why You Should Know</i> by Shari Graydon https://www.philadelphiafed.org/education/
6.2.9. B – Analyze how the number of consumer and producers affects the level of competition within a market.	Economics in One Lesson, Hazlitt <i>Made You Look: How Advertising Works and Why You Should Know</i> by Shari

	Graydon
6.2.9 C – Explain the structure and purpose of Federal Reserve System.	https://www.philadelphiafed.org/education/ America in Crisis, Roosevelt
6.2.9 D – Analyze the functions of economics institutions (e.g. corporations, not-for-profit institutions).	Economics in One Lesson, Hazlitt https://www.philadelphiafed.org/education/
6.2.9.E – Explain the laws of supply and demand and how these affect the prices of goods and services.	Economics in One Lesson, Hazlitt https://www.philadelphiafed.org/education/ The Confederacy in State and National Banking Eras
6.2.9.F – Analyze how competition among producers and consumers affects price, costs, product quality, service, product design, variety and advertising.	Retail store field study Economics in One Lesson, Hazlitt <i>Made You Look: How Advertising Works and Why You Should Know</i> by Shari
6.2.9.G – Contrast the largest sources of tax revenue with where most tax revenue is spent in Pennsylvania.	PA Department of Revenue Website
6.2.9.H – Analyze the economic roles of governments in market economies, including Economic Growth and stability, Legal Frameworks, Other economic goals.	Economics in One Lesson, Hazlitt
6.2.9.I – Explain how government provides public goods.	US Constitution Pennsylvania Constitution PA Department of Revenue Website
6.2.9.J – Contrast the taxation policies of the local, state and national governments in the economy.	PA Department of Revenue Website Internal Revenue Service Website County, School District and Municipal Tax Code
6.2.9.K – Interpret how media reports can influence perceptions of the costs and benefits of decisions.	www.newsela.com Website Current events analysis. <i>Made You Look: How Advertising Works and Why You Should Know</i> by Shari

6.2.9.L - Explain how the price of one currency is related to the price of another currency.	www.irs.gov Currency Exchange Rates
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6.3 – Scarcity and Choice.

Standard	Books/Activities Used
6.3.9. A – Describe ways to deal with scarcity.	Economics in One Lesson, Hazlitt America in Crisis, FDR
6.3.9. B – Analyze how unlimited wants and limited resources affect decision making.	Economics in One Lesson, Hazlitt Community field study The Johnstown Flood The Johnstown Flood Museum
6.3.9 C – Explain how resources can be used in different ways to produce different goods and services.	Group Conversation Independent research project and presentation.
6.3.9 D – Explain marginal analysis and decision making.	Economics in One Lesson, Hazlitt Group discussions
6.3.9.E – Explain the opportunity cost of a public choice from different perspectives.	Economics in One Lesson, Hazlitt Group discussions The Johnstown Flood Museum “Making a Living” The Johnstown Flood by McCullough
6.3.9.F – Explain how incentives affect the behaviors of workers, savers, consumers and producers.	Economics in One Lesson, Hazlitt Group discussions The Johnstown Flood by McCullough The Johnstown Flood Museum

6.4 – Economic Interdependence.

Standard	Books/Activities Used
6.4.9. A – Explain why specialization may lead to increased production and consumption.	Economics in One Lesson, Hazlitt
6.4.9. B – Explain how trade may improve a society's standard of living.	Short history of the 20 th Century, Blaney Group Discussion
6.4.9 C – Explain why governments sometimes restrict or subsidize trade.	Economics in One Lesson, Hazlitt Class simulation Henry Clay biography.
6.4.9 D –. Explain how the location of resources, transportation and communication networks and technology have affected United States economic patterns.	Group Discussion World History Atlas Short history of the 20 th Century, Blaney
6.4.9.E – Analyze how Pennsylvania consumers and producers participate in the global production and consumption of goods or services.	Field Study Hershey Chocolate World Yuengling Brewery Tour
6.4.9.F – Explain how opportunity cost can be used to determine the product for which a nation has a comparative advantage.	Economics in One Lesson, Hazlitt
6.4.9.G – Describe geographic patterns of economic activities in the United States.	World History Atlas

6.5 – Work and Earning

Standard	Books/Activities Used
6.5.9. A – Define wages and explain how wages are determined by the supply of and demand for workers.	Group discussion Economics in One Lesson, by Hazlitt

6.5.9. B – Describe how productivity is measured and identify ways in which a person can improve his or her productivity.	Economics in One Lesson, by Hazlitt Group discussion
6.5.9 C – Identify and explain the characteristics of the three types of business. (Sole Proprietorship, Partnership, Corporation)	Economics in One Lesson, by Hazlitt
6.5.9 D – Analyze how risks influence business decision-making.	Economics in One Lesson, by Hazlitt Field Study David Yuengling on Yuengling Ice Cream (Speaker)
6.5.9.E – Define wealth and describe its distribution within and among the political divisions of the United States.	Stock market analysis Whatever Happened to Justice, Maybury Federal, State and Local Tax Code
6.5.9.F – Identify leading entrepreneurs in Pennsylvania and the United States and describe the risks they took and the rewards they received.	Individual Research project
6.5.9.G – Explain the difference among stocks, bonds and mutual funds. Describe geographic patterns of economic activities in the United States.	Guest Speaker / Investment Professional World History Atlas
6.5.9.H – Explain the impact of higher or lower interest rates for savers, borrowers, consumers and products.	Field Study to Bank Individual research

**Pennsylvania [Common Core or State] Standards
CURRICULUM MAPPING**

Grade – 10, 11, 12

Subject - Economics

6.1 – Economic Systems.

Standard	Books/Activities Used
6.1.12 A – Evaluate the strengths and weaknesses of traditional, command and market economies.	Economics in One Lesson, by Hazlitt Large Group Discussion
6.1.12 B – Analyze the impact of traditional, command and market economies on the United States economies.	Economics in One Lesson, by Hazlitt Short History of the 20 th Century by Blaney.
6.1.12 C – Assess the strength of the regional, national and/or international economy and compare it to another time period based upon economic indicators.	Short History of the 20 th Century by Blaney. Renaissance and Reformation, by Mills
6.1.12 D – Describe historical examples of expansion, recession and depression internationally.	Economics in One Lesson, by Hazlitt Whatever Happened to Justice, Maybury

6.2 –Markets and the Functions of Governments.

Standard	Books/Activities Used
6.2.12. A – Analyze the flow of products, resources and money in a mixed economy.	Short History of the 20 th Century by Blaney. Field Study to local retail.
6.2.12. B – Evaluate the operation of noncompetitive markets.	Economics in One Lesson, by Hazlitt
6.2.12 C – Analyze policies designed to raise or lower interest rates and how the Federal Reserve Board influences interest rates.	www.federalreserve.gov website. Current events discussions
6.2.12 D – Evaluate changes in economic institutions over time (e.g. Stock markets, non-government organizations).	Economics in One Lesson, by Hazlitt Short History of the 20 th Century by Blaney. America in Crisis, by FDR
6.2.12.E – Predict how changes in supply and demand affect equilibrium price and quantity sold.	Economics in One Lesson, by Hazlitt Field study to local retail.
6.2.12.F – Identify and analyze forces that	Economics in One Lesson, by Hazlitt

can change price.	Field Study to local retail. America in crisis, FDR.
6.2.12.G – Evaluate types of Tax systems (Progressive, Proportional, Regressive).	Economics in One Lesson, by Hazlitt Individual research project.
6.2.12.H – Evaluate the economic roles of governments. (Macroeconomics, Microeconomics).	Economics in One Lesson, by Hazlitt
6.2.12.I – Explain government decisions to provide public goods.	Economics in One Lesson, by Hazlitt Local/State government speaker.
6.2.12.J – Evaluate the social, political and economic changes in tax policy using cost/benefit analysis.	Economics in One Lesson, by Hazlitt
6.2.12.K – Analyze the impact of media on decision-making of consumers, producers and policymakers.	Current Events Analysis www.newsela.com
6.2.12.L – Analyze how policies and international events may change and exchange rates.	Economics in One Lesson, by Hazlitt Current events analysis www.newsela.com

6.3 – Scarcity and Choice.

Standard	Books/Activities Used
6.3.12. A – Analyze actions taken as a result of scarcity issues in the regional, national and international economies.	Economics in One Lesson, by Hazlitt America in Crisis by FDR
6.3.12. B – Evaluate the economic reasoning behind a choice.	Economics in One Lesson, by Hazlitt America in Crisis by FDR
6.3.12 C – Evaluate the allocation of resources used to produce goods and services..	Economics in One Lesson, by Hazlitt America in Crisis by FDR
6.3.12 D – Evaluate regional, national or international economic decisions using marginal analysis.	America in Crisis by FDR

6.3.12.E – Analyze the opportunity cost of decisions by individuals, businesses, communities and nations.	Economics in One Lesson, by Hazlitt Group Discussion
6.3.12.F – Evaluate in terms of marginal analysis how incentives influence decisions of consumers, producers and policy makers.	Economics in One Lesson, by Hazlitt Group Discussion

6.4 – Economic Interdependence.

Standard	Books/Activities Used
6.4.12. A – Analyze how specialization may increase the standard of living.	Economics in One Lesson, by Hazlitt
6.4.12. B – Analyze the relationships between trade, competition and productivity.	Economics in One Lesson, by Hazlitt
6.4.12 C – Evaluate how a nation might benefit by lowering or removing trade barriers.	Economics in One Lesson, by Hazlitt
6.4.12 D – Explain how the location of resources, transportation and communication networks and technology have affected international economic patterns.	Economics in One Lesson, by Hazlitt
6.4.12.E – Analyze how United States consumers and producers participate in the global production and consumption of goods or services.	Economics in One Lesson, by Hazlitt America in Crisis by FDR
6.4.12.F – Evaluate how trade is influenced by comparative advantage and opportunity costs.	Economics in One Lesson, by Hazlitt America in Crisis by FDR
6.4.12.G – Evaluate characteristics and	Economics in One Lesson, by Hazlitt

distribution of international economic resources.	Current events analysis
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6.5 – Work and Earning

Standard	Books/Activities Used
6.5.12. A – Analyze the factors influencing wages. (Demand for goods and services produced, Labor Unions, Productivity, education/skills).	Economics in One Lesson, by Hazlitt Paycheck analysis
6.5.12. B – Evaluate how changes in education incentives, technology and capital investment alter productivity.	Economics in One Lesson, by Hazlitt
6.5.12 C – Analyze the costs and benefits of organizing a business as a sole proprietorship, partnership or cooperation.	Local Business Owner Speaker Foundations of Personal Finance
6.5.12 D – Analyze the role of profits and losses in the allocation of resources in a market economy.	Economics in One Lesson, by Hazlitt
6.5.12.E – Compare distribution of wealth across nations.	Group Research Project
6.5.12.F – Assess the impact of entrepreneurs on the economy.	Economics in One Lesson, by Hazlitt Local Business Owner speaker
6.5.12.G – Analyze the risks and returns of various investments. (Stocks, bonds, mutual funds, savings bonds, retirement savings, IRAs).	Investment professional speaker Stock and Commodities Market Research
6.5.12.H – Evaluate benefits and costs of changes in interest rates for individuals and society.	Investment professional speaker Foundations of Personal Finance, by Ramsey

**Pennsylvania [Common Core or State] Standards
CURRICULUM MAPPING**

Grade 7 & 8

Subject: Science (Biology)

3.1.7.A: Grade 7 _____.

Standard	Books/Activities Used
3.1.A Organisms and Cells	
3.1.7.A1: Describe the similarities and differences of physical characteristics in diverse organisms.	Books/Chapters <ul style="list-style-type: none"> Men, Microscopes, and Living Things: Chapter 1 Activities <ul style="list-style-type: none"> Introduction to Special Study: Students select a living thing that they can observe throughout the term Field Study to Pocono Environmental Education Center (PEEC)
3.1.7.A2: Describes how organisms obtain and use energy throughout their lives.	Books/Chapters <ul style="list-style-type: none"> Men, Microscopes, and Living Things: Chapter 2 Activities <ul style="list-style-type: none"> Interactive food web game Where does the special study organism appear in a food web? Field Study to Pocono Environmental Education Center (PEEC)
3.1.7.A3: Explain why the life cycles of different organisms have varied lengths.	Books/Chapters <ul style="list-style-type: none"> Men, Microscopes, and Living Things: Chapter 1

	<p>Activities</p> <ul style="list-style-type: none"> ● Introduction to Special Study: Students select a living thing that they can observe throughout the term ● Field Study to Pocono Environmental Education Center (PEEC)
3.1.7.A4: Explain how cells arise from pre-existing cells.	<p>Books/Chapters</p> <ul style="list-style-type: none"> ● Men, Microscopes, and Living Things: Chapter 15 <p>Activities</p> <ul style="list-style-type: none"> ● Mitosis https://www.youtube.com/watch?v=C6hn3sA0ip0
3.1.7.A5: Explain how the cell is the basic structural and functional unit of living things.	<p>Books/Chapters</p> <ul style="list-style-type: none"> ● Men, Microscopes, and Living Things: Chapter 14 <p>Activities</p> <ul style="list-style-type: none"> ● Using a microscope and premade slides, students will observe several different specimens and identify if they are living or non-living based on the cellular structure ● Copy work of 4 types of animal cells
3.1.7.A6: Identify the levels of organization from cell to organism.	<p>Books/Chapters</p> <ul style="list-style-type: none"> ● <p>Activities</p> <ul style="list-style-type: none"> ● Tour the Basics of DNA http://learn.genetics.utah.edu/content/molecules/dna/ ● Build and label a model of DNA with Twizzlers and colored marshmallows
3.1.7.A7: Compare life processes (e.g. growth, digestion) at the organism level with life processes at the cellular level.	<p>Books/Chapters</p> <ul style="list-style-type: none"> ● Botany Coloring Book by Paul Young <p>Activities</p> <ul style="list-style-type: none"> ● Copying and labeling plant and animal cells

	<ul style="list-style-type: none"> ● Comparing the similarities and differences of plant and animal cells
3.1.7.A8: MODELS Apply the appropriate models to show interactions among organisms in an environment.	<p>Books/Chapters</p> <ul style="list-style-type: none"> ● Men, Microscopes, and Living Things: Chapter 2 <p>Activities</p> <ul style="list-style-type: none"> ● Interactive food web game ● Where does the special study organism appear in a food web?
3.1.7.A9: Understand how theories are developed. Identify questions that can be answered through scientific investigations and evaluate the appropriateness of questions. Design and conduct a scientific investigation and understand that current scientific knowledge guides scientific investigations. Describe relationships using inference and prediction. Use appropriate tools and technologies to gather, analyze, and interpret data and understand that it enhances accuracy and allows scientists to analyze and quantify results of investigations. Develop descriptions, explanations, and models using evidence and understand that these emphasize evidence, have logically consistent arguments, and are based on scientific principles, models, and theories. Analyze alternative explanations and understanding that science advances through legitimate skepticism. Use mathematics in all aspects of scientific inquiry. Understand that scientific investigations may result in new ideas for study, new methods, or procedures for an investigation or new technologies to improve data collection.	<p>Books/Chapters</p> <ul style="list-style-type: none"> ● Men, Microscopes, and Living Things: Chapters 3, 4, 8 & 9 <p>Activities</p> <ul style="list-style-type: none"> ● Study of mint plant and leaves ● Making mint tea ● Learning how to use a microscope and preparing slides to observe ● Fingerprint classification ● Classification hierarchy and 5 kingdoms ● Field Study to Pocono Environmental Education Center (PEEC)
3.1.B Genetics	
3.1.7.B1: Explain how genetic instructions influence inherited traits. Identify Mendelian patterns of inheritance.	<p>Books/Chapters</p> <ul style="list-style-type: none"> ● Men, Microscopes, and Living Things: Chapter 16

	<ul style="list-style-type: none"> ● The Friar Who Grew Peas: Cheryl Bardoe <p>Activities</p> <ul style="list-style-type: none"> ● Using strips that contain a particular genetic trait, students build their own unique dog ● Inventory of our own genetic traits ● Study Jams: Heredity http://studyjams.scholastic.com/studyjams/jams/science/human-body/heredity.htm
3.1.7.B2: Compare sexual reproduction with asexual reproduction.	<p>Books/Chapters</p> <ul style="list-style-type: none"> ● Men, Microscopes, and Living Things: Chapter 13 <p>Activities</p> <ul style="list-style-type: none"> ● Timing is Everything activity (organizing embryos on a timeline) ● Investigating reproductive strategies (several articles)
3.1.7.B4: Describe how selective breeding and biotechnology can alter the genetic composition of organisms.	<p>Books/Chapters</p> <ul style="list-style-type: none"> ● Men, Microscopes, and Living Things: Chapter 18 ● Dogs that Changed the World http://www.pbs.org/wnet/nature/dogs-that-changed-the-world-selective-breeding-problems/1281/ <p>Activities</p> <ul style="list-style-type: none"> ● Artificially selecting dogs activity ● Mutant fruit fly study
3.1.7.B5: PATTERNS Compare and contrast observable patterns in the physical characteristics across families, strains and species.	<p>Books/Chapters</p> <ul style="list-style-type: none"> ● Men, Microscopes, and Living Things: Chapter 16 ● The Friar Who Grew Peas: Cheryl Bardoe <p>Activities</p> <ul style="list-style-type: none"> ● Using strips that contain a particular genetic trait, students build their own unique dog ● Inventory of our own genetic traits

	<ul style="list-style-type: none"> Study Jams: Heredity http://studyjams.scholastic.com/studyjams/jams/science/human-body/heredity.htm
<p>3.1.7.B6: Understand how theories are developed. Identify questions that can be answered through scientific investigations and evaluate the appropriateness of questions. Design and conduct a scientific investigation and understand that current scientific knowledge guides scientific investigations. Describe relationships using inference and prediction. Use appropriate tools and technologies to gather, analyze, and interpret data and understand that it enhances accuracy and allows scientists to analyze and quantify results of investigations. Develop descriptions, explanations, and models using evidence and understand that these emphasize evidence, have logically consistent arguments, and are based on scientific principles, models, and theories. Analyze alternative explanations and understanding that science advances through legitimate skepticism. Use mathematics in all aspects of scientific inquiry. Understand that scientific investigations may result in new ideas for study, new methods, or procedures for an investigation or new technologies to improve data collection.</p>	<p>Books/Chapters</p> <ul style="list-style-type: none"> Men, Microscopes, and Living Things: Chapters 5 & 6 <p>Activities</p> <ul style="list-style-type: none"> What is blood made of? Activity Identify 3 parts of the blood Demonstrating force of a heartbeat with a tennis ball Taking our pulses during periods of rest and after period of activity Study Jams: The Circulatory System http://studyjams.scholastic.com/studyjams/jams/science/human-body/circulatory-system.htm
3.1.C Evolution	
<p>3.1.7.C1: Describe how natural selection is an underlying factor in a population's ability to adapt to changes.</p>	<p>Books/Chapters</p> <ul style="list-style-type: none"> Men, Microscopes, and Living Things: Chapter 12 <p>Activities</p> <ul style="list-style-type: none"> Paper Moth activity to demonstrate natural selection Field Study to Pocono Environmental Education Center (PEEC)

<p>3.1.7.C2: Explain why the extinction of a species may occur when the environment changes. Explain that mutations can alter a gene and are the original source of new variations in a population.</p>	<p>Books/Chapters</p> <ul style="list-style-type: none"> Men, Microscopes, and Living Things: Chapters 10 & 17 <p>Activities</p> <ul style="list-style-type: none"> Review of PA's Wildlife Action Plan Review PA's endangered species list and take a nature walk to see if any of the species are in our area Play a game of telephone to demonstrate how mutations occur Malaria and Sickle Cell Anemia https://www.youtube.com/watch?v=Zsbhvl2nVNE Field Study to Pocono Environmental Education Center (PEEC)
<p>3.1.7.C3: CONSTANCY AND CHANGE Identify evidence drawn from geology, fossils, and comparative anatomy that provides the basis for the theory of evolution.</p>	<p>Books/Chapters</p> <ul style="list-style-type: none"> The Iceman by Don Lessem <p>Activities</p> <ul style="list-style-type: none"> Mystery Fossil Bones Activity Field Study to Pocono Environmental Education Center (PEEC)
<p>3.1.7.C4: Understand how theories are developed. Identify questions that can be answered through scientific investigations and evaluate the appropriateness of questions. Design and conduct a scientific investigation and understand that current scientific knowledge guides scientific investigations. Describe relationships using inference and prediction. Use appropriate tools and technologies to gather, analyze, and interpret data and understand that it enhances accuracy and allows scientists to analyze and quantify results of investigations. Develop descriptions, explanations, and models using evidence and understand that these emphasize evidence, have logically consistent arguments, and are based on</p>	<p>Books/Chapters</p> <ul style="list-style-type: none"> Men, Microscopes, and Living Things: Chapter 12 <p>Activities</p> <ul style="list-style-type: none"> Discussion of evolution Picture study of giraffe and which one will be able to survive in certain situations Field Study to Pocono Environmental Education Center (PEEC)

scientific principles, models, and theories. Analyze alternative explanations and understanding that science advances through legitimate skepticism. Use mathematics in all aspects of scientific inquiry. Understand that scientific investigations may result in new ideas for study, new methods, or procedures for an investigation or new technologies to improve data collection.	
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3.2.8.A: Grade 8 _____.

Standard	Books/Activities Used
3.1.A Organisms and Cells	
3.1.8.A8: CHANGE AND CONSTANCY Explain mechanisms organisms use to adapt to their environment.	<p>Books/Chapters</p> <ul style="list-style-type: none"> Men, Microscopes, and Living Things: Chapters 2 & 11 <p>Activities</p> <ul style="list-style-type: none"> Interactive food web game Where does the special study organism appear in a food web? Fill the Bill activity Study Jams: Adaptation http://studyjams.scholastic.com/studyjams/jams/science/animals/animal-adaptations.htm Field Study to Pocono Environmental Education Center (PEEC)
3.1.8.A9: Compare and contrast scientific theories. Know that both direct and indirect observations are used by scientists to study the natural world and universe. Identify questions and concepts that	<p>Books/Chapters</p> <ul style="list-style-type: none"> Men, Microscopes, and Living Things: Chapters 3, 4, 8 & 9

guide scientific investigations. Formulate and revise explanations and models using logic and evidence. Recognize and analyze alternative explanations and models. Explain the importance of accuracy and precision in making valid measurements.	<p>Activities</p> <ul style="list-style-type: none"> ● Study of mint plant and leaves ● Making mint tea ● Learning how to use a microscope and preparing slides to observe ● Fingerprint classification ● Classification hierarchy and 5 kingdoms
3.1.B Genetics	
3.1.8.B6: Compare and contrast scientific theories. Know that both direct and indirect observations are used by scientists to study the natural world and universe. Identify questions and concepts that guide scientific investigations. Formulate and revise explanations and models using logic and evidence. Recognize and analyze alternative explanations and models. Explain the importance of accuracy and precision in making valid measurements.	<p>Books/Chapters</p> <ul style="list-style-type: none"> ● Men, Microscopes, and Living Things: Chapter 5 <p>Activities</p> <ul style="list-style-type: none"> ● What is blood made of? Activity ● Identify 3 parts of the blood
3.1.C Evolution	
3.1.8.C1: Explain how reproductive success coupled with advantageous traits over many generations contributes to natural selection.	<p>Books/Chapters</p> <ul style="list-style-type: none"> ● Men, Microscopes, and Living Things: Chapter 12 <p>Activities</p> <ul style="list-style-type: none"> ● Paper Moth activity to demonstrate natural selection
3.1.8.C4: Compare and contrast scientific theories. Know that both direct and indirect observations are used by scientists to study the natural world and universe. Identify questions and concepts that guide scientific investigations. Formulate and revise explanations and models using logic and evidence. Recognize and analyze	<p>Books/Chapters</p> <ul style="list-style-type: none"> ● Men, Microscopes, and Living Things: Chapter 12 <p>Activities</p> <ul style="list-style-type: none"> ● Discussion of evolution ● Picture study of giraffe and which one will be able to survive in certain situations

alternative explanations and models. Explain the importance of accuracy and precision in making valid measurements.	
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2015/16 Curriculum Mapping Original Science & Natural History

Kinderleben

* Gillingham owns these books	Books	Activities *To be added to	Standards
Term 1 – Weather and Water	*The Storm Book by Zoloto(N) *Bringing the Rain to Kapiti Plain by Verna Aardema Y	Begin a weather chart that you will keep all year.	3.3.K.A5. Record daily weather conditions using simple charts and graphs 3.3.K.A5. Identify seasonal changes in the environment. 3.3.K.A5. Distinguish between types of precipitation.
	What Will the Weather Be Like Today? by Paul Rogers Y and/or What Will the Weather Be? by Lynda DeWitt (grade P-4)Y		
	*Water Dance by Thomas Locker N *Where the River Begins by Thomas Locker N		3.3.K.A4. Identify sources of water for human consumption and use.
	Around the Year by Beskow Y *Walking Through the Jungle Y-2 *The Oxcart Man Donald Hall Y-1		3.1.K.C3. CONSTANCY AND CHANGE Describe changes that occur as a result of climate.
	<i>Extra books: **see winter option at bottom of table</i> The Cloud Book by Tomie dePaola (grade K+)		
Term 1 – Trees	*One Small Place in the Tree Y-1 The Giving Tree by Shel Silverstein Y-1 *A Tree is Nice by Janice May Udry Y-1	Look at apples, apple seeds	3.1.K.C2. Describe changes animals and plants undergo throughout the seasons.
	*In a Nutshell by Joseph Anthony (tree life cycle) Y-1 The Fall of Freddie the Leaf by Leo BuscagliaN		
	<i>Extra books:</i> The Great Kapok Tree by Lynne CherryY-1		3.2.K.B3. Describe how temperature can affect the body.
Term 1 – Spiders	* Sophie's Masterpiece by Eileen Spinelli N Spinning Spiders by Melvin Berger Y-2	Activity in text to make your own web	
	Spider Silk by Augusta Goldin Y-2	Look around classroom, school building and school yard for spider webs	
	*Are You a Spider? By Juday Allen Y-1	LOT's of activity ideas here	3.1.K.A1. Identify the similarities and differences of living and non-living things.
	<i>Extra books:</i> Tarantulas by Jeni Wittrock		
Term 2 – Rock, Soil, and Sand	Dirt: The Scoop on Soil by Natalie M. Rosinsky (gr. K-4, 24 pp.) Y-1	This book begins with an experiment Play with and sort sand, rocks/pebbles, and dirt, using various tools, such as a sifter, spoons, and funnel. Consider how the different types feel. Look at it with a magnifying glass. Layer the types in a glass jar to look at in the days to come.	3.3.K.A1. Distinguish between three types of earth materials – rock, soil, and sand. 3.2.K.A1. Identify and classify objects by observable properties of matter. 3.2.K.A1. Compare different kinds of materials and discuss their uses.
	If You Find a Rock by Peggy Christian (PB, gr. P-4, 32 p.) N	Draw pictures with chalk on black paper Make and play with Oobleck Discuss with your students that everything is made of matter.	3.2.K.A3. Describe the way matter can change. 3.2.K.A5. CONSTANCY AND CHANGE Recognize that everything is made of matter.

	A Rock Is Lively by Dianna Hutts Aston (PB, gr. K-5, 40 p.) Y-1	Paint rocks as seen in the book	3.1.K.A1. Identify the similarities and differences of living and non-living things.
	<i>Extra books:</i> The Wonder of Stones by Roma Gans (LRFO)	Make charcoal garden , and/or make sugar crystals	
Term 2 – Animals	Just Like Papa by Toni Buzzeo (Discuss how the papa lion and young lion are alike.) Y-1 and/or No Two Alike by Keith Baker Y-1	<i>Match offspring to their parents:</i> How young animals are like their parents. Make a set of memory cards with adult animals on one card and their young on the other. *Here is a print out that you can use: in color and in black and white Or you can create a bingo game. *Here are a couple option: a Diego one , Farm Animals	3.1.K.B1. Observe and describe how young animals resemble their parents and other animals of the same kind.
	Big Tracks, Little Tracks: Following Animal Prints by Millicent E. Selsam (LRFO 1, IP) Y-1 and/or Best Foot Forward: Exploring Feet, Flippers, and Claws by Ingo Arndt (gr. K-2, 32 pp, IP) Y-1	Make their footprint in paint	3.1.K.A5. Observe and describe structures and behaviors of a variety of common animals.
	What Dads Can't Do by Douglas Wood (Discuss how the dad helped the son stay safe/feel safe, stay healthy, or just have fun. "I wonder how some animal parents help their young grow up?") Y-1		
	<i>Extra books:</i> *Lets Find Out About Milk by David C. Whitney Y-1 *Chippy Chipmunk: Babies in the Garden Y-1 *Chippy Chipmunk: Party in the Garden Y-1 *Lost in the Woods Y-2 *Old Mother West Wind (set of stories) by T. Burgess Y-1 *North Country Night by Sans Souci Y-2 Little Lost Bat by Sandra Markle (Read the authors note at the end. A little sad, but it has a happy ending. Discuss how the momma bat helps the baby, and how the baby helps himself.) Y-1 Bat Loves the Night by Nicola Davies (grade P-3) Y-1 Dogs by Emily Gravett Y-1 Chipmunk Song by Joanne Ryder Y-1 Bear Wants More by Karma Wilson Y-1		3.2.K.B3. Describe how temperature can affect the body.
Term 2 – Reptiles, Amphibians	<i>Fish: (choose from the following)</i> Fish is Fish by Leo Lionni (frog/fish) N What Do You Want to Know About Guppies? by Seymour Simon N	Possibly keep a fish tank	
	<i>Reptiles: (choose from the following)</i> *Verdi by Janell Cannon N Snakes are Hunters by Lauber Y-3 One Tiny Turtle: Read and Wonder by Nicola Davies Y-1 Turtles Race with Beaver by Joseph and James Bruchac Y-1 A Place for Turtles by Melissa Stewart Y-1 Turtle, Turtle, Watch Out! by April Pulley Sayre (grade K-3) Y-1		

	<i>Amphibians: (choose from the following)</i> Tadpole's Promise by Jeanne Willis Y-1 *Dig, Wait, Listen: A Desert Toad's Tale by April Pulley Sayre (grade K-5) Y-2 Big Night for Salamanders by Sarah Marwil Lamstein Y-1 The Mixed Up Chameleon by Eric Carle N	It's possible the it's late enough in the year to find tadpoles to bring into class and watch.	3.1.K.A3. Observe, compare, and describe stages of life cycles for plants and/or animals.
	<i>Extra books:</i> Any from above that were not selected		
Term 3 – Birds	*The Baby Blue Jay by J. Berendt Y-1 *Feathers for Lunch by Lois Echert Y-3 *From Egg to Chicken by ? Y-1 <i>Extra books:</i> *Birdsong by Audrey Wood *Birds Build Nests by Winter *About Birds: A Guide for Children *Birds, Nests, & Eggs Take Along Guide *Good Night, Owl by Pat Hutchins *Beaks by Sneed Collard *The Barn Owls by Johnson *King of Birds by Helen Ward *Chickens Aren't the Only Ones by Ruth Heller What Bluebirds Do by Pamela F. Kirby An Egg is Quiet by Aston The Barn Owls by Tony Johnston Vulture View by April Pulley Sayre Elsie's Bird by Jane Yolen No Two Alike by Keith Baker (winter, birds) From Egg to Chic HaChic A tches		3.1.K.A3. Observe, compare, and describe stages of life cycles for plants and/or animals.
Term 3 – Plants	*This Year's Garden by Rylant Y-1 Plant a Little Seed Bonnie Christensen N *Pick Pull Snap by Lois Schaefer Y-1 Seed, Soil, Sun: Earth's Recipe for Food by Cris Peterson N *A Seed is Sleepy by Ashton Y-1 *Seeds by Robbins Y-1 The Tiny Seed by Eric Carle Y-1 and/or *The Carrot Seed by Ruth Krauss Y-1 <i>Extra books:</i> From Seed to Plant by Gail Gibbons (K+) N The Curious Garden by Peter Brown (grade P-1)N No Monkeys, No Chocolate by Melissa StewartY-1	Grow grass in cups (water, sunlight) Taste test fruits and veggies Look at seeds sizes shapes Soak and cut open lima been seeds Plant something...like lettuce, sweet potatoes	3.1.K.A3. Observe, compare, and describe stages of life cycles for plants and/or animals. 3.2.K.B6. Recognize that light from the sun is an important source of energy for living and nonliving systems and some source of energy is needed for all organisms to stay alive and grow.
Term 3 – Insects	*Are You a Ladybug? By Judy Allen Y-1 *Ladybug, Ladybug, Fly Away Home by Judy Hawes (LRFO) Y-1	Use HoNS lessons 89, pg 366, to look at ladybugs (buy at Home Depot or Lowes or through the internet,) then set some ladybugs free in the garden	

	The Grouchy Ladybug by Eric Carle N		
	*Are You a Butterfly? By Judy Allen Y-1 A Butterfly is Patient by Oaston N Ace Lacewing, Bug Detective by David Beidrizycki N Where Does the Butterfly Go When It Rains? by May N Garellick (grade K+)		
	*Are You an Ant? By Judy Allen Y-1 *Thinking about Ants by Barbara Brenner K-1 Two Bad Ants by Chris Van Allsburg N	Keep a classroom colonies of ants	
	*The Bee by Dr. Beth Norton Y-1 *Are You a Bee? By Judy Allen Y-1 *Are You a Dragonfly? By Judy Allen N *Are You a Grasshopper? By Judy Allen Y-1 Joyful Noise: Poems for Two Voices by Fleishman N		

Extra Option

Winter	*Animals in Winter by Bancroft Y-1 *First Snow by Kim Lewis Y-1 *White Snow, Bright Snow by Alvan Tresselt N *Snow Day by Ezra Jack Keats N *Sheepdog in the Snow by Martin Hall N Snow Tracks by Jean C. George N When Will it be Spring? by Catherine Walters N		
Invertebrates	A House for Hermit Crab by Eric Carle (K-2) Y-1 Wiggling Worms at Work by Wendy Pfeffer (K-4) N What Lives in a Shell? by Kathleen Weidner Zoehfeld (P-3) N The Biggest House in the World by Leo Lionni (snail, P-2) N Wolfsnail: A Backyard Predator by Sarah Campbell N	*Possibly keep a hermit crab	
Seashore	*One Small Place by the Sea Y-1 *The Seashore Book by Zoloto Y-1 Star of the Sea: A Day in the Life of a Starfish by Janet Halfmann (K+) N Necks Out for Adventure: The True Story of Edwin N Wiggleskin by Timothy Basil Ering (clam. P-3) N		

Gillingham Science & Natural History Curriculum - ½ Rotation A

* Note

**Must be done to cover a requirement

SCIENCE – OVERVIEW

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Biology	Biology	Biology
Earth	Chemistry	Technology and Engineering
Rocks & Minerals and Soil: Soils	Trees	Cultivated Crops: Pumpkins
Reptiles, Amphibians and Fish: Reptiles	Animals in Winter	Birds

SCIENCE – BIOLOGY

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Cycles	Dinosaurs/Fossils	Cycles
<p>3.1.1.A2. Investigate the dependence of living things on the sun's energy, water, food/nutrients, air, living space, and shelter.</p> <p><i>Teacher Read:</i></p> <ol style="list-style-type: none"> 1. Crinkleroot's Guide to Knowing Animal Habitats by Arnosky (gr. P-3) N 2. A Kettle of Hawks and Other Wildlife Groups by Arnosky (gr. 3-5) Y-1 3. How the Animals Eat by Millicent Ellis Selsam N 4. Animal Baby-Sitters by Frances W. Zweifel N <p><i>Student Read:</i></p> <ol style="list-style-type: none"> 1. The Salamander Room by Anne Mazer (gr. P-2) Y-2 2. From Seed to Pumpkin by Wendy Pfeffer (gr. 1+) Y-13 3. Gobble It Up! A Fun Song About Eating! by Jim Arnosky (gr. 1-3) Y-1 4. Time to Eat by Steve Jenkins (gr. P-3) N 	<p>3.1.2.C3. CONSTANCY AND CHANGE: Describe some plants and animals that once lived on Earth, (e.g., dinosaurs) but cannot be found anymore. Compare them to now living things that resemble them in some way (e.g. lizards and birds).</p> <p><i>Teacher Read:</i></p> <ol style="list-style-type: none"> 1. Patrick's Dinosaur by Carol Carrick (gr. K-3) N 2. Digging Up Dinosaurs by Alike (gr. K-4) N 3. Dinosaurs! by Gail Gibbons (gr. K+) Y-different author? 4. What Happened to the Dinosaurs? by Franklyn M. Branley (LRFO 2) N 5. A New True Book of Fossils by Allen Roberts (or 3-4) N 6. Strange Creatures that Really Lived by Millicent Selsam N 7. If You Gave a T-Rex a Bone by Tim Myers (just for fun) N 8. A First Look at Dinosaurs by Millicent Selsam (classification) N 9. Did Dinosaurs Have Feathers by Kathleen Weidner N <p>Zoehfeld</p>	<p>3.1.2.A3. Identify similarities and differences in the life cycles of plants and animals.</p> <p><i>Teacher Read:</i></p> <ol style="list-style-type: none"> 1. Plantzilla by Jerdine Nolen (gr. K-3) N 2. A Seed Is Sleepy Dianna Hutts Aston (gr. 1-4) Y-1 3. Clara Caterpillar by Pamela Duncan Edwards (gr. P-1) N 4. Where Butterflies Grow by Joanne Ryder (gr. K-3) N 5. Seed, Soil, Sun: Earth's Recipe for Food by Cris Peterson (K-4) N 6. Plant a Little Seed by Bonnie Christensen (P-1) N 7. When an Animal Grows by Millicent E Selsam N 8. Discovering Cycles by Glenn Orlando Blough N 9. Trout Are Made of Trees by April Pulley Sayre (food web, river) (PB, gr. K-3, 32 p.) N

SCIENCE – OTHER

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Human Body	Chemistry	Technology and Engineering
<p>No Requirements</p> <p><i>Teacher Read:</i></p> <ol style="list-style-type: none"> 1. Body Bones by Shelley Rotner (gr. K-2) N 2. Look at Your Eyes by Paul Showers (LRFO 1) N 3. How You Talk by Paul Showers (LRFO) *inc experiments N 4. Hear Your Heart by Paul Showers (LRFO 2, gr. K-4) *inc experiments Y-8 5. What Happens to a Hamburger? by Paul Showers (LRFO 2, gr. K-4) Y-1 6. Germs Make Me Sick! by Melvin Berger (LRFO 2, gr. K-4) Y-1 7. Why I Sneeze, Shiver, Hiccup, & Yawn by Melvin Berger (LRFO 2, gr. K-4) Y-3 8. A Drop of Blood by Paul Showers (LRFO 2, gr. K-4) N <p>**If you find that the LRFO 2 books listed above are not too difficult for your students to read, then we can order more of them.</p> <p><i>Student Read:</i></p> <ol style="list-style-type: none"> 1. How Many Teeth? by Paul Showers (LRFO 1) N 2. I'm Growing by Aliki (LRFO 1) N 3. My Five Senses by Aliki (LRFO 1) Y-7 4. Sleep Is for Everyone by Paul Showers (LRFO 1, gr. P-3) <p>Alternative (not ordered):</p> <ol style="list-style-type: none"> 1. You Can't Smell a Flower with Your Ear! All About Your Five Senses by Joanna NCole (gr. 3-4) 2. Ears Are for Hearing by Paul Showers (LRFO) N 3. The Skeleton Inside You by Philip Balestrino (LRFO 2, gr. K-4) N 4. I Know Why I Brush My Teeth by Kate Rowan (gr. K-4) N 	<p>33.2.1.A1. Observe and describe the properties of liquids and solids.</p> <p>3.2.1.A1. Investigate what happens when solids are mixed with water and other liquids are mixed with water.</p> <p>3.2.1.A3. Identify how heating, melting, cooling, etc., may cause changes in properties of materials.</p> <p>3.2.2.A3. Demonstrate how heating and cooling may cause changes in the properties of materials.</p> <p>3.2.1.A4. Observe and describe what happens when substances are heated or cooled. Distinguish between changes that are reversible (melting, freezing) and not reversible (e.g. baking a cake, burning fuel).</p> <p>3.2.2.A4. Experiment and explain what happens when two or more substances are combined (e.g. mixing, dissolving, and separated (e.g. filtering, evaporation).</p> <p>3.2.1.A5. CONSTANCY AND CHANGE: Recognize that everything is made of matter.</p> <p><i>Teacher Read:</i></p> <ol style="list-style-type: none"> 1. Solids, Liquids, and Gases by Jeanne Bendick (RA based on availability, 72 p.) N 2. What is Matter by Daniel Posin (RA based on availability, 48 p.) N 3. All About Snow and Ice by Stephen Krensky N <p><i>Teacher Read or Student Read:</i></p> <ol style="list-style-type: none"> 1. What Is the World Made Of? All About Solids, Liquids, and Gases by Kathleen Weidner Zoehfeld (LRFO 2) N 	<p>No Requirements</p> <p><i>Teacher Read or Student Read:</i></p> <ol style="list-style-type: none"> 1. The Real McCoy, The: Life of an African-america Inventor by Wendy Towle (gr. P-3, 32 p., Gill has 1 copy) Y-2 2. The Microscope by Maxine Kumin **Bristol J 578 KUMN 3. Papa's Mechanical Fish by Candace Fleming (gr. K-3, 40 p.) Y-1 4. Rosie Revere, Engineer by Andrea Beaty (gr. K+, 32 p.)N 5. How Ben Franklin Stole the Lightning by Rosalyn Schanzer (gr. 1-7, 40 p.) 6. Baby Brains and RoboMom by Simon James (gr. K-2) Y-1 7. Iggy Peck, Architect by Andrea Beaty (gr. P-3) Y-2 8. Winter's Tail: How One Little Dolphin Learned to Swim Again by Craig Hatkoff (gr. P-3) Y-2 9. Pick a few of the following: (those marked with a * could go along with the experiments noted below) <p>From Cement to Bridge by Robin Nelson From Cotton to T-Shirt by Robin Nelson From Egg to Chicken by Robin Nelson From Flower to Honey by Robin Nelson From Foal to Horse by Robin Nelson From Kernel to Corn by Robin Nelson From Metal to Airplane by Robin Nelson From Peanut to Peanut Butter by Robin Nelson From Sea to Salt by Robin Nelson From Sheep to Sweater by Robin Nelson From Tree to House by Robin Nelson From Wax to Crayon by Robin Nelson</p> <p>*Apples to Applesauce by Inez Snyder Berries to Jelly by Inez Snyder *Grains to Bread by Inez Snyder *Grapes to Raisins by Inez Snyder *Milk to Ice Cream by Inez Snyder *Oranges to Orange Juice by Inez Snyder Tomatoes to Ketchup by Inez Snyder Trees to Paper by Inez Snyder</p>

SCIENCE – EXPERIMENT

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Earth	Chemistry	Technology and Engineering
<ol style="list-style-type: none"> FOSS: Pebbles, Sand, Silt Janice VanCleave's Play and Find Out About the Human Body: Easy Experiments for Young Children (gr. P-2) *Includes 11 experiments. You can do any of them. Some of the books on the human body (listed above) include activity suggestions. You can do these if you would like. 	<ol style="list-style-type: none"> FOSS: Liquids & Solids Make fossils (link or link or link) Create a Prehistoric Landscape (multiple day project) *See image below 	<p>Do any or all of the following:</p> <ol style="list-style-type: none"> Make applesauce from apples Dehydrate grapes to make raisins Make bread (individual baggies) and butter (take turns shaking it) Make ice cream (shake up individual servings) Squeeze oranges to make orange juice, and/or do the same with lemons to make lemonade

CREATE YOUR OWN PREHISTORIC LANDSCAPE

You will need: 1 cup plain white flour • ½ cup salt • 2 tablespoons of cooking oil • water • mixing bowl • water-based paints • craft wire • wire cutters • pliers • white glue • construction paper or colored cardboard • scissors • foil • cookie sheet

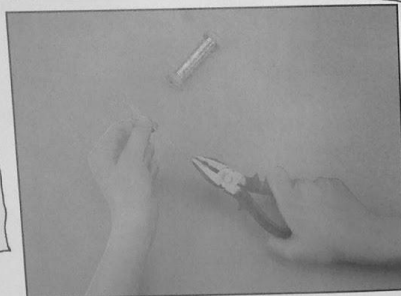
Ask an adult to help you.

1. Mix the flour and salt in a bowl. Pour in the oil and enough water to make a nonsticky dough. Cover your hands with flour and knead the dough well.

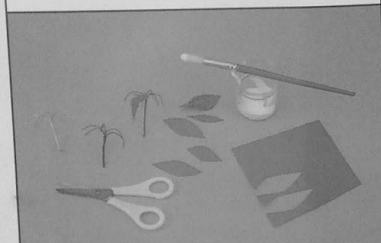


▲ 2. Mold the dough into a landscape. Make extra details, such as cycadeoid trunks, too. Try using different objects, such as forks and spoons, to give your models texture.

3. Line a cookie sheet with foil, and bake your landscape on the bottom rack of the oven at 350° for about 25 minutes.



▲ 4. To make giant ferns and cycadeoid leaves, twist lengths of craft wire together. It helps if you grip the wires with a pair of pliers at one end, and twist holding the other end.

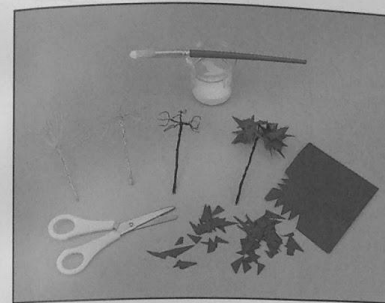


▲ 5. Separate the wires at the top, and bend them slightly. Now paint your wire frame.

Cut fernlike leaves from cardboard or construction paper, and glue each leaf on its wire stem.

6. Decide which types of conifer you want to make, then follow either steps 7-9 or step 10.

7. Twist lengths of wire together, as in step 4.



10. To make conifers such as yew trees, cut strands of wire of equal length, and start twisting them together.

Once the trunk is long enough, separate about four strands of wire, as shown.

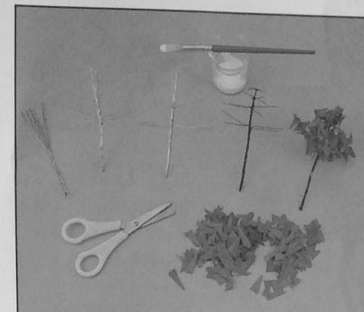
Continue twisting upward, separating wire strands as you go. When your tree is the right height, paint it. If you are not happy with its shape, trim and bend the branches.

Cover the branches with glue and sprinkle them with needle-shaped leaves cut from paper.

▲ 8. Separate the wires at the top of the tree. Now twist some of these wire strands together, to create branches.

Bend the tip of each branch inward, and paint the tree frame.

9. Cut pointed leaves from cardboard or construction paper. Cover the branch tips with glue, and sprinkle the leaves over them.



11. When your dough landscape has cooled, paint it. Push your wire trees into the dough, and your cycadeoid leaves into their trunks.



NATURAL HISTORY

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Rocks & Minerals and Soil: Soils <i>3.3.1.A1. Observe, describe, and sort earth materials. Compare the composition of different soils.</i> 1. *Jump into Science: Dirt by Steve Tomecek (PB, gr. p-3, 32 p.) Y-1 2. Rocks in His Head by Carol Otis Hurst (PB, gr. P-3, 32 p.) Y-4 3. The Dirt Book by Eva Knox Evans (RA based on availability, 83 p.) *Should I use this in MS instead? Y-1 4. Let's Go Rock Collecting by Roma Gans (LRFO 2) Y-2	Trees 1. True Books of Buds by Helen Ross Russell N 2. Crinkleroot's Guide to Knowing the Trees by Jim Arnosky (RA, 40 p.) N 3. Biography of a Leaf by Burke Davis (46 p.) N 4. Maple Tree by Millicent Selsam N 5. How the Forest Grew by William Jaspersohn (gr. P-3, 64 p. Gill has some) Y-5 Student Read: 1. Down Come the Leaves by Henrietta Bancroft (LRFO) N	Cultivated Crops: Pumpkins <i>3.1.1.B1. Grow plants from seed and describe how they grow and change. Compare to adult plants.</i> Teacher Read or Student Read: 1. Pumpkin Runner by Marsha Diane Arnold (K-3, 32 p. fiction) N 2. How a Seed Grows by Helene J. Jordan (LRFO 1) Y-1 3. From Seed to Pumpkin by Wendy Pfeffer (LRFO 1) Y-13
Reptiles, Amphibians and Fish: Reptiles Choose from the following, based on class interest: 1. Picta: The Painted Turtle by Virginia Frances Voight (63 p. RA) Y-2 Alternatives: 2. What is a Reptile by Wescott And Scott (RA based on availability) Y-1 3. Strange Lizards by Olive L. Earle (64 p.) N 4. A Book of Snakes by Dorothy Childs Hogner (102 p.) N 5. Buzztail by Robert M. McClung (68 p. RA) N 6. Turtles by Wilfrid Bronson (IP, gr. 3-7, 68 p.) N 7. Field Trips by Jim Arnosky (Reptile Tracks only: p. 47-52, set owned in 3-4) N Free Read: 1. What's It Like To Be a Fish? by Wendy Pfeffer (LRFO 1) Y-4 2. Look Out for Turtles! by Melvin Berger (LRFO 2) Y-4 3. Snakes Are Hunters by Patricia Lauber (LRFO 2) Y-2 4. Reptiles Do the Strangest Things by Leonora Hornblow N 5. Egg: Nature's Perfect Package by Steve Jenkins and Robin Page (Gr. P-3) N	Animals in Winter 1. Where They Go in Winter by Margaret Waring Buck (RA based on price) *skip fish and then reptiles if there is not enough time. Y-1 2. Field Trips by Jim Arnosky (Animal Tracking only, but not reptile tracks, pg 31-46, set owned) N 3. Winter-Sleeping Wildlife by Will Barker (129 p.) N 4. Winter Bees by Joyce Sidman (gr. K-4, poems, PB) N	Birds Choose from the following OR get a variety of the following to create a class set: 1. Feathers: Not Just for Flying by Melissa Stewart (gr. 1-4) N 2. Ducks Don't Get Wet by Augusta Goldin (LRFO 1) Y-1 3. When Birds Change Their Feathers by Roma Gans (LRFO) N 4. How Do Birds Find Their Way? by Roma Gans (LRFO) N 5. Bird Talk by Roma Gans (LRFO) N 6. Birds Eat and Eat and Eat by Roma Gans (LRFO) N 7. Birds Are Flying by John Kaufmann (LRFO) N 8. A Nest Full of Eggs by Priscilla Belz Jenkins (LRFO) N 9. It's Nesting Time by Roma Gans (LRFO) N 10. Burgess Bird Book by Thornton Burgess (select chapters only, Gill has) Y-1 11. Birds do the Strangest Things by Hornblow Y-4

EXTRA BOOKS IF NEEDED

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
1. Rachel: The Story of Rachel Carson by Amy Ehrlich (gr. K-3, 32 pp) 2. What I Like About Toads by Judy Hawes (LRFO)	1. Starfish by Edith Thacher Hurd and Robin Brickman (LRFO 1) 2. Twist, Wiggle and Squirm: A Book About Earthworms by Laurence P. Pringle (LRFO) 3. The Secret World by Mary DeBall Kwitz (32 p.) 4. Animals at Play by K. M. Kostyal (34 p.)	1. Looking For Miza: The True Story of the Mountain Gorilla Family Who Rescued one of Their by Juliana Hatkoff and Isabella Hatkoff (gr. 2-5, some owned, 40 pgs) 2. If I Were A Bird by Gladys Conklin 3. What Makes a Bird a Bird? by May Garelick and Trish Hill

NATURAL HISTORY – OBJECT LESSONS

Handbook of Nature Study (HoNS) Prep for NS:

The Teaching of Nature Study, pages 1-15

How to Use This Book, pages 23-24

* Children this age should not do any cutting or pulling apart of the flowers. You may do the cutting, and then allow them to look, or forgo this step and just look at it as is.

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Rocks & Minerals and Soil: Soils	Trees	Cultivated Crops: Pumpkins
<p>Teacher background: HoNS The Soil, p. 760-766</p> <p>Object Lesson:</p> <ol style="list-style-type: none"> Lesson 216, The Soil, p. 763 (3 experiments) <p>*Hand lenses might be helpful</p>	<p>Teacher background: HoNS Trees: p. 618-623</p> <p>Object Lessons:</p> <ol style="list-style-type: none"> Lesson 172 (do autumn work early in the term, then winter work mid term. Come back to the Spring work later during term 3) Lesson 173 early in the term Pick a “class tree” to watch for the rest of the year. See if there is a lesson in HoNS for the tree you picked (lessons 174-191, see list of 19 trees in the contents p. xviii) 	<p>Teacher background: HoNS Cultivated Crops, p. 591-594 The Pumpkin p. 611-617</p> <p>Object Lesson:</p> <ol style="list-style-type: none"> Lesson 171, The Pumpkin, p. 615 Sprout pumpkin seeds
Reptiles, Amphibians and Fish: Reptiles	Animals in Winter	Birds
<p>Teacher background: HoNS Reptiles, p. 193-213</p> <p>Object Lessons:</p> <ol style="list-style-type: none"> Would you mind keeping a pet snake or turtle? Depending on what you find, use the following lessons to guide your study: <ol style="list-style-type: none"> Lesson 50, The Milk Snake or Spotted Adder, p. 197 Lesson 51, The Water Snake, p. 199 Lesson 52, The Turtle, p. 208 Track sea turtles online (link) Is there a Reptile House nearby? 	<p>Object Lessons:</p> <ol style="list-style-type: none"> Guide a discussion to make a list of ways that we prepare for winter. (Clothing changes, food choices of more hot food, buildings are heated, outdoor activities change from swimming to skating, etc.) Take a walk around the schoolyard to look for evidence of animal homes and animals preparing for winter. Make a list of foods available for animals to eat. Make a list of the different homes seen on the observation walk. After the discussion of human needs in the winter and a walk and discussion to locate other animal homes and see them prepare for winter, note that humans are animals and we all have similar needs, especially in the wintertime. Discuss the ways humans and all animals need the same things to live in the winter – a warm home to get out of the cold, a place to store food, food to eat, and a space to sleep that is warm and dry. Role-play different animals preparing for winter in short skits or plays. 	<p>Teacher background: HoNS Birds: p. 27-47</p> <p>Object Lessons:</p> <ol style="list-style-type: none"> Lesson 1, Feathers as Clothing, p. 30 Lesson 2, Feathers as Ornament, p. 32 Lessons 8-35 * depending on what birds you find <p>Likely Possibilities:</p> <p>Lesson 11, American Robin, p. 57 Lesson 13, White-breasted Nuthatch, p. 65 Lesson 14, Black-capped Chickadee, p. 68 Lesson 15, Downy Woodpecker, p. 70 Lesson 16, Red-bellied Sapsucker, p. 74 Lesson 18, Northern Flicker, p. 77 Lesson 21, Chipping Sparrow, p. 86 Lesson 22, Song Sparrow, p. 89 Lesson 23, Northern Mockingbird, p. 91 Lesson 24, Gray Catbird, p. 95 Lesson 25, Belted Kingfisher, p. 97 Lesson 28, Tree Swallow, p. 109 Lesson 29, Ruby-throated Hummingbird, p. 115</p>

Gillingham Science & Natural History Curriculum - ½ Rotation B

* Note

**Must be done to cover a requirement

SCIENCE – OVERVIEW

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Biology	Biology	Biology
Astronomy	Physics	Weather, Climate & Water
Weeds and Wildflowers: Clover & General	Flowerless Plants: Ferns	Garden Flowers: Tulips
Spiders	Mammals: Mouse, Cat & General	Insects of Fields & Wood: Butterflies

SCIENCE – BIOLOGY

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Plants	Needs	Behaviors/Structures
<p>3.1.1.A5. Identify and describe plant parts and their function. 3.1.2.A5. Explain how different parts of a plant work together to make the organism function.</p> <p><i>Teacher Read:</i></p> <ol style="list-style-type: none"> 1. Jack's Garden by Henry Cole (gr. P-3) 2. Plant Secrets by Emily Goodman (gr. K-3) 3. How wind water and animals disperse seeds: 4. Miss Maple's Seeds by Eliza Wheeler (gr. P-2) 5. Planting the Wild Garden by Kathryn O. Galbraith (gr. 1+) 6. Plants Do Amazing Things by Hedda Nussbaum 7. Seeds are Wonderful by Foster And Queree 8. Seeds by Wind and Water by Helene J. Jordan 9. A Crack in the Pavement by Ruth Rea Howell (plants and animals in the city, *I haven't seen this book, let me know if it's not a good grade fit.) 	<p>3.1.2.C2. Explain that living things can only survive if their needs are being met.</p> <p><i>Teacher Read:</i></p> <ol style="list-style-type: none"> 1. A Frog in the Bog by Karma Wilson (gr. P-3) 2. Just One Bite by Lola Schaefer (gr. P-3) 3. Swimmy by Leo Lionni (gr. P-2) 4. What Do You Do When Something Wants To Eat You? by Steve Jenkins (gr. K-3) 5. What's Alive? by Kathleen Weidner Zoehfeld (LRFO 1) 6. A Place to Live by Jeanne Bendick 7. Animal Architecture by Jennifer Dewey 	<p>3.1.K.A5. Observe and describe structures and behaviors of a variety of common animals.</p> <p><i>Teacher Read:</i></p> <ol style="list-style-type: none"> 1. Just Ducks! by Nicola Davies (gr. K-3) 2. Hip-Pocket Papa by Sandra Markle (gr. K-3) 3. The Snail's Spell by Joanne Ryder (gr. K-4) 4. *What Do You Do With a Tail Like This? by Steve Jenkins (gr. K-3) 5. How Animal Babies Stay Safe by Mary Ann Fraser (LRFO 1) 6. Armored Animals by Herbert S. Zim 7. I See Animals Hiding by Jim Arnosky <p><i>Free Reads:</i></p> <ol style="list-style-type: none"> 1. How to Hide a Crocodile and Other Reptiles by Ruth Heller (IP) 2. How to Hide a Butterfly and Other Insects by Ruth Heller (IP)

SCIENCE – OTHER

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Astronomy	Physics	Weather, Climate & Water
<p>3.3.1.B1. Explain why shadows fall in different places at different times of the day.</p> <p>3.3.2.B1. Observe and record</p> <ul style="list-style-type: none"> • location of the Sun and the Moon in the sky over a day. • changes in the appearance of the Moon over a month. <p>Observe, describe, and predict seasonal patterns of sunrise and sunset.</p> <p><i>Teacher Read:</i></p> <ol style="list-style-type: none"> 1. Follow the Sunset by Herman and Nina Schneider 2. The True Book Of Moon, Sun and Stars by John Bryan Lewellen 3. Galileo's Treasure Box by Catherine Brighton OR 4. Starry Messenger: Galileo Galilei by Peter Sis (IP) 5. Can You Hitch a Ride on a Comet? by Sidney Rosen 6. One Giant Leap: The Story of Neil Armstrong by Don Brown 7. Dear Rebecca, Winter Is Here by Jean Craighead George (IP) (seasons) <p><i>Teacher Read or Student Read:</i></p> <ol style="list-style-type: none"> 1. **What Makes a Shadow? by Clyde Bulla (LR&FO 1) 2. **What Makes Day and Night by Franklyn M. Branley (LR&FO 1) 3. **The Moon Seems to Change by Franklyn M. Branley (LR&FO 2) 4. North, South, East, and West by Franklyn Mansfield Branley (LRFO) 	<p>3.2.1.B1. Demonstrate various types of motion.</p> <p>3.2.1.B1. Observe and describe how pushes and pulls change the motion of objects.</p> <p>3.2.2.B2. Explore and describe how different forms of energy cause changes. (e.g., sunlight, heat, wind)</p> <p>3.2.1.B3. Observe and record daily temperatures. Draw conclusions from daily temperature records as related to heating and cooling.</p> <p>3.2.1.B5. Compare and contrast how light travels through different materials. Explore how mirrors and prisms can be used to redirect a light beam.</p> <p>3.2.1.B6. ENERGY: Recognize that light from the sun is an important source of energy for living and nonliving systems and some source of energy is needed for all organisms to stay alive and grow.</p> <p><i>Teacher Read:</i></p> <ol style="list-style-type: none"> 1. **What is Heat? by T. Munch 2. Sun Up, Sun Down by Gail Gibbons (IP) 3. **What Is Light by Theodore W. Munch 4. **A New True Book of Energy by Illa Podendorf 5. Theodoric's Rainbow by Stephen P. Kramer (PB) 6. **Simple Machines: Wheels, Levers, and Pulleys by David A. Adler (PB) <p><i>Teacher Read or Student Read:</i></p> <ol style="list-style-type: none"> 7. **Day Light, Night Light: Where Light Comes From by Franklyn M. Branley (LRFO 2) 8. Floating and Sinking by Franklyn M. Branley (LRFO) 	<p><i>Weather and Climate</i></p> <p>3.3.1.A5. Become familiar with weather instruments.</p> <p>3.3.1.A5. Collect, describe, and record basic information about weather over time.</p> <p><i>Water</i></p> <p>3.3.1.A4. Identify and describe types of fresh and salt-water bodies (ocean, rivers, lakes, ponds).</p> <p>3.3.2.A4. Explore and describe that water exists in solid (ice) and liquid (water) form. Explain and illustrate evaporation and condensation.</p> <p><i>Teacher Read:</i></p> <ol style="list-style-type: none"> 1. Weather by Seymour Simon (40 pages, RA based on difficulty) 2. OR 3. Storms by Melvin Berger *1977 version (RA based on availability) 4. Not only for ducks: The story of rain by Glenn Orlando Blough (RA based on availability) 5. On the Same Day in March: A Tour of the World's Weather by Marilyn Singer (PB, gr. K-3, 40 pages, RA based on price) <p><i>Teacher Read or Student Read:</i></p> <ol style="list-style-type: none"> 1. Snowflake Bentley by Jacqueline Briggs Martin (PB, gr. K-3, 32 pages, set owned) * Early in the term AND 2. Snowflakes in Photographs by W. A. Bentley (reference, possible owned) Early in the term 3. Rain and Hail by Franklyn M. Branley (LR&FO) 4. Follow the Water from Brook to Ocean by Arthur Dorros (LRFO 2)

SCIENCE – EXPERIMENT

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Astronomy	Physics	Weather, Climate & Water
<ol style="list-style-type: none"> 1. Make a moon model with paper mache (link) *take several days 2. Or you could do paper mache earths. Painting these are fun. Even if the kids don't do it just right, the combination of "earth" colors makes them beautiful. 3. Sun Observations: Have small groups or pairs make a pinhole camera. Use a pin or the end of a pencil to poke a hole into one sheet of paper. Have one partner hold the paper up to the Sun and another partner place a plain sheet of white paper below it. He or she may need to move the paper around until an image of the Sun is cast onto the paper. Have group members observe what they see and discuss. One group member can trace the image, draw pictures of the pinhole image, and take notes about their observations. You may wish to do this activity several times during the week, month, or year. How do the images change? 4. From Science Fair Projects: Flight, Space & Astronomy by Bob Bonnet <ol style="list-style-type: none"> a. Project 26: Sun Trek. *See image below b. Project 27: I Am a Sundial. *See image below 	<ol style="list-style-type: none"> 1. Soap Science: A Science Book Bubbling with 36 Experiments by J. L. Bell (gr. 2+ or 3-6, 64 p.) *temperature, colors, invisible gases, electricity, and more 	<ol style="list-style-type: none"> 1. Track weather daily as a class or individually in a notebook. 2. Super Simple Things to Do With Water by Kelly Doudna

NATURAL HISTORY

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Weeds and Wildflowers: Clover & General	Flowerless Plants: Ferns	Garden Flowers: Tulips
<ol style="list-style-type: none"> 1. Miss Rumphius by Barbara Cooney (PB, gr. K-3, 32 p.) 2. Planting the Wild Garden by Kathryn O. Galbraith (PB, 32 p.) 3. The Story of Ferdinand by Munro Leaf (maybe cloverish?) 	<ol style="list-style-type: none"> 1. From Spore to Spore: Ferns and How They Grow by Jerome Wexler (48 p.) 2. Plants that Never Ever Bloom by Ruth Heller (PB) 	<ol style="list-style-type: none"> 1. The First Tulips in Holland by Phyllis Krasilovsky 2. Hana in the Time of the Tulips by Deborah Noyes 3. Watch Tulips Grow by Kristen Rajczak 4. The Gardener by Sarah Stewart
Spiders	Mammals: Mouse, Cat & General	Insects of Fields & Wood: Butterflies
<ol style="list-style-type: none"> 1. Wolfie by Janet Chenery (can be read by students) 2. A Daddy Longlegs Isn't a Spider by Melissa Stewart (PB) 3. My Daddy Longlegs by Judy Hawes (above or this one) 4. The Web in the Grass by Berniece Freschet (PB) 	<ol style="list-style-type: none"> 1. Whitefoot: A Story from the Center of the World by Wendell Berry (set or some owned, RA, 64 pgs) 2. Whitefoot, The Story of a Wood Mouse by Robert M. McClung (48 p.) 3. Whitefoot Mouse by Barbara & Russell Peterson 4. Gray Squirrel by Mary Adrian (RA based on availability, 46 p.) 5. Woodchuck by Faith McNulty or Orphan by same (RA based on availability) 6. Squirrels in the Garden by Olive Lydia Earle (RA based on availability, 63 p.) 7. The Burgess Animal Book for Children by Thornton Burgess (RA, select chapters) 	<ol style="list-style-type: none"> 1. Everyday Insects by Gertrude Allen 2. Tiger: The story of a swallowtail butterfly by Robert M. McClung (RA, 44 p.) 3. How to Raise Monarch Butterflies: A Step-by-Step Guide for Kids by Carol Pasternak (PB, RA) 4. Butterfly House by Eve Bunting (PB. RA based on difficulty) 5. Monarch and Milkweed by Helen Frost (PB, RA) 6. The Travels of Monarch X by Ross E. Hutchins 7. Monarch Butterfly Winging North & South by Marion W. Marcher (RA) <p>Free Reads:</p>

	Free Reads: 1. Animals Do the Strangest Things by Hornblower (FR) 2. My Pet Hamster by Anne F. Rockwell (LRFO 1) 3. Baby Whales Drink Milk by Barbara Juster Esbensen (LRFO 1)	1. From Caterpillar to Butterfly by Deborah Heiligman (LRFO 1) 2. Bugs Are Insects by Anne Rockwell and Steve Jenkins (LRFO 1)
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EXTRA BOOKS IF NEEDED

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
1. Song of the Seasons (does Gill own this?) 2. How to Be a Nature Detective by Millicent E. Selsam (LRFO, IP) 3. Lifetime: The Amazing Numbers in Animal Lives by Lola M. Schaefer (gr. P-3, 40 p.)	1. Where Do Polar Bears Live? by Sarah L. Thomson (LRFO 2) 2. Hide-and-Seek Science: Animal Camouflage by Emma Stevenson (gr. K-3, 32 p., IP) 3. Big Friend, Little Friend: A Book About Symbiosis by Susan Sussman (30 p.)	1. I Was Born in a Tree and Raised By Bees by Jim Arnosky (42 p.) 2. I Like Bees by Gladys Conklin (may not be able to find this one) 3. Watch Honeybees with Me by Judy Hawes (LRFO) 4. The Tall Grass Zoo by Winifred Lubell

Gillingham Science & Natural History Curriculum - $\frac{3}{4}$ Rotation A

* Note

**Must be done to cover a requirement

SCIENCE – OVERVIEW

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Biology	Biology	Biology
Earth	Chemistry	Technology and Engineering
Rocks & Minerals and Soil: Minerals	Trees	Cultivated Crops: Corn
Reptiles, Amphibians and Fish: Amphibians	Animals in Winter	Birds

SCIENCE – BIOLOGY

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
General and Classification	Needs and Endangerment	Fossils
3.1.3.A1. Describe characteristics of living things that help to identify and classify them. 3.1.4.A1. Classify plants and animals according to the physical characteristics that they share. <i>Teacher Read:</i> 1. *Benny's Animals and How He Put Them In Order by Millicent E. Selsam (RA based on cost.) 2. Tiny Creatures: The World of Microbes by Nicola Davies (PB, gr. K-3+, 40 p.)	3.1.3.A2. Describe the basic needs of living things and their dependence on light, food, air, water, and shelter. 3.1.4.A2. Describe the different resources that plants and animals need to live. 3.1.4.C1. Describe how environmental changes can cause extinction in plants and animals. <i>Teacher Read:</i> Needs:	3.1.3.C3. CONSTANCY AND CHANGE: Recognize that fossils provide us with information about living things that inhabited the Earth long ago 3.1.4.C3. CONSTANCY AND CHANGE: Compare fossils to one another and to currently living organisms according to their anatomical similarities and differences. 3.3.4.A3. Recognize that fossils provide evidence about the plants and animals that lived long ago and the nature of the environment at that time.

FOSS: Structures of Life	<ol style="list-style-type: none"> 1. Living Sunlight: How Plants Bring The Earth To Life by Molly Bang (PB, IP, gr. P-3, 40 p.) 2. Wonders of Animal Architecture by Sigmund A. Lavine (RA based on avail, 63 p.) 3. Who Eats What? by Patricia Lauber (LRFO, gr. K-4, 32 p.) 4. Plants Around The Year by Glenn O. Blough (RA based on availability/price) <p>Endangerment:</p> <ol style="list-style-type: none"> 1. **Will We Miss Them? Endangered Species by Alexandra Wright (PB, gr. K-3) 2. An American Safari: Adventures on the North American Prairie by Jim Brandenburg (set or some owned, PB I think, gr. 3-6, 44 p.) <p>Poems:</p> <ol style="list-style-type: none"> 1. What's for Dinner? Quirky, Squirmy Poems from the Animal World by Katherine B. Hauth (PB, gr. 3-5, 48 p.) <p>Free Read:</p> <ol style="list-style-type: none"> 1. Almost Gone: The World's Rarest Animals by Steve Jenkins (gr. K-4) 	<p>Teacher Read:</p> <ol style="list-style-type: none"> 10. **Who Lives in an Alligator Hole? by Anne Rockwell (gr. K-4, 40 p.) 11. Barnum's Bones: How Barnum Brown Discovered the Most Famous Dinosaur in the World by Tracey Fern (PB, gr. K-4) 12. Mary Anning and The Sea Dragon by Jeannine Atkins (PB, IP, Grade: K-5, 32 p.) <p>OR</p> <ol style="list-style-type: none"> 13. Mary Anning Fossil Hunter by Sally M Walker (Just OK, but the students could read this alone) <p>Student Read (choose from the following):</p> <ol style="list-style-type: none"> 14. **Fossils Tell of Long Ago by Alikei (gr. K-4, LRFO 2) 15. **Archaeologists Dig for Clues by Kate Duke (gr. K-4, LRFO 2) <p>Free Read:</p> <ol style="list-style-type: none"> 1. Dinosaur Bones by Alikei (LRFO 2) 2. Dinosaur Babies by Kathleen Weidner Zoehfeld (LRFO 2) 3. Dinosaur Tracks by Kathleen Weidner Zoehfeld (LRFO) 4. Dinosaurs Big and Small by Kathleen Weidner Zoehfeld (LRFO) 5. Terrible Tyrannosaurs by Kathleen Weidner Zoehfeld (LRFO 2) 6. The Long-Lost Coelacanth And Other Living Fossils by Alikei (LRFO) <p>Other Notes: PA has a "state fossil"? Check it out here. Maybe print out this page and a picture of it for your students.</p>
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SCIENCE – OTHER

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Earth	Chemistry	Technology and Engineering
<p>3.3.4.A1. Describe basic landforms. Identify the layers of the earth. Recognize that the surface of the earth changes due to slow processes and rapid processes.</p> <p>3.3.4.A6. MODELS/SCALE: Identify basic landforms using models and simple maps.</p> <p>3.3.4.A6. CONSTANCY/CHANGE: Identify simple changes in the earth system as air, water, soil and rock interact.</p> <p>3.3.3.A1. Explain and give examples of the ways in which soil is formed.</p> <p>3.3.4.A2. Identify basic properties and uses of Earth's materials including rocks, soils, water, and gases of the atmosphere.</p> <p>Teacher Read:</p>	<p>3.2.3.A1. Differentiate between properties of objects such as size, shape, and weight and properties of materials that make up the objects such as color, texture, and hardness.</p> <p>Differentiate between the three states of matter, classifying a substance as a solid, liquid, or gas.</p> <p>3.2.4.A1. Identify and classify objects based on their observable and measurable physical properties.</p> <p>Compare and contrast solids, liquids, and gases based on their properties.</p> <p>3.2.3.A2. Recognize that all objects and materials in the world are made of matter.</p> <p>3.2.4.A2. Demonstrate that materials are composed of parts that are too small to be seen without magnification.</p> <p>3.2.3.A3. Demonstrate how heating and cooling may cause changes in the properties of materials including phase changes.</p> <p>3.2.4.A3. Demonstrate the conservation of mass during physical changes such as melting or freezing.</p>	<p>*See Below</p> <p>Teacher Read or Student Read:</p> <ol style="list-style-type: none"> 1. Recycling: Where Does the Garbage Go by Paul Showers (LRFO 2, K-4) 2. Medical: Louis Pasteur by Rae Bains (29 p.) 3. Agriculture: Chocolate by Samuel G. Woods (gr. 3-5, 32 p.) 4. Communication: Ahoy! Ahoy! Are You There by Robert M. Quackenbush (36 p.) 5. Transportation: <ol style="list-style-type: none"> a. How People Learned to Fly by Fran Hodgkins (LRFO 2, K-4) OR b. To Fly: The Story of the Wright Brothers by Wendie C. Old (gr 1-4, 48 p.)

<ol style="list-style-type: none"> 1. The Earth's Crust by Irving Adler (RA based on availability, 48 p.) 2. The Soil that Feeds Us by Eleanor Hedy (RA based on availability, 14 avail = possible share set? 62 p.) 3. How a Rock Came to be in a Fence on a Road Near a Town by Hy Ruchlis (RA based on availability) <p><i>Student Read:</i></p> <ol style="list-style-type: none"> 1. How Mountains Are Made by Kathleen Weidner Zoehfeld (LRFO 2) 2. Volcanoes by Franklyn M. Branley (LRFO 2) 3. Earthquakes by Franklyn M. Branley (LRFO 2) 4. How to Dig a Hole to the Other Side of the World by Faith McNulty (IP, gr. P-3, 32 p.) 	<p>3.2.3.A4. Use basic reactions to demonstrate observable changes in properties of matter (e.g., burning, cooking).</p> <p>3.2.4.A4. Recognize that combining two or more substances may make new materials with different properties.</p> <p>3.2.3.A5. CONSTANCY AND CHANGE: Recognize that everything is made of matter.</p> <p>3.2.4.A5. MODELS: Use models to demonstrate the physical change as water goes from liquid to ice and from liquid to vapor.</p> <p><i>Teacher Read:</i></p> <ol style="list-style-type: none"> 1. The Story of Chemistry by Mae & Ira Freeman (RA, 82 p.) <p><i>Student Read:</i></p> <ol style="list-style-type: none"> 1. Air Is All Around You by Franklyn M. Branley (LRFO 2) 2. What's Smaller Than a Pygmy Shrew? by Robert E. Wells (gr. 1-6, IP, 32 p.) 3. Marie Curie by Leonard Everett Fisher (PB, gr. 3+, 32 p., *a little dry) 4. The Northern Lights by Jill Kalz (PB, gr 4+, 32 p.) 	<ol style="list-style-type: none"> 6. Manufacturing: Crayons by Samuel G. Woods (gr. 3-5, 32 p.) 7. Construction: Building Our House by Jonathan Bean (PB, IP, gr. P-5) 8. Conservation: What's So Bad About Gasoline? by Anne Rockwell (LRFO 2, gr. 1-3) 9. Tools: A Map Is a Picture by Barbara Rinkoff 10. General: So You Want to Be an Inventor by Judith St. George (PB, gr. 2-5)
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SCIENCE – EXPERIMENT

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Earth	Chemistry	Technology and Engineering
<p>1. FOSS: Earth Materials</p>	<p>1. Chemistry, Pre-Level 1 by Rebecca W. Keller (gr. K-3, 80 p. one section per rotation = 10 weeks, so drop or combine as needed)</p> <p>2. Real Science-4-Kids Chemistry Pre-Level I Teacher's Manual by Rebecca W. Keller Ph.D. (10 experiments, so drop or combine as needed)</p> <p>Alternative options:</p> <p>1. Chemistry of a Lemon by A. H. Stone, Harris Stone (would need prep, or maybe 5-6)</p> <p>2. FOSS available for purchase: Matter and Energy</p>	<p>Technology and Engineering</p> <p>1. The Ultimate Guide to Paper Airplanes: 35 Amazing Step-By-Step Designs by Christopher L. Harbo (gr. 4+, but I think most of them will not be too hard for the kids)</p> <p>2. Maybe save all of the planes made and one day have a competition to test whose airplane can fly the furthest, can stay in the air the longest, fly in the neatest pattern, etc. Maybe even judge whose is decorated the nicest, and things like that. Typically we don't compete child against child, but you can use this to make the point that technology must meet the "needs" and "wants" of society. Frequently that includes testing various models and designs.</p> <p>3. Possibly have your students create their own design, and compare the results.</p> <p>Biology – Janice VanCleave's Dinosaurs for Every Kid by Janice VanCleave (gr. 4+)</p> <p>1. Lesson 1 Buried Treasure, pg 5: What Fossils Are and How They Are Formed.</p> <p>2. Lesson 7. What's In a Name, pg 69: Learning About the Meanings of the Names Given to Dinosaurs.</p> <p>3. Lesson 9. Modeling, pg 91: How Scientists Determine the Weight of Dinosaurs.</p> <p>4. **Lesson 10. Outer Coverings, pg 101: Theories About the Type and Color of Dinosaur Skin.</p> <p>5. **Lesson 18. Land Dwellers, pg 185: Why Sauropods Are Now Believed to Have Lived on Land.</p> <p>6. Lesson 19. Track Record, pg 195: Using Fossilized Dinosaur Tracks to Determine the Speed of Dinosaurs.</p>

NATURAL HISTORY

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Rocks & Minerals and Soil: Minerals 3.3.3.A2. Identify the physical properties of minerals and demonstrate how minerals can be tested for these different physical properties. 1. True Book of Rocks and Minerals by Illa Podendorf (48 p.) OR 2. Rocks and Minerals by Lou Williams Page (RA based on availability, 32 p.) AND/OR 3. The Story of Salt by Mark Kurlansky (IP, PB, gr. 3-6, 48 p.) Student Reads: 1. Salt by Augusta Goldin (LRFO)	Trees 1. Lives of an Oak Tree by Ross Hutchins (64 p.) 2. Sky Tree: Seeing Science Through Art by Thomas Locker (PB, K-4, Gill has 20) 3. Giants in the Land by Diana Appelbaum (32 p. historical fiction, PB, g. 4-6) 4. The Hole in the Tree by Jean Craighead George 5. Planting the Trees of Kenya: The Story of Wangari Maathai by Claire A. Nivola (K-3, PB, used in citizenship) 6. SPRING: Tree Flowers by Selsam (reference) Student Reads: 1. A Tree Is a Plant by Clyde Robert Bulla (LRFO, Gill has some) 2. Be a Friend to Trees by Patricia Lauber (LRFO) 3. Redwoods Are the Tallest Trees in the World by David A. Adler (LRFO) 4. Why Do Leaves Change Color? by Betsy Maestro (LRFO 2) 5. How Do Apples Grow? by Betsy Maestro (LRFO 2)	Cultivated Crops: Corn Choose from the following: 1. Magic Maize by Mary Buff (fiction, 76 p.) 2. Plants that Feed Us by Carroll Lane Fenton (just one chapter in this one) 3. Popcorn by Millicent Selsam (48 p.) 4. Story Book of Corn by Maud and Miska Petersham 5. Secrets of the Garden: Food Chains and the Food Web in Our Backyard by Kathleen Weidner Zoehfeld (PB, gr. K-3, 40 p.) Student Read: 1. Corn Is Maize: The Gift of the Indians by Ailiki (LRFO 2) Free Read: 1. The Popcorn Book by Tomie de paola
Reptiles, Amphibians and Fish: Amphibians 1. Frogs and Toads by Herbert Spencer Zim (64 p.) Additional Books: *Teacher choose based on the class ability and interest: 1. Peeper, First Voice of Spring by Robert McClung (PB, RA, easy) 2. Toad Overload by Patricia Seibert (32 p.) 3. John Burroughs Poem: The Song of the Toad (RA based on difficulty, link) Student Reads: *various difficulty levels 1. Why Frogs Are Wet by Judy Hawes (LRFO 2) 2. From Tadpole to Frog by Wendy Pfeffer (LRFO 1) 3. Spotted Salamander by Robert McClung (medium level) 4. The Moon of the Salamanders by Jean Craighead George (gr. 4-6, advanced) 5. Little Red Newt by Louise Dyer Harris (advanced)	Animals in Winter 5. Where They Go in Winter by Margaret Waring Buck (RA based on price) *skip fish and then reptiles if there is not enough time. 6. Field Trips by Jim Arnosky (Animal Tracking only, but not reptile tracks, pg 31-46, set owned) 7. Winter-Sleeping Wildlife by Will Barker (129 p.) 8. Winter Bees by Joyce Sidman (gr. K-4, poems, PB)	Birds Choose from the following OR get a variety of the following to create a class set: 1. Swallows by Charles Ripper 2. Song of the Swallows by Leo Politi (gr. 1+, CS avail) 3. Barn Swallow Flies to Summer Lands by Paul McCutcheon Sears (only 1 avail.) 4. White Patch: a City Sparrow by Olive L. Earle (RA based on availability) 5. Bobwhite from Egg to Chick to Egg by Elizabeth and Charles Schwartz (RA based on availability) 6. Hawks by Charles Ripper (3-4, expensive) 7. Groundbirds by Charles Ripper (3-4) 8. Birds in the Big Woods by Glenn Blough, general 9. Thunder Wings By Olive Earle, grouse 10. EARLY IN TERM: Backyard Birds of Winter by Carol Lerner (reference) Student Read: 1. Field Trips by Jim Arnosky (Bird Watching section only pg 53-72, set owned)

EXTRA BOOKS IF NEEDED

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
	The Man Who Made Parks by Freida Wishinsky (set owned, gr. 2-4, 32 pgs)	Nature in the Neighborhood by Gordon Morrison (PB, gr. 3-5, some owned, possible set, spring)

NATURAL HISTORY – OBJECT LESSONS

Handbook of Nature Study (HoNS) Prep for NS:

The Teaching of Nature Study, pages 1-15

How to Use This Book, pages 23-24

* Children this age should not do any cutting or pulling apart of the flowers. You may do the cutting, and then allow them to look, or forgo this step and just look at it as is.

Standard to consider throughout the year:

3.1.3.A3. *Illustrate how plants and animals go through predictable life cycles that include birth, growth, development, reproduction, and death.*

3.1.4.A3. *Identify differences in the life cycle of plants and animals.*

3.1.4.A8. *MODELS Construct and interpret models and diagrams of various animal and plant life cycles.*

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Rocks & Minerals and Soil: Minerals	Trees	Cultivated Crops: Corn
<p>Teacher background: HoNS Rocks and Minerals, p. 743-744 Minerals, p. 750-759</p> <p>*Buy a set of rocks and minerals to test (for example) *Hand lens</p> <p>Object Lessons, choose from the following:</p> <ol style="list-style-type: none"> Grow Alum crystals over the whole term. HoNS <ol style="list-style-type: none"> Lesson 211, Crystal Growth, p. 752 Lesson 212, Salt, p. 753 Lesson 213, Quarts, p. 755 Lesson 214, Feldspar, p. 758 Lesson 215, Mica, p. 758 Janice VanCleave's Earth Science for Every Kid by Janice VanCleave (chapter 2 only) <ol style="list-style-type: none"> Lesson 8. Salty, p. 24: To determine how salt beds are formed. Lesson 9. Needles, p. 26: To demonstrate how crystals form. Lesson 10. Deposits, p. 28: To demonstrate the formation of caliche deposits Lesson 11. Dripper, p. 30: To demonstrate the formation of stalagmites and stalactites. Lesson 12. Bubbles, p. 32: To demonstrate a positive test for limestone. Lesson 13. Spoon Pen, p. 34: To demonstrate a mineral streak test. Lesson 14. Crunch, p. 36: To demonstrate the formation of metamorphic rocks. 	<p>Teacher background: HoNS Trees: p. 618-623</p> <p>Object Lessons:</p> <ol style="list-style-type: none"> Lesson 172 (do autumn work early in the term, then winter work mid term. Come back to the Spring work later during term 3 Lesson 173 early in the term Pick a "class tree" to watch for the rest of the year. See if there is a lesson in HoNS for the tree you picked (lessons 174-191, see list of 19 trees in the contents p. xviii) 	<p>Teacher background: HoNS Cultivated Crops, p. 591-594 The Maize or Indian Corn, p. 598-604</p> <p>Object Lesson:</p> <ol style="list-style-type: none"> Lesson 168, The Maize (4 Experiments), p. 602
Reptiles, Amphibians and Fish: Amphibians	Animals in Winter	Birds

<p>Teacher background: HoNS Amphibians, p. 170-192</p> <p>Object Lessons:</p> <ol style="list-style-type: none"> Would you mind keeping a pet toad, tadpoles or a salamander? If you have a class pet OR your students find any of the following then use the following lessons to guide a study of them <ol style="list-style-type: none"> Lesson 44, The Tadpole Aquarium, p. 175 Lesson 45, The Toad, p. 176 Lesson 46, Spring Peeper or Pickering's Hyla, p. 179 Lesson 47, The Frog, p. 183 Lesson 48, The Newt or Eft, p. 187 	<p>Object Lessons:</p> <ol style="list-style-type: none"> Guide a discussion to make a list of ways that we prepare for winter. (Clothing changes, food choices of more hot food, buildings are heated, outdoor activities change from swimming to skating, etc.) Take a walk around the schoolyard to look for evidence of animal homes and animals preparing for winter. Make a list of foods available for animals to eat. Make a list of the different homes seen on the observation walk. After the discussion of human needs in the winter and a walk and discussion to locate other animal homes and see them prepare for winter, note that humans are animals and we all have similar needs, especially in the wintertime. Discuss the ways humans and all animals need the same things to live in the winter – a warm home to get out of the cold, a place to store food, food to eat, and a space to sleep that is warm and dry. Role-play different animals preparing for winter in short skits or plays. Lesson 7, The Study of Birds Nests in Winter, p. 46 *do this early in the term, or even at the end of term 2 	<p>Teacher background: HoNS Birds: p. 27-47</p> <p>Object Lessons:</p> <ol style="list-style-type: none"> Lesson 3, How Birds Fly, p. 34 Lesson 4, Eyes and Ears of Birds, p.38 Lesson 7, The Study of Birds Nests in Winter, p. 46 *do this early in the term, or even at the end of term 2 Lessons 8-35 * depending on what birds you find <p>Likely Possibilities:</p> <p>Lesson 11, American Robin, p. 57 Lesson 13, White-breasted Nuthatch, p. 65 Lesson 14, Black-capped Chickadee, p. 68 Lesson 15, Downy Woodpecker, p. 70 Lesson 16, Red-bellied Sapsucker, p. 74 Lesson 18, Northern Flicker, p. 77 Lesson 21, Chipping Sparrow, p. 86 Lesson 22, Song Sparrow, p. 89 Lesson 23, Northern Mockingbird, p. 91 Lesson 24, Gray Catbird, p. 95 Lesson 25, Belted Kingfisher, p. 97 Lesson 28, Tree Swallow, p. 109 Lesson 29, Ruby-throated Hummingbird, p. 115</p>
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Technology and Engineering requirements

- 3.4.3.A1. Identify how the natural made world and the human made world are different.
- 3.4.4.A1. Understand that tools, materials, and skills are used to make things and carry out tasks.
- 3.4.3.A2. Identify that some systems are found in nature and some systems are made by humans
- 3.4.4.A2. Understand that systems have parts and components that work together.
- 3.4.3.A3. Identify how the study of technology uses many of the same ideas and skills as many other subjects.
- 3.4.4.A3. Describe how various relationships exist between technology and other fields.
- 3.4.3.B1. Describe how using technology can be good or bad.
- 3.4.4.B1. Describe how technology affects humans in various ways.
- 3.4.3.B2. Explain how materials are re-used or recycled.
- 3.4.4.B2. Explain how the use of technology affects the environment in good and bad ways.
- 3.4.3.B3. Identify and define products made to meet individual needs versus wants.
- 3.4.4.B3. Explain why new technologies are developed and old ones are improved in terms of needs and wants.
- 3.4.3.B4. Illustrate how people have made tools to provide food, clothing, and shelter.
- 3.4.4.B4. Describe how the history of civilization is linked closely to technological development.
- 3.4.3.C1. Recognize design is a creative process and everyone can design solutions to problems.
- 3.4.4.C1. Understand that there is no perfect design.
- 3.4.3.C2. Explain why the design process requires creativity and consideration of all ideas.
- 3.4.4.C2. Describe the engineering design process: Define a problem. Generate ideas. Select a solution and test it. Make the item. Evaluate the item. Communicate the solution with others. Present the results.
- 3.4.3.C3. Recognize that all products and systems are subject to failure; many products and systems can be fixed.
- 3.4.4.C3. Explain how asking questions and making observations help a person understand how things work and can be repaired.
- 3.4.3.D1. Identify people's needs and wants and define some problems that can be solved through the design process.
- 3.4.4.D1. Investigate how things are made and how they can be improved.
- 3.4.3.D2. Observe, analyze and document how simple systems work.
- 3.4.4.D2. Recognize and use everyday symbols (e.g. icons, simple electrical symbols measurement) to communicate key ideas. Identify and use simple hand tools (e.g., hammer, scale) correctly and safely.
- 3.4.3.D3. Collect information about everyday products and systems by asking questions.
- 3.4.4.D3. Investigate and assess the influence of a specific technology or system on the individual, family, community, and environment.
- 3.4.3.E1. Identify the technologies that support and improve quality of life.

- 3.4.4.E1. Identify tools and devices that have been designed to provide information about a healthy lifestyle.
- 3.4.3.E2. Identify some processes used in agriculture that require different procedures, products, or systems.
- 3.4.4.E2. Identify the technologies in agriculture that make it possible for food to be available year round.
- 3.4.3.E3. Recognize that tools, machines, products, and systems use energy in order to do work.
- 3.4.4.E3. Identify types of energy and the importance of energy conservation.
- 3.4.3.E4. Recognize that information and communication technology is the transfer of messages among people and/or machines over distances through the use of technology.
- 3.4.4.E4. Explain how information and communication systems allow information to be transferred from human to human.
- 3.4.3.E5. Understand that transportation has many parts that work together to help people travel.
- 3.4.4.E5. Recognize that a transportation system has many parts that work together to help people travel and to move goods from place to place.
- 3.4.3.E6. Explain how manufacturing systems design and produce products in quantity.
- 3.4.4.E6. Identify key aspects of manufacturing processes (designing products, gathering resources and using tools to separate, form and combine materials in order to produce products).
- 3.4.3.E7. Recognize that people live, work, and go to school in buildings which are different types of structures.
- 3.4.4.E7. Understand that structures rest on foundations and that some structures are temporary, while others are permanent.

Gillingham Science & Natural History Curriculum - $\frac{3}{4}$ Rotation B

* Note

**Must be done to cover a requirement

SCIENCE – OVERVIEW

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Biology	Biology	Biology
Astronomy	Physics	Weather, Climate & Water
Weeds and Wildflowers: Dandelion, Milkweed & General	Flowerless Plants: Fungi	Garden Flowers: Poppies
Spiders	Mammals: Dogs, Foxes & General	Insects of Fields & Wood: Crickets & Grasshoppers

SCIENCE – BIOLOGY

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
General	Parents and Babies	Survival
<p>3.1.4.C1. Identify different characteristics of plants and animals that help some populations survive and reproduce in greater numbers.</p> <p>3.1.3.A5. Identify the structures in plants that are responsible for food production, support, water transport, reproduction, growth, and protection. *NS</p> <p>3.1.4.A5. Describe common functions living things share to help them function in a specific environment.</p> <p><i>Teacher Read:</i></p> <p><i>Animals:</i></p> <ol style="list-style-type: none"> How Animals Behave by Jeanne Bendick (RA based on availability) Strange Companions in Nature by Olive L. Earle (RA based on availability/price) 	<p>3.1.3.B1. Understand that plants and animals closely resemble their parents.</p> <p>3.1.4.B1. Describe features that are observable in both parents and their offspring.</p> <p>3.1.4.B2. Recognize that reproduction is necessary for the continuation of life.</p> <p><i>Teacher Read:</i></p> <p><i>Resemblance:</i></p> <ol style="list-style-type: none"> When Animals Are Babies by Elizabeth Reeder Schwartz (RA based on availability) All About Animals and Their Young by Robert M. McClung (RA based on availability/price) *this is a longer book 	<p>3.1.3.C1. Recognize that plants survive through adaptations, such as stem growth towards light and root growth downward in response to gravity. *NS</p> <p>3.1.3.C1. Recognize that many plants and animals can survive harsh environments because of seasonal behaviors (e.g. hibernation, migration, trees shedding leaves).</p> <p>3.1.3.C2. Describe animal characteristics that are necessary for survival.</p> <p>3.1.4.C2. Describe plant and animal adaptations that are important to survival.</p> <p><i>Teacher Read:</i></p> <ol style="list-style-type: none"> Luck by Jean Craighead George (PB, gr. 1-3)

<p>3. How Animals Live Together by Millicent E. Selsam (RA based on availability, 95 p.)</p> <p>4. What Color Is Camouflage? by Carolyn B. Otto (LRFO 2)</p> <p>5. Living Together in Nature: How Symbiosis Works by Jane E. Hartman (36 p.)</p> <p><i>Plants:</i></p> <p>1. Seeds by Wind and Water by Helene Jordan</p> <p>2. Roots Are Food Finders by Franklyn M. Branley</p>	<p>5. Who Lives in This House: A Story of Animal Families by Glenn O. Blough (RA based on availability/price)</p> <p><i>Reproduction:</i></p> <p>3. Mousekin's Birth by Edna Miller (reproduction)</p> <p><i>Free Read:</i></p> <p>Born in the Wild: Baby Mammals and Their Parents by Lita Judge (PB, gr. 3-8, 48 p.)</p>	<p>9. Song for the Whooping Crane by Eileen Spinelli (PB, Gr. 4+)</p> <p><i>Student Read (choose from the following):</i></p> <p>16. Whooping Crane by Robert M. McClung (63 pages, gr. 4+)</p> <p>17. Biography of a whooping crane by Lorle Harris (63 pages, I estimate it to be a gr. 4+ level)</p> <p>18. Saving the Whooping Crane by Susan E. Goodman and Phyllis V. Saroff (Gr. 2+)</p> <p>19. Tarsi, The Sandhill Crane by Liz Drewien Thach (120 pages)</p> <p><i>Other Notes:</i></p> <p>*Follow crane's route on a map</p> <p>*Whooping crane current events (link)</p> <p>*Activities (link)</p> <p>*See NS Year 3, Term 2:</p> <ul style="list-style-type: none"> Where They Go in Winter by Margaret Waring Buck Winter Bees by Joyce Sidman
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SCIENCE – OTHER

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Astronomy	Physics	Weather, Climate & Water
<p>3.3.3.B1. Relate the rotation of the earth and day/night, to the apparent movement of the sun, moon, and stars across the sky. Describe the changes that occur in the observable shape of the moon over the course of a month.</p> <p>3.3.4.B1. Identify planets in our solar system and their basic characteristics.</p> <p>Describe the earth's place in the solar system that includes the sun (a star), planets, and many moons.</p> <p>Recognize that the universe contains many billions of galaxies and that each galaxy contains many billions of stars.</p> <p>3.3.4.B2. SCALES: Know the basic characteristics and uses of telescopes.</p> <p>PATTERNS/PHASES: Identify major lunar phases.</p> <p>PATTERNS: Explain time (days, seasons) using solar system motions.</p> <p><i>Teacher Read:</i></p> <p>1. Dot to Dot in the Sky: Stories in the Stars by Joan Hinz (Gill has some) *Stories in the Stars and Stories in the Planets</p> <p>2. Pluto's Secret by Margaret A. Weitekamp (PB)</p> <p>3. Come See the Earth Turn Story of Leon Foucault (PB, am I using this elsewhere? MS physics maybe, Gill has some)</p> <p><i>Student Read:</i></p> <p>1. What Makes Day and Night by Franklyn M. Branley (Gr. K-4)</p> <p>2. The Planets in Our Solar System by Franklyn M. Branley (LR&FO 2)</p>	<p>3.2.3.B1. Explain how movement can be described in many ways.</p> <p>3.2.4.B1. Explain how an object's change in motion can be observed and measured.</p> <p>3.2.3.B2 Explore energy's ability to cause motion or create change. Explore how energy can be found in moving objects, light, sound, and heat.</p> <p>3.2.4.B2. Identify types of energy and their ability to be stored and changed from one form to another.</p> <p>3.2.3.B3. Explore temperature changes that result from the addition or removal of heat.</p> <p>3.2.4.B3. Understand that objects that emit light often emit heat.</p> <p>3.2.4.B6. Recognize that light from the sun is an important source of energy for living and nonliving systems and some source of energy is needed for all organisms to stay alive and grow.</p> <p>3.2.4.B6. Give examples of how energy can be transformed from one form to another.</p> <p>3.2.3.B4. Identify and classify objects and materials that are conductors or insulators of electricity. Identify and classify objects and materials as magnetic or non-magnetic.</p> <p>3.2.4.B4. Apply knowledge of basic electrical circuits to the design and construction of simple direct current circuits. Compare and contrast series and parallel circuits. Demonstrate that magnets have poles that repel and attract each other.</p> <p>3.2.3.B5. Recognize that light travels in a straight line until it strikes an object or travels from one material to another</p> <p>3.2.4.B5. Demonstrate how vibrating objects make sound and sound can make things vibrate.</p>	<p><i>Weather and Climate</i></p> <p>3.3.3.A5. Explain how air temperature, moisture, wind speed and direction, and precipitation make up the weather in a particular place and time.</p> <p>3.3.4.A5. Describe basic weather elements. Identify weather patterns over time.</p> <p>3.3.4.A6. SCALE: Explain how basic weather elements are measured.</p> <p><i>Water</i></p> <p>3.3.3.A4. Connect the various forms of precipitation to the weather in a particular place and time.</p> <p>3.3.4.A4. Recognize Earth's different water resources, including both fresh and saltwater.</p> <p>Describe phase changes in the forms of water on Earth</p> <p><i>Teacher Read:</i></p> <p><i>Weather:</i></p> <p>1. Junior Science Book of Rain, Hail, Sleet and Snow by Nancy Larrick (63 pages, RA based on availability or possible SS)</p> <p>2. Close to the Wind: The Beaufort Scale by Peter Malone (IP, K+, 32 p.)</p> <p>3. The Big Storm by Bruce Hiscock (gr. 2-5, 32 p., PB)</p> <p>4. Snow by Thelma Harrington Bell (RA based on availability)</p> <p><i>Water:</i></p>

3. What the Moon is Like by Franklyn M. Branley (LR&FO 2) 4. The Sky Is Full of Stars by Franklyn M. Branley (LR&FO 2) 5. The Sun: Our Nearest Star by Franklyn M. Branley (LR&FO 2) 6. Mission to Mars by Franklyn M. Branley (LR&FO 2) 7. The International Space Station by Franklyn M. Branley (LR&FO 2) 8. Eclipse by Franklyn M. Branley (LR&FO 2) 9. The Big Dipper by Franklyn M. Branley (LR&FO 1)	3.2.4.B5. Demonstrate how light can be reflected, refracted, or absorbed by an object. <i>Teacher Read:</i> 1. Junior Science Book of Electricity by Rocco V. Feravolo (64 p.) 2. What is Sound by Gabriel H Reuben (46 p.) <i>Student Read:</i> 9. What Makes a Magnet? by Franklyn M. Branley (LRFO 2) 10. Energy Makes Things Happen by Kimberly Brubaker Bradley (LRFO 2) 11. Gravity Is a Mystery by Franklyn M. Branley (LRFO 2) 12. Forces Make Things Move by Kimberly Brubaker Bradley (LRFO 2) 13. Switch On, Switch Off by Melvin Berger (LRFO 2) 14. Energy from the Sun by Melvin Berger (LRFO ?) 15. Light Is All Around Us by Wendy Pfeffer and Paul Meisel (LRFO 2) 16. Sounds All Around by Wendy Pfeffer (LRFO 1) 17. The Listening Walk by Paul Showers (LRFO ?, grade K-2) 18. I Have a Sister, My Sister is Deaf by Jeanne Whitehouse Peterson	1. A Drop Of Water: A Book of Science and Wonder by Walter Wick (RA - PB, gr. 3-6, supplement) <i>Student Read:</i> 5. Feel the Wind by Arthur Dorros (LR&FO 2) 6. Sunshine Makes the Seasons by Franklyn M. Branley (LR&FO 2) 7. What Will the Weather Be? by Lynda DeWitt (LR&FO 2) 8. Flash, Crash, Rumble, and Roll by Franklyn M. Branley (LR&FO 2) 9. Tornado Alert by Franklyn M. Branley (LR&FO 2) 10. Down Comes the Rain by Franklyn M. Branley (LR&FO 2) 11. Snow Is Falling by Franklyn M. Branley (LR&FO 1) 12. Clouds by Anne Rockwell (LR&FO 1)
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SCIENCE – EXPERIMENT

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Astronomy	Physics	Weather, Climate & Water
1. The Moon Seems to Change by Franklyn M. Branley (gr. K-4) *Follow the direction in the back to complete the experiment. 2. Constellation Project Ideas (link) *This project could be done in conjunction with the Dot to Dot in the Sky and spread over several days. 3. Janice VanCleave's Astronomy for Every Kid by Janice VanCleave <ul style="list-style-type: none"> a. Lesson 52. Changes, p 114: To determine why the Moon appears and disappears. b. Lesson 54. Face Forward, p 118: To demonstrate that the Moon rotates on its axis. c. Lesson 59. Star Clock, p 130: To determine why the stars seem to move in circles across the night sky. d. Lesson 67. Hazy, p 146: To demonstrate why the Milky Way appears to be a hazy cloud. <p>*Is it possible to take your class on a field trip to your local planetarium?</p>	2. FOSS: Variables (Motion: pendulum, paper-cup boat, model plane, propel an object) 3. FOSS: Magnetism & Electricity 4. High Sounds, Low Sounds by Franklyn M. Branley (LRFO) *Supplies needed for the experiments in this book: <ul style="list-style-type: none"> a. For each student: rubber bands, straws (paper straws?) b. For each pair or group of students: string - 3 feet long, metal spoon, fork, bigger spoon c. Possibly one old radio or TV that has been taken apart enough to see the speakers inside 5. Hot As an Ice Cube by Philip Balestrino (LRFO) *Simple experiments dealing with temperature, the movement of molecules, and heat transfer reveal how objects as cold as ice cubes still retain heat.	1. FOSS: Water Investigations 2. Janice VanCleave's Weather by Janice VanCleave <ul style="list-style-type: none"> 1. Lesson 1. Straight On, p 4: How does the curved shape of the earth affect the climate throughout the world? 2. Lesson 4. Up and Down, p 16: How can you make a model of a Fahrenheit thermometer? *Maybe just do the bottle thermometer experiment. 3. Lesson 7. On the Move, p 28: What causes the wind? 4. Lesson 8. Windy, p 32: How can the speed of wind be measured? 5. Lesson 11. Rainy, p 44: How do raindrops begin?

NATURAL HISTORY

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Weeds and Wildflowers: Dandelion, Milkweed & General	Flowerless Plants: Fungi	Garden Flowers: Poppies
<ol style="list-style-type: none"> 1. The Amazing Dandelion by Selsam (RA) 2. A Weed is a Flower by Alike (gr. P-3, 32 p.) *About George Washington Carver 3. Catnip by Selsam and Wexler 4. Weeds by Dorothy Hogner (117 p.) 5. Milkweed by Selsam (48 p.) 6. "In dusty pods the milkweed Its hidden silk has spun," —a portion of the poem "September" by Helen Hunt Jackson (1830-1885) 	<ol style="list-style-type: none"> 1. Toadstools and Such by Solveig Paulson Russell (48 p.) 2. Mushrooms and Molds by Robert Froman (LRFO, 33 p.) 3. Mushrooms by Millicent Selsam (gr. 3-5, 48 p.) 4. Katya's Book of Mushrooms by Katya Arnold (gr. 5-8, RA, reference) *this has beautiful woodcut illustrations 	<ol style="list-style-type: none"> 1. The Poppy Seeds by Clyde Robert Bulla 2. The Poppy Lady: Moina Belle Michael and Her Tribute to Veterans by Barbara Walsh 3. The Red Poppy by Irmgard Lucht 4. Ava's Poppy by Marcus Pfister
Spiders	Mammals: Dogs, Foxes & General	Insects of Fields & Wood: Crickets & Grasshoppers
<ol style="list-style-type: none"> 1. Black Widow Spider--Danger by Gladys Conklin 2. Tarantula the Giant Spider by Gladys Conklin 3. Outside and Inside Spiders by Sandra Markle (RA) 4. Spiders (Keeping Minibeasts) by Chris Henwood (RA) 5. Spiders by Dorothy Childs Hogner (RA) 	<ol style="list-style-type: none"> 1. The Watcher: Jane Goodall's Life with the Chimps by Jeanette Winter (PB) 2. Get a the total of a class set from the following options: <p>Here Come the...by Alice Goudey</p> <ul style="list-style-type: none"> • Cottontails • Elephants • Beavers • Squirrels • Whales • Lions • Deer • Seals • Raccoons • Bears • Wild Dogs <p>And maybe get a few of the following for advanced readers: The Moon of the...by Jean Craighead George *get old version, not reprint</p> <ul style="list-style-type: none"> • The Moon of the Bears (February) • The Moon of the Fox Pups (June) • The Moon of the Wild Pigs (July) • The Moon of the Mountain Lions (August) • The Moon of the Deer (September) • The Moon of the Grey Wolves (November) • The Moon of the Moles (December and January) <p>Possibly a couple easier books by Charles Ripper</p> <ul style="list-style-type: none"> • Foxes and Wolves • Woodchucks and Their Kin • The Weasel Family 	<ol style="list-style-type: none"> 8. Field Trips by Jim Arnosky (Bug Hunting section only, p 9-30, set owned) 9. Quick as a Wink by Dorothy Aldis, *poems (RA based on price) 10. Clouds of Terror by Catherine Welch (historical fiction, G 2+, CS or SS available, 46 p.) <p><i>Possibly get any of the following as free reads:</i></p> <ol style="list-style-type: none"> 1. Crickets by Olive Earle (RA based on availability/price) 2. Creepy Creatures: Crickets (Minibeasts series) by Valerie Bodden (PB, RA based on availability/price) 3. Nature Close-Up - Crickets and Grasshoppers by Elaine Pascoe (PB, RA) 4. Grasshoppers and Crickets by Dorothy Hogner (a few available, __ p.) 5. Red Legs by Alice Goudey (easier, a few available, __ p.) 6. The Grasshopper Book by Wilfrid Bronson (IP, advanced, 136 p., G 3-7, \$) 7. Grasshopper on the Road by Arnold Lobel (easier K-3, CS available, 64 p.) 8. Chirping Crickets by Melvin Berger (LRFO 2, G K-4, possible SS, 32 p.)

EXTRA BOOKS IF NEEDED

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
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Stickeen by John Muir (possible set owned, grade 3+, 96 p.)	Additional mammal book	Books not read from mammal term
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Gillingham Science & Natural History Curriculum - Year 5

* Note

**Must be done to cover a requirement

SCIENCE – OVERVIEW

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Biology	Biology	Biology
Earth	Chemistry	Technology and Engineering
Rocks & Minerals and Soil: Rocks	Trees	Cultivated Crops: Cotton
Reptiles, Amphibians and Fish: Fish	Insects of Brook and Pond	Birds

SCIENCE – BIOLOGY

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Food Chains	Adaptation	Photosynthesis
<p>3.1.6.A2. Describe how energy derived from the sun is used by plants to produce sugars (photosynthesis) and is transferred within a food chain from producers (plants) to consumers to decomposers.</p> <p><i>Teacher Read:</i></p> <ol style="list-style-type: none"> Small Worlds: Communities of Living Things by Howard Smith (gr. 5+, 180 p.) <p><i>Additional Options:</i></p> <ol style="list-style-type: none"> Living Together by Mary King Hoff (gr. 4+, 32 p.) Big Friend, Little Friend: A Book About Symbiosis by Susan Sussman (30 p.) 	<p>3.1.5.B1. Differentiate between inherited and acquired characteristics of plants and animals.</p> <p>3.1.5.C2. Give examples of how inherited characteristics (e.g., shape of beak, length of neck, location of eyes, shape of teeth) may change over time as adaptations to changes in the environment that enable organisms to survive.</p> <p><i>Teacher Read:</i></p> <ol style="list-style-type: none"> We Were There With Charles Darwin on the H.M.S. Beagle by Philip Eisenberg (RA, not cheap, 188 p.) Birds and Their Beaks by Olive L. Earle (RA based on availability/price, reference or read one each day) Fur, Feathers and Flippers: How Animals Live Where They Do by Patricia Lauber (gr. 4+, 48 p., PB I think) 	<p>*Term 1 cont.</p> <p>3.1.6.A2. Describe how energy derived from the sun is used by plants to produce sugars (photosynthesis) and is transferred within a food chain from producers (plants) to consumers to decomposers.</p> <p>3.1.5.A2. Describe how life on earth depends on energy from the sun.</p> <p><i>Teacher Read:</i></p> <ol style="list-style-type: none"> How Did We Find Out About Photosynthesis? by Isaac Asimov (64 pages) *expensive, but avail free online OR The Vital Process: Photosynthesis by Jeffrey J. W. Baker (need to look at, 63 p.) <p>*These might be too hard even as Teacher Reads. I'll keep searching.</p>

SCIENCE – OTHER

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Earth	Chemistry	Technology and Engineering
<p>3.3.5.A1. Describe how landforms are the result of a combination of destructive forces such as erosion and constructive erosion, deposition of sediment, etc.</p> <p>3.3.6.A1. Recognize and interpret various mapping representations of Earth's common features.</p> <p>3.3.6.A2. Examine how soil fertility, composition, resistance to erosion, and texture are affected by many factors.</p> <p>3.3.5.A3. Explain how geological processes observed today such as erosion, movement of lithospheric plates, and changes in the composition of the atmosphere are similar to those in the past.</p> <p>3.3.6.A6. MODELS/SCALES Describe the scales involved in characterizing Earth and its atmosphere.</p> <p>3.3.6.A6. MODELS/SCALES Create models of Earth's common physical features.</p> <p><i>Teacher Read:</i></p> <ol style="list-style-type: none"> All About the Planet Earth by Patricia Lauber (RA based on availability, 137 p.) 	<p>3.2.5.A1. Describe how water can be changed from one state to another by adding or taking away heat.</p> <p>3.2.6.A1. Distinguish the differences in properties of solids, liquids, and gases.</p> <p>3.2.6.A1. Differentiate between volume and mass. Investigate that equal volumes of different substances usually have different masses.</p> <p>3.2.6.A2. Compare and contrast pure substances with mixtures.</p> <p>3.2.6.A3. Explain and give examples of how mass is conserved in a closed system.</p> <p>3.2.6.A4. Differentiate between physical changes and chemical changes.</p> <p>3.2.6.A5. CONSTANCY AND CHANGE Identify characteristic properties of matter that can be used to separate one substance from the other.</p> <p><i>Teacher Read:</i></p> <ol style="list-style-type: none"> The Mystery of the Periodic Table by Benjamin D. Wiker (Gill has set, history & atom, gr. 5+, 165 p.) 	<p>*See Below</p> <p><i>Student Read (select from the following):</i></p> <ol style="list-style-type: none"> Recycling: Medical: Great Men of Medicine by Ruth Fox Hume (192 p., Landmark Book) OR The Courage of Dr. Lister by Iris Noble (191 p., Messner Biography) Agriculture: Communication: The Story of Thomas Alva Edison by Margaret Cousins (167 p., gr. 3-7, Landmark Book) Transportation: Henry Ford: Young Man With Ideas by Hazel B. Aird (gr. 4-6, 192 p.) Manufacturing: Team Moon by Catherine Thimmesh (grade 4-7, Gill may have some.) Construction: Brooklyn Bridge by Lynn Curlee (gr. 3-6, 40 p.) Conservation: Tools: Carry On, Mr. Bowditch by Jean Lee Latham (Gill has set, gr. 5.1)

SCIENCE – EXPERIMENT

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Earth	Chemistry	Technology and Engineering
<ol style="list-style-type: none"> FOSS: Earth Materials 	<ol style="list-style-type: none"> FOSS: Mixtures & Solutions (missing the measurement kit) <p>Alternative options:</p> <ol style="list-style-type: none"> Janice VanCleave's <u>Chemistry</u> for Every Kid by Janice VanCleave (gr. 4+) MiddleSchoolChem.com, Chapter 2, lessons 1 & 4 = 3.2.5.A1, Chapter 1, lesson 2, 4 & 5 = 3.2.6.A1, Chapter 3, lessons 1-4 = 3.2.6.A1., Chapter 6, lesson 1 = 3.2.6.A4 Adventure with Atoms and Molecules by Robert C. Mebane (30 experiments) Chemistry Level I Teacher's Manual by Rebecca W. Keller Chemistry in the Kitchen by Seymour Simon 	<ol style="list-style-type: none"> FOSS: Solar Energy <p>Alternative options:</p> <p>Plants Are Like That by A. Harris Stone</p>

NATURAL HISTORY

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Rocks & Minerals and Soil: Rocks	Trees	Cultivated Crops: Cotton
<p>3.3.5.A2. Describe the usefulness of Earth's physical resources as raw materials for the human made world.</p> <ol style="list-style-type: none"> **Quartz by Zim A First Look at Rocks by Millicent Selsam (possible SS, or RA) *I know this looks super easy, but these books are setting the stage for classification. Though they are written simply, they are for this age group. 	<ol style="list-style-type: none"> Out of Doors in Winter by C. J. Hylander (gr. 3-4 or 5-6, trees and bird chapters only) First Book of Trees, Cormack (104 p., RA) Junior Science Book of Trees by Robert Stell Lemmon (63 p.) The Mangrove Tree: Planting Trees to Feed Families by Susan L. Roth (PB, 1+, 40 p.) Christmas Trees and How They Grow by Glenn Blough (48 p.) SPRING: The Tree Book For Kids and Their Grownups by Ingoglia (reference, 5-6, Gill has 1) SPRING: The Apple and Other Fruits by Selsam (5-6 or RA) Dead Log Alive by Jo S. Kittinger (gr. 4-7, 64 p., super expensive) 	<p>Choose from the following depending on how much time you have:</p> <ol style="list-style-type: none"> Cotton by Millicent Selsam (48 p.) Cotton in My Sack by Lois Lenski (191 p. fiction)
Reptiles, Amphibians and Fish: Fish	Insects of Brook and Pond	Birds
<p>3.1.5.A3. Compare and contrast the similarities and differences in life cycles of different organisms.</p> <ol style="list-style-type: none"> Leaper by Robert McClung (RA based on price, but still expensive) <u>OR</u> Trout by Charles L Ripper (RA based on availability/price) <p>Additional Books or Free Reads:</p> <ol style="list-style-type: none"> Fish Do the Strangest Things by Leonora Hornblow (60 pp.) Fish Watching with Eugene Clark by Michael Elsohn Ross (Gr. 4-7, 48 pages) Speckled Trout from Locusts and Wild Honey by John Burroughs (link) (RA based on difficulty) 	<p>3.1.5.A3. Compare and contrast the similarities and differences in life cycles of different organisms.</p> <ol style="list-style-type: none"> Among the Pond People by Clara Dillingham Pierson (98 p. 18 distinct chapters) Pond Life by Alexander Crosby (RA based on difficulty, 64 pages) Pond Circle by Betsy Franco (32 pages, Grade: P-3, PB) Song of the Water Boatman and Other Pond Poems by Joyce Sidman (Gr. K-3, PB) 	<p>Choose from the following OR get a variety of the following to create a class set:</p> <ol style="list-style-type: none"> Frightful's Mountain by Jean Craighead George (272 p. IP, Gr. 3-7, peregrine falcon) Robins Fly North, Robins Fly South by John Kaufmass (48 p. RA) The Moon of the Winter Bird by Jean Craighead George (128 p. gr. 3-7, song sparrow) Bird Watching with Margaret Morse Nice by Michael Elsohn Ross (Gr. 4-6, 48 p.)

EXTRA BOOKS IF NEEDED

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Digging for Bird Dinosaurs: An Expedition to Madagascar by Nic Bishop (gr. 5-8, 48 p.)	Wild Animals I Have Known by Ernest Thompson Seton (some owned, 364 p.)	<p>Secrets of a Wildlife Watcher by Jim Arnosky (gr. 5-7, 64 p.)</p> <p>Read any of the tree books that you couldn't get to last term.</p>

NATURAL HISTORY – OBJECT LESSONS

Handbook of Nature Study (HoNS) Prep for NS:

The Teaching of Nature Study, pages 1-15

How to Use This Book, pages 23-24

* Children this age should not do any cutting or pulling apart of the flowers. You may do the cutting, and then allow them to look, or forgo this step and just look at it as is.

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Rocks & Minerals and Soil: Rocks Teacher background: HoNS Rocks and Minerals: p. 743-744 Rocks: p. 744-750 *Buy a set of rocks and minerals to test (for example) *Hand lens Object Lessons, choose from the following: 1. First Book of Stones by Maribelle Cormack (with activities, possible CS or SS) 2. Science Book of Rocks by George Ten Broeck (with activities, possible CS or SS) 3. HoNS a. Lesson 209, Igneous Rocks: Granite, p. 747 b. Lesson 210, Calcite, Limestone, and Marble, p. 749 4. Inside activity: rock stations (link) 5. 1) look for rocks 2) identify them 3) diagram and describe them in your nature journal 4) collect them	Trees Teacher background: HoNS Trees: p. 618-623 Object Lessons: 9. Lesson 172 (do autumn work early in the term, then winter work mid term. Come back to the Spring work later during term 3) 10. Lesson 173 early in the term 11. Pick a “class tree” to watch for the rest of the year. 12. See if there is a lesson in HoNS for the tree you picked (lessons 174-191, see list of 19 trees in the contents p. xviii)	Cultivated Crops: Cotton Teacher background: HoNS Cultivated Crops, p. 591-594 The Cotton Plant p. 604-608 Object Lesson: 2. Lesson 169, Cotton, p. 607
Reptiles, Amphibians and Fish: Fish Teacher background: HoNS Fish, p. 144-169 Object lessons: 1. Would you mind keeping a fish tank? Even just a goldfish or Beta fish? 2. Lesson 36: The Study of the Fish, p. 147 3. Lesson 38, The Common Sucker, p. 153 4. Lesson 39, The Shiner, p. 39 5. Is there a fish hatchery in the area? Is so then use Lesson 40: Brook Trout, p. 158	Insects of Brook and Pond Teacher background: HoNS Insects, p. 294-300 Insects of the Brook and Pond, p. 400-415 Object lessons: 1. Lesson 102, How to Make an Aquarium for Insects, p. 400 2. Lesson 103, Dragonflies and Damsel Flies, p. 401 3. Lesson 104, Other Aquatic Insects, p. 402 4. Lesson 105, The Mosquito, p. 414 (3 lessons) *I know this is not really the time of year to consider insects, but we have to do it at some point. You can use field guides or printed pictures for the students to study and copy into their field guides.	Birds Teacher background: HoNS Birds: p. 27-47 Object Lessons: 8. Lesson 5, The Beak of a Bird, p. 40 9. Lesson 6, The Feet of Birds, p. 41 10. Lessons 8-35 * depending on what birds you find Likely Possibilities: Lesson 11, American Robin, p. 57 Lesson 13, White-breasted Nuthatch, p. 65 Lesson 14, Black-capped Chickadee, p. 68 Lesson 15, Downy Woodpecker, p. 70 Lesson 16, Red-bellied Sapsucker, p. 74 Lesson 18, Northern Flicker, p. 77 Lesson 21, Chipping Sparrow, p. 86 Lesson 22, Song Sparrow, p. 89 Lesson 23, Northern Mockingbird, p. 91 Lesson 24, Gray Catbird, p. 95 Lesson 25, Belted Kingfisher, p. 97 Lesson 28, Tree Swallow, p. 109 Lesson 29, Ruby-throated Hummingbird, p. 115

Technology and Engineering requirements

- 3.4.5.A1. Explain how people use tools and techniques to help them do things.
- 3.4.6.A1. Identify how creative thinking and economic and cultural influences shape technological development.
- 3.4.5.A2. Understand that a subsystem is a system that operates as part of a larger system.
- 3.4.6.A2. Describe how systems thinking involves considering how every part relates to others.
- 3.4.5.A3. Describe how technologies are often combined.
- 3.4.6.A3. Explain how knowledge from other fields of study (STEM) integrate to create new technologies.
- 3.4.5.B1. Explain how the use of technology can have unintended consequences.
- 3.4.6.B1. Describe how economic, political, and cultural issues are influenced by the development and use of technology.
- 3.4.5.B2. Describe how waste may be appropriately recycled or disposed of to prevent unnecessary harm to the environment.
- 3.4.6.B2. Describe how technologies can be used to repair damage caused by natural disasters and to break down waste from the use of various products and systems.
- 3.4.5.B3. Describe how community concerns support or limit technological developments.
- 3.4.6.B3. Interpret how societal and cultural priorities are reflected in technological devices.
- 3.4.5.B4. Identify how the way people live and work has changed history in terms of technology.
- 3.4.6.B4. Demonstrate how new technologies are developed based on people's needs, wants, values, and/or interests.
- 3.4.5.C1. Explain how the design process is a purposeful method of planning practical solutions to problems.
- 3.4.6.C1. Recognize that requirements for a design include such factors as the desired elements and features of a product or system or the limits that are placed on the design.
- 3.4.5.C2. Describe how design, as a dynamic process of steps, can be performed in different sequences and repeated.
- 3.4.6.C2. Show how models are used to communicate and test design ideas and processes.
- 3.4.5.C3. Identify how invention and innovation are creative ways to turn ideas into real things.
- 3.4.6.C3. Explain why some technological problems are best solved through experimentation.
- 3.4.5.D1. Identify ways to improve a design solution.
- 3.4.6.D1. Apply a design process to solve problems beyond the laboratory classroom.
- 3.4.5.D2. Use information provided in manuals, protocols, or by experienced people to see and understand how things work.
- 3.4.6.D2. Use computers appropriately to access and organize and apply information.
- 3.4.5.D3. Determine if the human use of a product or system creates positive or negative results.
- 3.4.6.D3. Design and use instruments to evaluate data.
- 3.4.5.E1. Identify how technological advances have made it possible to create new devices and to repair or replace certain parts of the human body.
- 3.4.6.E1. Describe how advances and innovations in medical technologies are used to improve health care.
- 3.4.5.E2. Understand that there are many different tools necessary to maintain an ecosystem, whether natural or man-made.
- 3.4.6.E2. Identify how emerging agricultural technologies have an effect on ecosystem dynamics and human/ animal food resources.
- 3.4.5.E3. Explain how tools, machines, products, and systems use energy in order to do work.
- 3.4.6.E3. Investigate that power is the rate at which energy is converted from one form to another or transferred from one place to another.
- 3.4.5.E4. Describe how the use of symbols, measurements, and drawings promotes clear communication by providing a common language to express ideas.
- 3.4.6.E4. Illustrate how communication systems are made up of a source, encoder, transmitter, receiver, decoder, and destination.
- Examine how communications information technologies are used to help humans make decisions and solve problems.
- 3.4.5.E5. Examine reasons why a transportation system may lose efficiency or fail (e.g., one part is missing or malfunctioning or if a subsystem is not working).
- 3.4.6.E5. Demonstrate how transporting people and goods involves a combination of individuals and subsystems, such as structural, propulsion, suspension, guidance, control, and support.
- 3.4.5.E6. Examine how manufacturing technologies have become an integral part of the engineered world.
- 3.4.6.E6. Identify key aspects of manufacturing systems that use mechanical processes to change the form of natural materials (e.g., separating, forming, combining, conditioning).
- 3.4.5.E7. Describe the importance of guidelines when planning a community.
- 3.4.6.E7. Explain how the type of structure determines the way the parts are put together.

Gillingham Science & Natural History Curriculum - Year 6

* Note

**Must be done to cover a requirement

SCIENCE – OVERVIEW

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
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Biology	Biology	Biology
Astronomy	Physics	Weather, Climate & Water
Weeds and Wildflowers: Queen Anne's Lace & General	Flowerless Plants: Molds and Bacteria	Garden Flowers: Daffodils & Their Relatives
Spiders	Mammals: Raccoons & General	Insects of Fields & Wood: Ants

SCIENCE – BIOLOGY

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Cells	Plants, Microbes	Behaviors
<p>3.1.6.A4. Recognize that all organisms are composed of cells and that many organisms are unicellular and must carry out all life functions in one cell.</p> <p>3.1.5.A5. Explain the concept of a cell as the basic unit of life. Compare and contrast plant and animal cells.</p> <p>3.1.6.A6. Identify examples of unicellular and multicellular organisms.</p> <p>3.1.6.A8. SCALE: Explain why the details of most cells are visible only through a microscope.</p> <p><i>Teacher Read:</i></p> <p>6. **Cells: The Basic Structure of Life by Vicki Cobb (62 p.)</p> <p>7. **Hidden Worlds: Looking Through a Scientist's Microscope by Stephen Kramer (PB, gr. 5-9, 64 p., FR or RA)</p> <p><i>Student Read or Free Read (choose from the following):</i></p> <p>1. How Did We Find Out About Germs by Isaac Asimov (64 p.)</p> <p>2. Louis Pasteur, The Germ Killer by John Harvey Mann (40 p.)</p> <p>3. The Quest of Louis Pasteur by Patricia Lauber (56 p.)</p>	<p>3.1.6.A1. Describe the similarities and differences of major physical characteristics in plants, animals, fungi, protists, and bacteria. *NS Term 5</p> <p><i>Teacher Read or Student Read:</i></p> <p>8. The Smallest Life Around Us by Lucia Anderson (gr. 2-6, 48 p. A brief discussion of one-celled plants and animals known as microbes. Suggested experiments are included.)</p> <p>9. The First Book of Plants by Alice Dickinson (IP, 92 p.)</p>	<p>3.1.5.C1. Describe how organisms meet some of their needs in an environment by using behaviors (patterns of activities) in response to information (stimuli) received from the environment.</p> <p>3.1.6.C1. Differentiate between instinctive and learner animal behaviors that relate to survival.</p> <p><i>Teacher Read:</i></p> <p>10. Ride the Wind: Airborne Journeys of Animals by Seymour Simon, Elsa Warnick (PB)</p> <p>11. Butterfly Eyes and Other Secrets of the Meadow by Joyce Sidman (poetry, PB, gr. 3-5)</p> <p><i>Student Read (choose from the following):</i></p> <p>20. Moonbird: A Year on the Wind with the Great Survivor B95 by Phillip Hoose (gr. 4-8, 160 p.)</p> <p>21. Alternate: Animals on the Move by Ann Sutton (RA based on availability, 128 p.)</p>

SCIENCE – OTHER

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Astronomy	Physics	Weather, Climate & Water
<p>3.3.5.B1. Provide evidence that the earth revolves around (orbits) the sun in a year's time and that the earth rotates on its axis once approximately every 24 hours.</p> <p>3.3.6.B2. MODELS Use models to demonstrate that the phases of the moon are a result of its orbit around Earth.</p> <p>3.3.6.B1. Explain how the tilt of the earth and its revolution around the sun cause an uneven heating of the earth, which in turn causes the seasons and weather patterns.</p> <p>3.3.6.B1. Compare and contrast the size, composition, and surface features of the planets that comprise the solar system as well as the objects orbiting them.</p> <p>3.3.6.B1. Recognize the role of gravity as a force that pulls all things on or near the earth toward the center of the earth and in the formation of the solar system and the motions of objects in the solar system</p> <p>3.3.6.B1. Explain why the planets orbit the sun in nearly circular paths.</p> <p>3.3.6.B1. Describe how the planets change their position relative to the background of the stars.</p> <p><i>Teacher Read:</i></p> <ol style="list-style-type: none"> The Stars by H.A. Rey (Gill has set, previously tried in grade 3-4) OR All About the Planets by Patricia Lauber <p><i>Student Read:</i></p> <ol style="list-style-type: none"> What Makes Day and Night by Franklyn M. Branley (Gr. K-4) The Planets in Our Solar System by Franklyn M. Branley (LR&FO 2) What the Moon is Like by Franklyn M. Branley (LR&FO 2) The Sky Is Full of Stars by Franklyn M. Branley (LR&FO 2) The Sun: Our Nearest Star by Franklyn M. Branley (LR&FO 2) Mission to Mars by Franklyn M. Branley (LR&FO 2) The International Space Station by Franklyn M. Branley (LR&FO 2) Eclipse by Franklyn M. Branley (LR&FO 2) The Big Dipper by Franklyn M. Branley (LR&FO 1) <p>Free Read:</p> <ol style="list-style-type: none"> Seymour Simon's planet books (on class bookshelf, there are 15 of them) Galileo Galilei: Space Pioneer by Arthur Gregor (191 p.) 	<p><i>Force & Motion of Particles and Rigid Bodies</i></p> <p>3.2.5.B1. Explain how mass of an object resists change to motion.</p> <p>3.2.6.B1. Explain how changes in motion require a force.</p> <p>3.2.5.B2. Examine how energy can be transferred from one form to another.</p> <p>3.2.6.B2. Differentiate between potential and kinetic energy.</p> <p>3.2.6.B2. Describe energy as a property of objects associated with heat, light, electricity, magnetism, mechanical motion, and sound.</p> <p><i>Heat/Heat Transfer</i></p> <p>3.2.6.B3. Give examples of how heat moves in predictable ways, normally flowing from warmer objects to cooler ones until they reach the same temperature.</p> <p>3.2.6.B6. ENERGY Demonstrate that heat moves in predictable ways from warmer objects to cooler ones.</p> <p>3.2.6.B3. Explain the effect of heat on particle motion by describing what happens to particles during a phase change.</p> <p>3.2.5.B3. Demonstrate how heat energy is usually a byproduct of an energy transformation.</p> <p><i>Electrical and Magnetic Energy</i></p> <p>3.2.5.B4. Demonstrate how electrical circuits provide a means of transferring electrical energy when heat, light, sound, and chemical changes are produced.</p> <p>3.2.5.B4. Demonstrate how electromagnets can be made and used.</p> <p>3.2.6.B4. Describe how electric current produces magnetic forces and how moving magnets produce electric current.</p> <p>3.2.6.B4. Derive Ohm's Law through investigation of voltage, current, and resistance.</p> <p>3.2.6.B6 SCALE Investigate that materials may be composed of parts too small to be seen without magnification.</p> <p><i>Nature of Waves</i></p> <p>3.2.5.B5. Compare the characteristics of sound as it is transmitted through different materials. Relate the rate of vibration to the pitch of the sound.</p> <p><i>Teacher Read or Student Read:</i> *There's no way you can read all of these. You can either choose a couple, or have your students each pick one and report to the class what they learned.</p> <ol style="list-style-type: none"> All About Electricity by Ira M. Freeman (longer option) OR What Makes Light Go On by Scott Corbett (easier and shorter) OR More Power to You by Vicki Cobb (gr. 3-5, 50 p.) The World of Push and Pull by Earl Ubell (58 p.) Secrets of Sound: Studying the Calls and Songs of Whales, Elephants, and Birds by April Pulley Sayre (Gill has 2, gr. 4-7, 64 p.) 	<p><i>Weather and Climate</i></p> <p>3.3.5.A5. Differentiate between weather and climate.</p> <p>3.3.5.A5. Explain how the cycling of water, both in and out of the atmosphere, has an effect on climate.</p> <p>3.3.6.A5. Describe the composition and layers of the atmosphere.</p> <p>3.3.6.A5. Explain the effects of oceans on climate.</p> <p>3.3.6.A5. Describe how global patterns such as the jet stream and water currents influence local weather in measurable terms such as temperature, wind direction and speed, and precipitation.</p> <p>3.3.6.B2. MODELS Use models to demonstrate that earth has different seasons and weather patterns.</p> <p><i>Water</i></p> <p>3.3.5.A4. Explain the basic components of the water cycle.</p> <p>3.3.6.A4. Describe how water on earth cycles in different forms and in different locations, including underground and in the atmosphere.</p> <p><i>Teacher Read or Student Read:</i></p> <p><i>Weather:</i></p> <ol style="list-style-type: none"> All About the Weather by Ivan Ray Tannehill (148 pages, CS or SS) Look at the Sky and Tell the Weather by Eric Sloane (RA, 108 p.) Climate Maps by Ian F. Mahaney (RA, PB) <p><i>Water:</i></p> <ol style="list-style-type: none"> Junior Science Book of Water by Dan Peterson

	8. Heat and Its Uses by Irving Adler (48 p.) 9. Magnets and How to Use Them by Tillie Pine (64 p.)	
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SCIENCE – EXPERIMENT

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Astronomy	Physics	Weather, Climate & Water
<p>Janice VanCleave's Earth Science for Every Kid by Janice VanCleave (chapter 1 only)</p> <ol style="list-style-type: none"> Lessons 1. Bulging Ball, p. 8: To determine why the earth bulges at the equator. Lessons 2. Precession, p. 10: To demonstrate the movement of the earth's axis. Lessons 3. Wobbler, p. 12: To demonstrate how the composition of the earth affects its motion. Lessons 4. Day and Night, p. 13: To determine the cause of the day and night cycle. Lessons 5. Tilt, p. 14: To demonstrate the effect of the earth's tilt on seasons. Lessons 6. Mega-Weight, p. 16: To demonstrate the difference in the weight of the atmosphere, hydrosphere, and lithosphere. Lessons 7. Eclipse, p. 18: To demonstrate a solar eclipse. <p>*Is it possible to take your class on a field trip to your local planetarium?</p>	<ol style="list-style-type: none"> Snap Circuits SC-300 Experiments with Heat by Harry Sootin (20 experiments) Suggested experiments from The Smallest Life Around Us by Lucia Anderson (Biology) 	<ol style="list-style-type: none"> FOSS: Environments (Biology) Janice VanCleave's Earth Science for Every Kid by Janice VanCleave (from chapters 5, 6 and 7 only) <p><i>Atmosphere</i></p> <ol style="list-style-type: none"> Lessons 53. Spacy, pg 120: To demonstrate that air takes up space. Lessons 54. Tip, pg 122: To determine if air has weight. Lessons 55. Straw Drill, pg 124: To demonstrate the strength of air. Lessons 56. Cold 'n Hot, pg 126: To determine how the earth's heat level remains constant. Lessons 57. Increasing, pg 128: To determine how temperature affects air pressure. Lessons 58. Up Draft, pg 130: To determine the effect that temperature has on air movement. Lessons 59. Breezes, pg 132: To determine the cause of land and sea breezes. Lessons 60. How Fast? pg 134: To demonstrate how wind speed is measured. Lessons 61. Which Way? pg 136: To determine why the air is cooler in the winter. <p><i>Weather</i></p> <ol style="list-style-type: none"> Lessons 74. Drops, pg 164: To determine how raindrops form. Lessons 75. Bigger, pg 166: To determine how tiny water droplets in clouds grow into raindrops. Lessons 80. Low Pressure, pg 176: To demonstrate the formation and effect of low pressure. Lessons 91. Twirler, pg 200: To demonstrate the effect of the earth's rotation on wind and water currents. <p>*Is it possible to take your class on a field trip to your local television station to talk to the meteorologist? Or can he come to you?</p> <p>Alternative options:</p> <ol style="list-style-type: none"> FOSS available for purchase: Water Planet

NATURAL HISTORY

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Weeds and Wildflowers: Queen Anne's Lace & General	Flowerless Plants: Molds and Bacteria	Garden Flowers: Daffodils & Their Relatives
7. Queen Anne's Lace by Jerome Wexler (32 p.) 8. Wild Green Things in the City: A Book of Weeds by Anne Ophelia Dowden (56 pages) 9. The First Book of Wildflowers by Cavanna (69 p.) *Read first section, and use second section as reference.	3.1.6.A1. Describe the similarities and differences of major physical characteristics in plants, animals, fungi, protists, and bacteria. 1. Our Tiny Servants: Molds and Yeasts by Bernice Kohn 2. Microbes at Work by Millicent Selsam (gr. probably 3-4) 3. Lots of Rot by Vicki Cobb (gr. 2-5) 4. Secret in a Sealed Bottle: Lazzaro Spallanzani's Work With Microbes by Samuel Epstein (63 p.) 5. Junior Science Book of Bacteria by Gerald S. Lietz	1. Chicken Soup for the Gardener's Soul: Stories to Sow Seeds of Love, Hope and Laughter by Jack Canfield or instead of this, just print out the short article here 2. Bulbs, Corms, and Such by Millicent E. Selsam 3. An essay by A. A. Milne: Daffodils *This is just a short essay, but I liked it. I think the language would be over the kids heads, but you could narrate to them if you wanted to.
Spiders	Mammals: Raccoons & General	Insects of Fields & Wood: Ants
6. Carab: The Trap-Door Spider by Alice L. Hopf (could be read by students) 7. A first look at spiders by Millicent Ellis Selsam 8. The Tarantula Scientist by Sy Montgomery (teacher read)	1. Out of Doors in Winter by C. J. Hylander (gr. 3-4, mammals and their tracks and bringing nature indoors chapters only) 2. Rascal by Sterling North (CS available, gr. 2-6)	*Can we make a class set out of the following options: 9. The Wonder World of Ants by Wilfrid Bronson (IP, possible CS or SS avail. gr. 3-7, 96 p.) 10. All Upon a Sidewalk by Jean Craighead George (48 p.) 11. Biography of an Ant by Alice L Hopf (64 p.) 12. Ant Cities by Arthur Dorros (LRFO 2 – easy)

EXTRA BOOKS IF NEEDED

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Seasons of America Past by Eric Sloan (some owned, 160 p.) *Read from a late summer or fall chapter	Seasons of America Past by Eric Sloan (some owned, 160 p.) *Read from a winter chapter	Seasons of America Past by Eric Sloan (some owned, 160 p.) *Read from a spring or early summer chapter

NATURAL HISTORY – OBJECT LESSONS

Handbook of Nature Study (HoNS) Prep for NS:

The Teaching of Nature Study, pages 1-15

How to Use This Book, pages 23-24

* Children this age should not do any cutting or pulling apart of the flowers. You may do the cutting, and then allow them to look, or forgo this step and just look at it as is.

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Weeds and Wildflowers: Queen Anne's Lace & General Teacher background: HoNS How to Begin the Study of Plants and Their Flowers, p. 453-459 Wild Flowers, p. 460 Weeds, p. 512-513 Outline for the Study of a Weed, p. 513 Queen Anne's Lace or Wild Carrot, p. 542-545 Object Lessons: 1. Lesson 135, Outline for the Study of a Weed, p. 513 2. Lesson 148, Queen Anne's Lace or Wild Carrot, p. 544 3. Outdoor Science Adventures - Scroll down to check out the following activities: a. Outcast on page 106 b. Plant Neighbors on page 102 c. Influence, Influence All Around page 115	Flowerless Plants: Molds and Bacteria Teacher background: HoNS Molds, p. 727-728 Bacteria, p. 729-731 Object Lessons: 1. Lesson 205, Molds, p. 728 2. Lesson 206, Bacteria, p. 730	Garden Flowers: Daffodils & Their Relatives Teacher background: HoNS How to Begin the Study of Plants and Their Flowers, p. 453-459 Garden Flowers, p. 546 The Daffodils and Their Relatives, page 549-552 Bards and blossoms; or, The poetry, history, and associations of flowers by Frederick Edward Hulme *The chapter of interest here is The Legend of the Daffodil . The link takes you to that particular section by way of Google Books. Object Lessons: 1. Lesson 150, Daffodils, Jonquils, and Narcissuses, p. 551-552, split the lesson over several days: a. Questions 1-3 b. Questions 4-6 c. Questions 7 d. Questions 8-9 2. Plant daffodils in the Fall 3. Force Paperwhite narcissus bulbs to watch from inside. (tutorial) 4. Picture Study: Daffodils by Berthe Morisot
Spiders Teacher background: HoNS Daddy Longlegs or Grandfather Greybeard, p. 432-434 Spiders, p. 435-436 Cobwebs, p. 436-438 The Funnel Web of a Grass Spider, p. 438 The Orb Web, p. 439-441 The Filmy Dome, p. Ballooning Spiders, p. The White Crab Spider, p. 445-446 How Spiders Take Care of Their Eggs, p. 446- Object Lessons, choose from the following: 1. Lesson 109, The Daddy Longlegs, p. 434 2. Lesson 110, Cobwebs, 437 3. Lesson 111, The Funnel Web, p. 438 4. Lesson 112, The Orb Web, p.441 5. Lesson 113, The Filmy Dome, p.443 6. Lesson 114, Ballooning Spiders, p. 445 7. Lesson 115, The White Crab Spider, p. 446	Mammals: Raccoons & General Teacher background: HoNS Intro: p. 26, 214 Raccoon, p. 247-250 Object Lessons: 1. Lesson 61, The Raccoon, p. 250	Insects of Fields & Wood: Ants Teacher background: HoNS Insects p. 294-300 The Aphids or Plant Lice, p. 351-354 The Ant Lion, p. 354-356 The Ways of the Ant, p. 369-378 Object Lessons: 1. Lesson 91, Field Observations on Ants, p. 372 2. Lesson 92, How to Make the Lubbock Ant-Nest, p. 373 *or buy a kit 3. Lesson 93, Observations of Ants in an Artificial Nest, p. 377 4. Lesson 84, The Aphids or Plant Lice, p. 353 5. Lesson 85, The Ant Lion, p. 355

<p>8. Lesson 116, How Spiders Take Care of Their Eggs, p. 447</p> <p>9. Possible additional activities:</p> <ol style="list-style-type: none"> Measure the width and height of each web you find. Count how many threads cross through the center of the web and how many threads attach the web to the shrub. Preserve a Spider Web – directions (link) *Spiders rebuild their webs daily, but be sure you are the last class to do nature study on this day. You don't want other classes to find the "object" of their lesson gone. Watch this slow motion video of a spider building a web (link) (2:27 min) Try building a web yourselves. <ol style="list-style-type: none"> How much bigger is a web compared to its spider creator? Could you make something that was five or ten times the size of you? If you had to build a web like a spider, how big would it be? Multiply your height in inches times ten. Divide students into small groups. Each group should choose a location to build between two stationary objects and start with the basic frame of one horizontal line and one vertical line. Students should design their web similarly to the way a real spider would. (Use yarn and either tape or knots to attach pieces.) Consider which parts would be sticky and which non-sticky. How similar does your finished web look to the real thing? Do they think their webs could catch some prey? Why or why not? Research how a spider web is useful to someone or something besides a spider? e.g. Cross hairs for optical instruments, (Gun sights, microscopes, telescope finder scopes), Birds use webs for constructing nests, Spider webs can be used to cover an injury and help the blood to clot, Scientists are experimenting with using spider webs in repairing torn human ligaments. In curled-up leaves and moist places, such as rotting stumps, you can find very small silky cocoons about a quarter of an inch long. Open one very carefully outdoors with fine scissors or twigs cut to sharp points. You will find that instead of the insect pupa you expect in a cocoon, there is a living spider that has sealed itself up for the winter. Nudge this animal (or any other spider you find anywhere in winter) with a twig and see whether it actively looks for a protected place or simply goes forward a few steps and then stops. Whether it is active enough to look for a crevice immediately may depend on the temperature or the species, or both. Examine the cocoon silk under a hand lens or microscope. Also look for eggs or hibernating young spiders. (From Winter Science 		
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Activities by John M. Youngpeter - Project 30 - Cold Spiders)		
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Gillingham Natural History Curriculum - Year 7

OVERVIEW

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Soil and Soil Conservation	Trees	Cultivated Crops
Reptiles, Amphibians and Fish	Crayfish, Hermit Crab	Birds

NATURAL HISTORY

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Soil and Soil Conservation	Trees	Cultivated Crops: Potatoes
<p>Life in a Bucket of Soil by Alvin Silverstein (possible CS or SS, gr. 3-8, 96 p., 10 chapters = 1/wk, experiments/object lessons included)</p> <p>Teacher background: HoNS The Soil, p. 760-775</p> <p><i>Object lessons:</i> Activities included in text Lesson 216, The Soil, p. 763 (3 experiments) Lesson 217, How Our Valuable Soil is Lost, p. 770 Lesson 217, How to Conserve Our Soils, p. 775</p>	<p>The Blossom on the Bough: A Book of Trees by Anne Ophelia Dowden (71 p.) Big Tree by Mary Buff (79 p. fiction, by the authors of Apple and the Arrow, about the "oldest" tree, a redwood)</p> <p>Teacher background: HoNS Trees: p. 618-623</p> <p>Object Lessons: 13. Lesson 172 (do autumn work early in the term, then winter work mid term. Come back to the Spring work later during term 3 14. Lesson 173 early in the term 15. Pick a "class tree" to watch for the rest of the year. 16. See if there is a lesson in HoNS for the tree you picked (lessons 174-191, see list of 19 trees in the contents p. xviii)</p> <p>Alternative: Play with Trees, Selsam</p>	<p>Amazing Potato by Milton Meltzer More Potatoes! By Millicent Selsam Potatoes and People by Bertha Dodge Plants that Changed History by Bertha Dodge</p>
Reptiles, Amphibians and Fish	Crayfish, Hermit Crab	Birds
<p>The Frog Scientist by Pamela Turner (64 p.) Chameleons: The Little Lions of the Reptile World by Jeanne Cowden (60 p.) The Remarkable Chameleon by Lilo Hess (45 p.) All About Snakes by Bessie Hecht (143 p.) The Long Voyage by Alvin Silverstein – turtle (46 p.) Fish and How They Reproduce by Dorothy Hinshaw Patent (128 p.)</p> <p>Teacher background: HoNS Reptiles, p. 193-213</p>	<p>The Sea Around Us by Rachel Carson (230 p.) Under the Sea Wind by Rachel Carson (Part 1: Birds, Part 2: Fishes, Part 3: Eels) Water People by Wilfrid S Bronson (104 p.)</p> <p>Teacher background: HoNS The Garden Snail, p. 416-422 Crayfish, p. 425-432</p> <p>Object lessons: Would you consider keeping a Hermit Crab as a pet?</p>	<p>That Quail, Robert by Margaret Stanger (128 p.) Freckles by Gene Stratton-Porter (180 p.) Starlings by Wilfrid S Bronson (84 p.)</p> <p>Nest by Sharon Beals (Reference or FR) Birds and Their Nests by Olive L. Earle **The descriptive paragraphs are uniform, telling first of the nest then of the appearances of the birds as they change with growth, then of feeding and flight habits, and finally of nesting area.</p>

<p><i>Object lessons:</i> Would you mind keeping a pet snake or turtle? Search for lizards Depending on what you find, use the following lessons to guide your study: Lesson 50, The Milk Snake or Spotted Adder, p. 197 Lesson 51, The Water Snake, p. 199 Lesson 52, The Turtle, p. 208 Track sea turtles online (link) Is there a Reptile House nearby?</p>	<p>Lesson 106, The Garden Snail, p. 421 Lesson 108, Crayfish, p. 429</p>	
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Gillingham Natural History Curriculum - Year 8

OVERVIEW

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Weeds	Algae and Fungi	Garden Flowers
Spiders	Mammals	Insects

NATURAL HISTORY

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Weeds	Algae and Fungi	Garden Flowers (see MS Botany term)
<p>The First Book of Weeds by Barbara Beck (66 p.) *Read first section, and use second section as reference.</p> <p>Teacher background: HoNS How to Begin the Study of Plants and Their Flowers, p. 453-459 Wild Flowers, p. 460 Weeds, p. 512-513 Lesson 135, Outline for the Study of a Weed, p. 513</p> <p>Object Lessons:</p> <p>Lesson 135, Outline for the Study of a Weed, p. 513 See if there is a lesson in HoNS for the wild flowers and weeds nearby (see list of 19 wildflowers and 1 weeds in the contents p. xvii) Make Your Own Herbarium Identification Book</p>	<p>Green is for Growing by Cecil and Winifred Lubell (covers algae as well as other topics.) *Class 5-6 may have a fish tank. You might be able to get a little algae from it. Plants Without Leaves: Lichens, Fungi, Mosses, Liverworts, Slime-Molds, Algae, Horsetails by Ross E. Hutchins (152 p.) Wonders of Fungi by Lucy Kavalier (59 p.) Green Magic: Algae Rediscovered by Lucy Kavalier (gr. 5+, 120 p.) *maybe just read a bit of this? Ocean Sunlight: How Tiny Plants Feed the Seas by Molly Bang (PB, 48 p. gr. P-3)</p> <p>Algae Activities: http://www.education.com/science-fair/article/growing-algae/ Repeat fungi activities</p>	<p>The Clover and the Bee by Anne Ophelia Dowden</p> <p>How to Begin the Study of Plants and Their Flowers, p. 453-459 Garden Flowers, p. 546 Crocus, p. 547-548 Bleeding Heart p. 558-559 Nasturtium p. 566-567 Geranium, p. 585-586</p> <p>Object Lessons:</p> <p>Do any of the following lesson as you find these particular flowers: Lesson 149, Crocus, p. 548 *first in the spring Lesson 153, Bleeding Heart p. 559 *early in spring Lesson 156, Nasturtium p. 567 Lesson 163, Geranium, p. 586 Plant any of these flowers.</p>
Spiders	Mammals – Squirrels and Chipmunks	Insects – Bees

<p>Spiders and Their Kin by Herbert W. Levin and Lorna R. Levin (for reference)</p> <p>The Story of Spiders by Dorothy Shuttlesworth</p> <p>The Life of the Spider by Jean Henry Fabre (select a chapter or two from the list below)</p> <p>Chapters 1-8 & Appendix (High school will be assigned the other chapters)</p> <ul style="list-style-type: none"> Ch 2: the Banded Epeira is an specifically an orb spider (I think.) You have 4 orb weavers: Cross Orbweaver, Spotted Orbweaver, Orchard Orbweaver and Arrowshaped Micrathena. Ch 3-6: Lycosa is a genus of wolf spiders. You have a Carolina Wolf Spider in your area. It is in the same family, Lycosidae, but a different genus, Hogna. Ch 8: The Crab Spider. You have 2 crab spiders locally: the Goldenrod Crab Spider and the Whitebanded Crab Spider <p>Teacher background: HoNS</p> <p>Daddy Longlegs or Grandfather Greybeard, p. 432-434</p> <p>Spiders, p. 435-436</p> <p>Cobwebs, p. 436-438</p> <p>The Funnel Web of a Grass Spider, p. 438</p> <p>The Orb Web, p. 439-441</p> <p>The Filmy Dome, p.</p> <p>Ballooning Spiders, p.</p> <p>The White Crab Spider, p. 445-446</p> <p>How Spiders Take Care of Their Eggs, p. 446-</p> <p>Object Lessons, choose from the following:</p> <p>Lesson 109, The Daddy Longlegs, p. 434</p> <p>Lesson 110, Cobwebs, 437</p> <p>Lesson 111, The Funnel Web, p. 438</p> <p>Lesson 112, The Orb Web, p.441</p> <p>Lesson 113, The Filmy Dome, p.443</p> <p>Lesson 114, Ballooning Spiders, p. 445</p> <p>Lesson 115, The White Crab Spider, p. 446</p> <p>Lesson 116, How Spiders Take Care of Their Eggs, p. 447</p>	<p>What Big Teeth You Have! by Patricia Lauber (CS possible, 60 pages)</p> <p>Squirrels and other Fur Bearers by John Burroughs (free Kindle)</p> <p>George Mason's Series: clothing, feet, habitat, homes, sounds, tails, teeth, tools, tracks, vision, ways, weapons,</p> <p>HoNS:</p> <p>Animal Groups, p. 26</p> <p>Mammals, p. 214</p> <p>Squirrel, p. 233-237</p> <p>Chipmunk, p. 239-214</p> <p>Object Lessons:</p> <p>Lesson 57, The Red Squirrel or Chickaree, p. 236</p> <p>Lesson 58, The Chipmunk, p. 240</p>	<p>The Keeper of The Bees by Gene Stratton-Porter (528 p.)</p> <p>Life of the Bee by Maurice Maeterlinck (176 p.)</p> <p>The Bee People by Morley (190 p.)</p> <p>All Kinds of Bees by Shuttlesworth</p> <p>Locusts and Wild Honey by John Burroughs (The Pastoral Bees)</p> <p>Birds and Bees, Sharp Eyes, and Other Papers by John Burroughs (Bees, An Idyl of the Honey-Bee)</p> <p>"The Flight of the Bumblebee." maybe by the Boston Pops</p> <p>Go outdoors on a warm day (when animals are moving around,) and encourage students to find and follow an insect. What do you think the ant is doing? What do you think it will do next? How do you think the ant depends on the land, water, and other living things around it? Do you see any evidence to support your ideas? Draw a picture of an ant and it's surroundings. Note features of the environment where you found the ant: what kinds of plants grow in the environment, do the plants seem healthy, and is there a source of water in the environment?</p> <p>Teacher background: HoNS</p> <p>Insects, p. 294-300</p> <p>The Mud-Dauber, p. 378-380</p> <p>The Yellow Jacket, p. 380-384</p> <p>The Leaf-Cutter Bee, p. 384-386</p> <p>The Little Carpenter Bee, p. 386-389</p> <p>The Bumblebee, p. 389-391</p> <p>The Honeybee, p. 391-395</p> <p>Honeycomb, p. 395-396</p> <p>Industries of the Hive and the Observation Hive, p. 396-400</p> <p>Object Lessons as these particular bees are found:</p> <p>Lesson 94, The Mud-Dauber, p. 380</p> <p>Lesson 95, The Yellow Jacket, p. 383</p> <p>Lesson 96, The Leaf-Cutter Bee, p. 386</p> <p>Lesson 97, The Little Carpenter Bee, p. 388</p> <p>Lesson 98, The Bumblebee, p. 390</p> <p>Lesson 99, The Honeybee, p. 394</p> <p>Lesson 100, The Honeycomb, p. 396</p> <p>Lesson 101, Industries of the Hive, p. 398</p>
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Middle School Weather, Water & Geography

One Term: planning for 26 class periods per term, 1:25 min each (9 weeks)

In order to meet the state requirements, during this term, students will be introduced to the concepts of

Class Format:

I see the class format going something like this:

1. Spine text read together
2. Activity based on spine text completed together
3. Notebooking time
4. Possibly another activity, picture book and/or a narration by a class member
5. Free read
6. Free read narration

Spine Texts:

- *Everyday Weather and How It Works* by Herman Schneider (15 chapters, 188 p.) *Abbreviated EHHW
- *Rocks, Rivers and the Changing Earth* by Herman and Nina Schneider (gr. 3-8, 11 chapters, 171 p.) *Abbreviated RRCE

Additional Books: Individual books to secure ideas presented through the spine text. Since these are only used for a short period, you may wish to check them out through the public library.

- One or more of the following reference texts:
 - *The Weather Identification Handbook: The Ultimate Guide for Weather Watchers* by Storm Dunlop
 - *Peterson First Guide: Clouds and Weather*
 - *The Weather Wizard's Cloud Book: A Unique Way to Predict the Weather Accurately and Easily by Reading the Clouds* by Jim Duncan (102 p.)
 - *National Audubon Society Field Guide To North American Weather*
- Buried Sunlight: How Fossil Fuels Have Changed the Earth by Molly Bang (PB, 48 p.) *Fossil fuels and global warming are covered in this book
- *Adventures with Rocks and Minerals: Geology experiments for young people* by Lloyd Barrow
- There are a couple of standards highlighted at the bottom, which are not covered with the above reading. I will find something that can fill these gaps.

Free Read Options:

- Less Difficult:
 - *The Story of the Trade Winds* by Ruth Brindze (68 p.)
 - *The Gulf Stream* by Ruth Brindze (63 p.) *Student narrate to class to meet standard
 - *Incredible Man of Science: Irving Langmuir* by Virginia Veeder Westervelt (192 pp, Messner biography)
 - *Miss Pickerell and the Weather Satellite* by Ellen MacGregor (157 p.)
 - *Danny Dunn and the Weather Machine* by Jay Williams (144 p.)
- More Difficult:
 - *The Snowflake Man: A Biography of Wilson A. Bentley* by Duncan C. Blanchard (237 p.)
 - *The Invention of Clouds* by Richard Hamblyn (256 p.)
 - *The Perfect Storm: A True Story of Men Against the Sea* by Sebastian Junger (248 p.)
 - *Isaac's Storm: A Man, a Time, and the Deadliest Hurricane in History* by Erik Larson (338 p. Story about a hurricane that hit Galveston, TX in 1900.)
 - *Fitzroy: The Remarkable Story of Darwin's Captain and the Invention of the Weather Forecast* by John Gribbin

Science Notebook:

Whenever you do not narrate aloud as a class, you will want your students to enter narrations in their notebooks, including narrations of the spine text, free reads, experiments, activities, and current events - not all at the same time, but rather after each reading/activity you do. They can and should draw pictures where appropriate to better show what they know. This is not a test, so if they need to look at a diagram, in order to copy it into their own book, that is acceptable. They may also include quotes that they particularly liked from the reading.

Current Events:

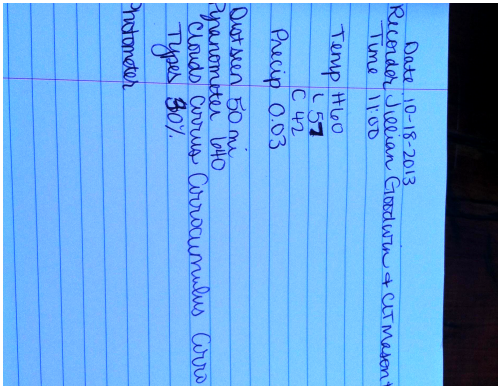
- [Weather.com](#)
- [ScienceDaily.com](#)
- Follow the weather in your local area

Field Trip:

- Is it possible to organize a field trip to your local television station to talk to the meteorologist?
- Or can you go to [Pioneer Tunnel Coal Mine](#) for a tour?

Collections:

- Track weather daily as a class or individually in a notebook.
 - Cloud types and percentage of sky filled with clouds
 - print and laminate several copies of [this chart](#)
 - Farthest distance you can see (if you have a view)
 - Measure the moisture content in the atmosphere
 - Use hygrometer once you have made the one on p.
 - Track precipitation
 - Use rain gauge once you have made the one on p.
 - Measure the wind speed
 - Use an anemometer once you have made the one
 - Note wind direction
 - Use a wind vane once you have made the one on p. 162
 - Measure atmospheric pressure
 - Use a barometer once you have made the one on p. 170
 - Note current temperature & high/low temp for the day
 - and if you have access to the following:
 - Sun photometer - measures aerosols in air
 - Pyra-meter - when there are no clouds in the sky
 - Infrared thermometer - measures reflected rays



136 and/or 143

149

on p. 149

Activities, Experiments, etc:

- Daily Outline - 26 classes/term
- Notes:
 - Start each class by recording the current weather conditions as noted above.
 - Do the experiments in the books as you read through. Maybe setting up the experiments before you begin reading each day.
 - If you do not finish the assigned reading on the scheduled day, then I think you should still move on for the next lesson. To say it more plainly, don't allow one assigned lesson to draw over into the next one. That is not set in stone - just a suggestion.

1. EWHW: How Does the Weatherman Know? Chapter 1 & 2 (p 9-28, 20 p. total)
 - a. Work on weather station from chapters 11-14
2. EWHW: Heat and Air in the Weather, Chapter 3 (p 29-43, 15 p. total)
 - a. Work on weather station from chapters 11-14
3. EWHW: Water in the Weather, Chapter 4 & 5 (p 44-58, 15 p. total)
 - a. Work on weather station from chapters 11-14
4. EWHW: Storms in All Shapes and Sizes, Chapter 6 (p 59-76, 18 p. total)
 - a. Work on weather station from chapters 11-14
5. EWHW: Your Weather is Different, Chapter 7 (p 77-97, 21 p. total)
 - a. Work on weather station from chapters 11-14
6. EWHW: The Air Masses Have a Meeting, Chapter 8 (p 98-110, 13 p. total)
 - a. Work on weather station from chapters 11-14
7. EWHW: Weather Maps and How to Use Them, Chapter 9 (p 111-123, 13 p. total)
8. EWHW: Science Helps the Weatherman, Chapter 10 (p 124-132, 9 p. total)
9. Complete the following chapters while you read the previous ones
 - a. EWHW: Building Your Own Weather Station, Chapter 11 (p 133-135, 3 p. total)
 - b. EWHW: Measuring Moisture, Chapter 12 (p 136-154, 19 p. total)
 - c. EWHW: Watching the Wind, Chapter 13 (p 155-169, 14 p. total)
 - d. EWHW: Examining the Air, Chapter 14 (p 170-178, 9 p. total)
 - i. get a cricket (or a few,) so you can count its chirps based on the temperature.
10. EWHW: Eyes and Nose on the Weather, Chapter 15 (p 179-188, 10 p. total)

-Look at the clouds in Jacob Isaakszoon van Ruysdael's and John Constable's paintings.

-Watch a StudyJams video:

1. StudyJams video: [Tides](#) *This one first, as it will help meet a standard
2. StudyJams video: [Weather and Climate](#)
3. StudyJams video: [Air pressure and wind](#)
4. StudyJams video: [Air masses and fronts](#)
5. StudyJams video: [Water Cycle](#)

6. StudyJams video: [Waves and Current](#) (includes Coralis effect)
7. And [More](#)

***Adventures with Rocks and Minerals: Geology experiments for young people* by Lloyd Barrow
Use any of the adventures in this book when you have extra time and need an activity.

11. RRCE: 1. River to the Sea (p 3-22, 20 p. total)

- a. Activities included in text (p. 32, 35, 38, 39)
 - i. pitcher of water
 - ii. rubber bath sponge
 - iii. dinner/large plate
 - iv. wax paper
 - v. cookie sheet
 - vi. piece of cardboard (~6" x 12")
 - vii. handful of rough sand that contains sand and pebbles
 - viii. glass jar with screw lid (quart mason jar)
- b. Alternative activities:
 - i. Weathering & Erosion: [Slope and Erosion](#)
 - ii. Weathering & Erosion: [Soil Erosion](#)
 - iii. Weathering & Erosion: [More Soil Erosion](#)
 - iv. Stream Erosion [experiment](#)

12. RRCE: 2. The Moving of Soil (p 23-30, 8 p. total)

- a. This chapter does not include activities
- b. You could use your lab time today to set up activities for
 - i. Lesson 17 (RRCE: 4) - 2 activities
- c. Mississippi River Delta Formations ([video](#), 3:45 min)
- d. Delta ([image](#)) *I thought this drawing might help the students make their own drawing of a delta in their science notebook.
- e. [Delta in Great Salt Lake Observed from Aloft](#) // [Earth Science Picture of the Day](#)

13. RRCE: 3. Underground Water to the Sea (p 31-47, 17 p. total)

- a. Activities included in text (p. 32, 35, 38, 39)
 - i. large jar or glass baking dish
 - ii. enough sand or gravel to fill the jar or dish
 - iii. pitcher full of water
 - iv. spoon
 - v. tin can with top and bottom removed
 - vi. (disposable loaf pan)

vii. *Maybe you can do the first part as a demonstration and the second part they can do in small groups.

14. RRCE: 4. Precious Cargo (p 49-59, 11 p. total)

- a. Activities included in text (p. 51, 56) *If you set these up 2 classes ago, you can now look at it and note observations in your science notebooks.
 - i. drinking glass
 - ii. piece of cardboard big enough to cover the glass
 - iii. 2 pencils
 - iv. water
 - v. heaping tsp salt
 - vi. dish or plate
- b. Alternative activities:
 - i. [Testing Water Hardness](#) (see p. 52)
 - ii. [Make Stalactites and Stalagmites](#) (see p. 53)

15. RRCE: 5. Mountains Unmade (p. 61-84, 24 p. total)

- a. Activities included in text (p. 66, 74, 76, 78, 81)
 - i. 6 ice cubes
 - ii. 2 small flat plates (same size)
 - iii. 4 heavy books (same weight)
 - iv. stove with broiler, if available
 - v. 10 large pebbles, if broiler is available
 - vi. 4 small glass bottles with screw top lids (two will be broken)
 - vii. water
 - viii. package dried peas
 - ix. garden soil
 - x. NOTES:
 - Activity on page 66 - You should start this immediately as class starts, so that you can see what happens over the course of your class time.
 - Activity on page 76 - You might like to start this during the previous class time. Also, consider putting the glass jars inside large ziplock bags so that any broken pieces don't end up left in the freezer.
 - Activity on page 78 - You might like to start this during the previous class time.
- b. Additional activities:
 - i. show a picture of the grand canyon
 - ii. show a picture of a glacier that has reached the ocean
 - iii. bring in a piece of rock that has lichen on it
 - iv.

16. RRCE: 6. The Land and the Sea Meet (p 85-91, 7 p. total)

- a. *This chapter is short and could be combined with the next chapter.
- b. Activities included in text (p. 87)
 - i. empty tin can with a top (coffee can with the lid duct taped on?)
 - ii. handful of large pebbles
- c. Additional activities:
 - i. Read *Buried Sunlight: How Fossil Fuels Have Changed the Earth* by Molly Bang (PB, 48 p.) *This will be an introduction to some of what is talked about in chapter 8.
 - ii. StudyJams video: [Weathering and Erosion](#)

17. RRCE: 7. The Ocean (p 95-106, 12 p. total)

- a. Activities included in text (p. 102-104)
 - i. a baking dish
 - ii. enough sand to half fill the baking dish
 - iii. a cup
 - iv. a sheet of paper
 - v. water
 - vi. crayon
- b. Additional activities:
 - i. Enlarge the picture on page 100/110 - students may like to copy these into their science notebooks.

18. RRCE: 8. Oceans on Top of Mountains (p 109-124, 16 p. total)

- a. This chapter does not include activities
- b. Enlarge the picture on page 100/110 - students may like to copy these into their science notebooks if they did not do so last lesson
- c. Show a picture of layers of soil when a mountain is cut away for a road. [Here is an example](#), but you may know of something local that you can take a picture of.
- d. Show a picture of the [Dover Chalk Cliffs](#).
 - i. I could prepare these pictures as PDFs to facilitate having it printed out if you would like.
- e. You could bring in a small amount of QuickCrete, mix portions of it with different materials, layer those different portions and then sprinkle water over the whole mass. If you layered it in a disposable aluminum pan, you should be able to remove the hardened chunk from the pan to see the resulting layers. One of us might need to try this in advance however, to be sure it will come out of the pan.

19. RRCE: 9. The Ups and Downs of the Earth (p 125-134, 10 p. total)

- a. Activities included in text (p. 125)
 - i. possibly bring in one baked and one unbaked apple, p. 125
 - ii. tube of toothpaste
- b. Possibly find a diagram similar to, or blow up the diagram, on p. 131, so students can copy it into their science notebooks
- c. StudyJams video: [The Rock Cycle](#)

20. RRCE: 10. The Earth Inside (p 135-154, 20 p. total)
- a. This chapter does not include activities
 - b. It might help to print a copy of the diagram on p. 141
 - c. Image of [folded mountain](#)
 - d. Image of [igneous hills](#)
 - e. The Awesome Power of Lava ([video](#), ~5 min)
 - f. Igneous Rocks Model [Activity](#)
 - g. Possibly a very messy [viscosity experiment](#). Only if you wish to do it.
 - h. Or this [viscosity experiment](#) that looks like too much fun, and possibly mess. ;)
21. RRCE: 11. The Earth Inside and Out (p 155-166, 12 p. total)
- a. This chapter does not include activities
 - b. It might help to print a copy of the diagrams on p. 156-158
 - c. Old Faithful [streaming webcam](#) *Plan ahead - the site approximates the next eruption.
 - d. Worldwide [earthquake record](#) (daily updates)
 - e. [Pennsylvania Earthquake Information/History](#)
22. RRCE: 12. The Earth's Story (p 169-171, 3 p. total) *Tack onto end of last lesson if you need to.
- a. This chapter does not include activities
 - b. [Track a satellite](#) whose mission it is to monitor earth's resources.
 - c. [Land Remote Sensing Image Slideshow](#)
23. Exam - Possible exam questions:
- a. Determine the current temperature, atmospheric pressure, and humidity.
 - b. Explain the interrelationship of the earth's rotation on its axis, wind, and the unequal heating of the surface of the earth by the sun.
 - c. Explain an experiment you could do to prove that air contains water.
 - d. Explain how one of the following elements of weather are formed: hail, rain, sleet, snow
 - e. Explain the formation of one of the following weather conditions: Cyclone, Hurricane, Tornado
 - f. What is the difference between weather and climate
 - g. Explain how is soil made?
 - h. Explain how rocks are changed? (p. 83)
 - i. Explain how the minerals in a mountain in the Rocky Mountains can get to be inside of an apple in Washington?
 - j. What forces work together to tear down a mountain and how do they do it?
 - k. Explain how the contents of the inside of the earth change the outside of the earth? (p.166)

STATE STANDARDS

GEOLOGY - Rocks, Rivers and the Changing Earth by Herman and Nina Schneider

3.3.7.A1. Define basic features of the rock cycle. (√)

3.3.7.A1. Describe the layers of the earth. (ch 10)

3.3.7.A1. Differentiate among the mechanisms by which heat is transferred through the Earth's system.

3.3.8.A1. Distinguish between physical and chemical weathering. (ch 1)

3.3.8.A1. Compare and contrast the types of energy that drive Earth's systems.

3.3.7.A2. Explain land use in relation to soil type and topography.

3.3.8.A2. Describe renewable and nonrenewable energy resources.

3.3.7.A3. Explain and give examples of how physical evidence, such as fossils and surface features of glaciation support theories that the Earth has evolved over geologic time.

3.3.7.A3. Compare geologic processes over time.

3.3.8.A3. Explain how matter on earth is conserved throughout the geological processes over time.

3.3.7.A6. MODELS/SCALES Locate significant geologic structures using various mapping representations.

3.3.7.A6. CONSTANCY/CHANGE SCALE Describe geologic time as it relates to earth processes.

3.3.8.A6. CHANGES Explain changes in earth systems in terms of energy transformation and transport.

3.3.8.A6. MODELS Explain how satellite images, models, and maps are used to identify Earth's resources.

WATER - Rocks, Rivers and the Changing Earth by Herman and Nina Schneider

3.3.7.A4. Differentiate among Earth's water systems. (ch 3)

3.3.7.A4. Describe the motions of tides and identify their causes.

3.3.8.A4. Explain how the oceans form one interconnected circulation system powered by wind, tides, the Earth's rotation, and water density differences.

WEATHER/CLIMATE - Everyday Weather and How It Works by Herman Schneider

3.3.7.A5. Describe basic elements of meteorology.

3.3.7.A5. Explain the relationship between the energy provided by the sun and the temperature differences among water, land and atmosphere.

3.3.8.A5. Explain how the curvature of the earth contributes to climate.

3.3.8.A5. Compare and contrast water vapor, clouds, and humidity.

3.3.7.A6. CONSTANCY/CHANGE Describe changes in atmospheric conditions associated with various weather patterns.

Middle School Chemistry

One Term: planning for 9 class periods per term, 1:25 min each (9 weeks)

Class Format:

I see the class format going something like this:

1. Class discussion based on information gleaned by the teacher from the Spine text
2. Activity or experiment when called for
3. Notebooking time

Spine Texts:

- All About the Wonders of Chemistry by Ira Freeman (148 pp)

Additional Books: Individual books to secure ideas presented through the spine text. Since these are only used for a short period, you may wish to check them out through the public library.

- None identified yet

Free Read Options:

- Napoleon's Buttons: How 17 Molecules Changed History by Penny Le Couteur (390 p.) *Not the whole book - specific chapters only.
- Robert Boyle: Founder of Modern Chemistry by Harry Sootin
- The Chemist Who Lost His Head, The Story of Antoine Laurent Lavoisier by Vivian Grey (112 p.)

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Activities, Experiment/activity:, etc:

- Gill Owns MS FOSS kit called Chemical Reactions or Chemical Interactions (I think?)
- Otherwise use Chemically Active! by Vicki Cobb (with modifications)

STATE STANDARDS

3.2.7.A1. Differentiate between elements, compounds, and mixtures.

Identify groups of elements that have similar properties.

Explain how materials are characterized by having a specific amount of mass in each unit of volume (density).

3.2.8.A1. Differentiate between mass and weight.

3.2.7.A2. Identify atoms as the basic building blocks of matter and that elements are composed of one type of atom.

3.2.8.A2. Identify characteristics of elements derived from the periodic table.

3.2.7.A3. Explain how energy transfer can affect the chemical and physical properties of matter.

3.2.8.A3. Explain how changes in matter are accompanied by changes in energy.

3.2.7.A4. Describe how reactants change into products in simple chemical reactions.

3.2.8.A4. Compare and contrast physical and chemical changes in terms of products.

Middle School Botany

One Term: planning for 9 class periods per term, 1:25 min each (9 weeks)

Class Format:

I see the class format going something like this:

1. Class discussion based on information gleaned by the teacher from the Spine text
2. Activity or experiment when called for
3. Notebooking time

Spine Texts: (In this case the spine text will be for the teachers use only. Neither of these books will be read aloud to the students.)

- [Outlines of Lessons in Botany, Part I; From Seed to Leaf](#) by Jane H. Newell
- The above is used in conjunction with [How Plants Grow](#) by Asa Gray (or here on [Archive.org](#) for Kindle or iPad) OR [First Lessons in Botany and Vegetable Physiology](#) by Asa Gray (but the link to this last is not the revised edition referenced in Outlines of Lessons in Botany)

****NOTE:** I don't know how many classes you will have but this is sure to be too much material to cover in one term. There are 6 sections which include 27 chapters, however the chapters are very uneven. Some are tiny and some include drawn-out experiments showing things like plant respiration.

Additional Books: The following book can be read when a class activity takes less time than expected and you just need to fill some time. It is a great book, however, and could almost stand alone as a botany book, so see if you can get to it sometimes. If you get through this and need more, just let me know. There are others we can pull in.

- The Clover and the Bee by Anne Ophelia Dowden (Explains the process of pollination, describing the reproductive parts of a flower and the role that insects, birds, mammals, wind, and water play in the process.)

Additional Materials:

- Be prepared with the following seeds: Morning-Glory, Sunflower or Squash, Bean, Pea, Red Clover, Flax, Corn, Wheat, and Oats. If they can be procured plant also acorns, Pine-seeds, Maple-seeds, and horse chestnuts.
- There are a lot of individual experiments in the book. You will need to look ahead and decide which ones are feasible for your class to complete in the time allotted, and for which you have the necessary materials.
- *The Botany Coloring Book* by Paul Young

Science Notebook:

During this botany class, you will want your students to enter narrations into their notebooks as often as possible. They can and should draw pictures where appropriate to better show what they have learned. This is not a test, so if they need to look at a diagram, in order to copy it into their own book, that is acceptable.

****NOTE:** If you keep track of how far you get during each class period, what reading and activity you do, and even what discussion questions came up, then I can make notes below for future reference. That way there is no need to reinvent the wheel each time you do this.

****These are duplicated from the Biology term**

3.1.7.A3. Explain why the life cycles of different organisms have varied lengths.
3.1.7.A7. Compare life processes (e.g. growth, digestion) at the organism level with life processes at the cellular level.
3.1.7.A8. MODELS Apply the appropriate models to show interactions among organisms in an environment.
3.1.8.A8. CHANGE AND CONSTANCY Explain mechanisms organisms use to adapt to their environment.
3.1.7.B1. Explain how genetic instructions influence inherited traits.
Identify Mendelian patterns of inheritance.
3.1.7.B2. Compare sexual reproduction with asexual reproduction.
3.1.7.B4. Describe how selective breeding and biotechnology can alter the genetic composition of organisms.
3.1.7 B5. PATTERNS Compare and contrast observable patterns in the physical characteristics across families, strains and species.
3.1.7.C1. Describe how natural selection is an underlying factor in a population's ability to adapt to changes.
3.1.8.C1. Explain how reproductive success coupled with advantageous traits over many generations contributes to natural selection.
3.1.7.C2. Explain why the extinction of a species may occur when the environment changes.
Explain that mutations can alter a gene and are the original source of new variations in a population.

Middle School Biology

One Term: planning for 26 class periods per term, 1:25 min each (9 weeks)

In order to meet the state requirements, during this term, students will be introduced to the concepts of cells, life cycles, life processes, food webs, adaptation, simple genetic and reproduction, natural selection and extinction.

Class Format:

I see the class format going something like this:

1. Spine text read together
2. Activity based on spine text completed together
3. Notebooking time
4. Possibly another activity, picture book and/or a narration by a class member
5. Free read
6. Free read narration

Spine Texts:

- Men, Microscopes, and Living Things by Katherine B. Shippen (Grade Level: 6 and up) *you might have one?
 - a. This book was written in 1955, so it might seem like the ideas are out of date, but because it is mostly addressing the history of biology, it really is not. There has been a lot of new discoveries since 1955, primarily in the area of cell theory and genetics, but we will have time to use other books to follow up on those new ideas.
 - b. This book requires approximately 1 ½ minutes per page to read.

Additional Books: Individual books to secure ideas presented through the spine text. Since these are only used for a short period, you may wish to check them out through the public library.

- Pets in a Jar: Collecting and Caring for Small Wild Animals by Seymour Simon
- Sparrow Girl by Sara Pennypacker
- No Monkeys, No Chocolate by Melissa Stewart
- The Human Body by Stacy Savran OR Body: An Amazing Tour of Human Anatomy by Richard Walker
- The Human Anatomy Coloring Book
- The Heart: All about Our Circulatory System and More! by Seymour Simon
- I am Joe's Body by J.D. Ratcliff, Section 5: Bloodstream (A PDF of this book can be found [online](#) and the chapter printed out. It's only 4 pages.)
- How to Dissect: Exploring With Probe and Scalpel - Special Projects for Advanced Study by William Berman
- The Usborne Complete Book of the Microscope by Kirsteen Rogers and Paul Dowswell
- Benny's Animals and How He Put Them In Order by Millicent E. Selsam (temporary: retire it from the schedule after using in 2017)
- **Did dinosaurs have feathers? by Kathleen Weidner Zoehfeld NEW!!**
- Will We Miss Them?: Endangered Species by Alexandra Wright
- Would You Survive?: Animal and Plant Adaptation by John Townsend ?
- The Frog Scientist by Pamela S. Turner
- **The Iceman by Don Lessem NEW!!**
- Darwin: With Glimpses into His Private Journal and Letters by Alice B. McGinty
- Double Talking Helix Blues by Joel Herskowitz??
- How Heredity Works by Jeanne Bendick
- Gregor Mendel: The Friar Who Grew Peas by Cheryl Bardoe
- How Did We Find Out About Photosynthesis? by Isaac Asimov (64 pages) *This book can be found for under \$2, so don't be fooled by some people wanting hundreds for it. I have a kindle version I made from a PDF ****I may need to move this to 6th grade.**

Free Read Options:

- Carl Linnaeus - *Beloved Botanist: The story of Carl Linnaeus* by Adrien Stoutenburg. 192 pages,
- Gregor Mendel - *Gregor Mendel: Planting the Seeds of Genetics* by Simon Mawer. 176 pages,
- Charles Darwin - *The Voyage of the Beagle* by Charles Darwin
- *Dr. Jenner & Speckled Monster* by David W Moore (24 copies) 112 pages, grade 5-9
- *The Frog Scientist* by Pamela S. Turner (You have some copies I think) - 64 pages, grade 5-9
- *Life and Her Children* by Arabella Buckley ([This can be downloaded to a Kindle or iPad](#))

I think these picture books might be better as a free-read options, but not for younger grades. Some kids might be bothered by them.

Ötzi the iceman by Amanda Lanser (shows the frozen corpse in pictures)

Exploding Ants: Amazing Facts About How Animals Adapt by Joanne Settel (a little gruesome, but most of the kids will love it)

Science Notebook:

Whenever you do not narrate aloud as a class, you will want your students to enter narrations in their notebooks, including narrations of the spine text, free reads, experiments, activities, and current events - not all at the same time, but rather after each reading/activity you do. They can and should draw pictures where appropriate to better show what they know. This is not a test, so if they need to look at a diagram, in order to copy it into their own book, that is acceptable. They may also include quotes that they particularly liked from the reading.

Activities, Experiment/activity:, etc:

- Daily Outline - 26 classes/term

1. Chapter 1: Between the Heights and the Depths (6 pages = 10 minutes)

- Focus: Introduction to biology
- Standards: "Describe the similarities and differences of physical characteristics in diverse organisms." (3.1.7.A1.)*
- Experiments/activity: Introducing the term's special study.

Middle school was when CM students began doing "special studies" of their own. Typically students would study one plant and one animal each term, but it might be best to start with just one or the other. You can give your students some suggestions: pets they own, or that their neighbor or close relative owns, (e.g. dogs, cats, birds, snakes, fish, other reptiles, gerbils,) birds that are local during this season, squirrels in a nearby park, worms, frogs, mushrooms, lichen, or a specific insect or spider, or a specific flower or plant. Some students may want to do their study on something that they cannot observe regularly - like an elephant, or a shark - but you have to discourage that at this time. This project is more about observation, than research.

i. Students can choose a plant or an animal of their choice, but it needs to be something they will have an opportunity to observe.

ii. They should observe their specimen each day and make recordings in their notebook regarding the characteristics they notice.

iii. They should ask themselves some of the following questions:

1. It is warm blooded or cold?
2. How does it move?
3. How long is its typical life-cycle?
4. What does it eat? What eats it? (Chapter 2: The First Biologist)
5. Which of the divisions of classification their specimen falls into: Animal, Plant, Protist, Fungi or Monera. What subcategories. (Chapter 9: "You Are Linnaeus!")
6. What does it need to survive? (Chapter 10: The Baron and the Fossil)
7. Where do they live (habitat) and why? (Chapter 10: The Baron and the Fossil)
8. How does it protect itself? (Chapter 11: Lamarch and the Ladder of Life)
9. How do they adapt to their environment? (Chapter 11: Lamarch and the Ladder of Life)
10. What does it look like at birth? How do its looks change as it grows? (Chapter 13: Von Baer and His Embryos.)
11. How do the parents care for the babies? (Chapter 13: Von Baer and His Embryos.)
12. What makes it unique from other plants/animals?

iv. If students would like to do an experiment on their specimen, they need to write up the specifics and obtain your approval first. I have created a guide to help them [here](#).

Notice that it is not a true "worksheet" for them to fill out, but a list of prompts.

v. Students should try to read at least one book about their specimen as research. Preferably something they could check out from the library.

vi. At the end of the term, it would be nice for each student to present their specimen to the class. Not in person, necessarily, but more as a narration on what they have learned.

vii. I like the idea of creating a zoo book at the end of the term of all of the students special studies. (Something similar to this [zoo book activity](#), or using this [animal report](#) as a guide) As you read the spine text you will find that many famous people compiled all they knew about their subject of interest into a book. This would be the class's way of compiling what they have learned about their specimens.

- Notebook: Tell the students that they will be recording their observations about their specimen in their notebook. You can allow time to check this each day or each week.
- Possible Additional Book: *Pets in a Jar: Collecting and Caring for Small Wild Animals* by Seymour Simon (Suggestions for collecting and keeping as pets such small animals as snails, toads, worms, ants, butterflies, and starfish.) This might help with observation of their special study.
- Possible future exam questions: Tell me what you have learned about your special study specimen.

1. Chapter 2: The First Biologist (9 pages = 15 minutes)
 - a. Focus: observation, food web (This does not exactly fit with the today's spine text, but I needed to put it somewhere. ;)
 - b. Standards:
 - i. "Describe how organisms obtain and use energy throughout their lives." (3.1.7.A2.)
 - ii. "Apply the appropriate models to show interaction among organisms in an environment." (3.1.7.A8.)
 - b. Experiment/activity: [Food Web](#) (I've seen this done with a group and it was terrific.)
 - c. Notebook: Tell what you have learned about a food web, maybe even drawing a simplified one in your notebook
 - d. Note: Did someone miss class this day? Here is a good [food web game](#) they can play on the internet at home, or [this game](#) that they can play with a sibling or parent.
 - e. Picture books:
 - i. Sparrow Girl by Sara Pennypacker (This is based on a true story and cements the food web game very well.)
 - ii. No Monkeys, No Chocolate by Melissa Stewart
 - b. Special Study: Where does your special study specimen show up in the food web? Is your specimen a producer or a consumer (primary consumer or herbivore, secondary consumer or omnivore, tertiary consumer or carnivore,) or decomposer?
 - c. For Discussion or possible future exam questions:
 - i. How do humans fit in the web of life.
 - ii. In a food web, are some organisms more important than others? Why or why not?

1. Chapter 3: Pliny's Tall Tales (5 pages) **AND** Chapter 4: The Herb-Gatherers (7 pages) (12 pages total =18 minutes)

a. Focus: The importance of accurate reporting of scientific findings

b. Standards:

c. Experiment/activity: Working with herbs: Mint (Obtain mint from a garden store. Possibly plant it in pots for study in future years.)

History - Mint was used extensively by the Greeks and Romans. Pliny said of it that "the smell...does stir up the mind and the taste to a greedy desire of meat". And it was the romans who introduced both spearmint and mint sauce to Britain.

Identification - The plants, herbaceous perennials, may grow to a height of over 18 inches, with the spread of 12 inches. They have tough, vigorous roots and stems, which creep beneath the ground and establish new plants along the way making this herb most difficult to eradicate. The small bluish purple flowers which tend to bloom late in the summer, are born in clusters on cylindrical spears.

Uses - Medicinally, peppermint is a powerful digestive aid, which explains why it is such a popular after-dinner preparation. This popular tradition began before the use of artificial flavors, so the real mint or mint oil would have helped to alleviate digestion after a particularly large meal.

The British Herbal Pharmacopoeia lists peppermint oil as a remedy for morning sickness, colic, the common cold and flatulence, and it can even help alleviate a headache.

Mint sauce, in which the chopped herb is mixed with vinegar as an accompaniment to roast lamb, is the traditional herald of the British spring. A sprig of mint can be added when cooking potatoes, peas, squash, and many other vegetables. Mint is chopped into softened butter for serving with lamb, and into apple jelly as a preserve to serve with a variety of poultry, meats, and grilled fish. Sprigs of mint are also used as a garnish, and to flavor fruit salads and summer drinks, particularly mint julep. Mint tea, served hot or cold with a slice of lemon, is refreshing and reviving tisane.

- d. Notebook: After reading about mint, draw it in your science notebooks, remembering the importance of drawing it accurately. Remind your students that it's not about being a "good" drawer, but more about making sure you draw it with the right number of leaf pairings, and the right shape of the leaf. Even noting off to the side the specifics someone would look for when trying to identify a plant they found that may be mint.

- a. Make mint tea

- i. Pick a few sprigs of mint and rinse them under cool water
- ii. Add the mint leaves to a bowl and pour 2 cups of boiling water over it
- iii. Stir the water and leaves for 3 minutes
- iv. Strain your tea or pick out the leaves (don't burn yourself)
- v. Add sugar to sweeten
- vi. Optional: You can also add a slice of lemon or orange if you would like.
- vii. Also optional: If your garden center has a stevia plant you could put one leaf of stevia in with the tea leaves to sweeten your tea naturally.
 - a. Note: We could do something similar with Parsley, Rosemary or Comfrey in the future.
 - a. For Discussion or possible future exam questions: Why is it important to record our science and nature findings accurately?

- 1. Chapter 5: Hedgehogs and Unicorns (9 pages = 14 minutes)

- a. Focus: anatomy, blood (This is not what this chapter is about, but we are going to jump ahead to the circulatory system.)
- b. *Standards:*
- c. Experiment/activity: [What is Blood Made Of?](#) This will require some setup the day before, because the beads take 10 hours to fully hydrate, **OR** you can do [this one](#) at the last minute. (This last one is gross looking!)
- d. Images:
 - i. There are some neat picture on the [Wikipedia blood page](#)
 - ii. Or maybe you can you get your hands on a body book that has pictures and an explanation of the components of blood? You might try the public library. Some suggestions would be The Human Body by Stacy Savran OR Body: An Amazing Tour of Human Anatomy by Richard Walker.
 - iii. Or if you have secured The Usborne Complete Book of the Microscope for use in lesson 8, you could look at pages 26-27.
- b. Notebook: Draw an image of three of the parts of blood: red and white blood cells and platelets (the fourth, plasma, might be hard to draw,) and explain the function of each part.
- c. For Discussion or possible future exam questions: Reflecting back on the spine text, how do you think these seemingly crazy stories about animals got created in the first place? Why did anyone believe them?

- 1. Chapter 6: Vesalius and Harvey Use Their Eyes (11 pages = 16 minutes)

- a. Focus: anatomy, heart
- b. *Standards:*
- c. Experiment/activity:
 - i. Give a tennis ball a good, hard squeeze. You're using about the same amount of force your heart uses to pump blood out to the body. Even at rest, the muscles of the heart work hard—twice as hard as the leg muscles of a person sprinting.
 - ii. This site tell [how a doctor monitors the health of your heart](#).
 - iii. You can use a cardboard tube, like a paper towel roll or a rolled up piece of construction paper to hear each others heart. Particularly listening for the two separate sounds: lub-dub.
 - b. Notebook: Print a copy of a heart diagram for the students to copy into their notebooks. You can use the Human Anatomy Coloring book, but I think it's a little too complicated. You can try to print out [this one instead](#). Another option is for me to send you a photocopy of one I have. Lastly, this one [does not have the labels](#) already. Remember that this isn't a test, however.
 - c. Additional text: The Heart: All about Our Circulatory System and More! by Seymour Simon (This might be useful even just for the pictures.)

d. For Discussion or possible future exam questions: What should we do to keep our heart healthy?

1. I am Joe's Body by J.D. Ratcliff, Section 5: Bloodstream (It seems like the chapter on the heart would be applicable as well, but I don't like that chapter for students.)

a. Focus: anatomy, circulatory system

b. *Standards:*

c. Experiment/activity: [Find your pulse](#) (backup [link](#))

i. Physical activity can change the number of heart beats per minute. Try jumping rope or jogging in place for 15 seconds and then measuring your beats per minute. Why do you think you had a higher count after moving versus standing still or sitting?

b. Notebook:

i. Copy "Mr. Bill's" arteries into your notebook

ii. Write what you know about the circulatory system. (Hopefully they include things like the 3 parts of the circulatory system: heart, blood and blood vessels; the functions of blood; the types of blood vessels and what the role is of each.)

b. Video: Study Jams - [The Circulatory System](#)

c. For Discussion or possible future exam questions: There are many other reasons why a pulse might change, i.e. standing versus lying down, while watching a scary movie versus a comedy, and in the heat versus in the cold. Why do you think your pulse changes in these different situations?

1. Chapter 7: "The Understanding Must Be Stretched" (9 pages = 14 minutes)

a. Focus: Scientific Societies, collections

b. *Standards:*

c. Experiment/activity: I think this might be a good time for a dissection. The spine text talks about how specimens are preserved, so an initial discussion about how the specimens you will dissect were preserved is in order. I think dissecting a frog, earthworm, or squid would be a good start. The book How to Dissect: Exploring With Probe and Scalpel - Special Projects for Advanced Study by William Berman seems to be a good option for guiding a dissection.

*Please note that some students may be sensitive to this process, while others are very excited. I had a student who almost passed out during a dissection.

**Here is a [frog dissection kit](#) that includes instructions and tools, and here is [another one](#).

d. Notebook: Journal as you do your dissection, making pictures and notes as applicable. When the dissection is complete, note what you learned.

a. Video: If doing a dissection in class is not an option, then you could watch a video of a dissection. Here's a [frog dissection video](#). (13:13) Or you could watch this before you do the dissection, so everyone knows what to expect. *Note: YouTube videos can be downloaded and placed on a flash drive for easier play in class.

a. For Discussion or possible future exam questions:

i. Why do you think we do frog dissections? What did you learn?

ii. As a class, make a flowchart showing the similarities and differences between the frog and human systems.

1. Chapter 8: "So Many Marvels..." (16 pages = 25 minutes)

a. Focus: microscopes

b. *Standards:*

c. Experiment/activity: Look through microscopes today. You could go about this in 2 different ways:

i. You can allow them to do a cheek swab, preparing their slide and viewing it. [Here are the instructions](#). AND/OR

ii. You can set up microscopes around the room for the students to rotate through: possibly including samples of a frog lung, wood, insect parts, which were all mentioned in the text. (Staci got a kit of prepared slides.) *Note: We are going to look at cells when we read chapter 14, so be sure you don't accidentally duplicate that activity.

b. Additional text: The Usborne Complete Book of the Microscope by Kirsteen Rogers and Paul Dowswell (I don't mean for you to read this book to the students, but rather for you all to enjoy the pictures, reading sections that interest them.)

- c. Notebook: Draw samples of what they see through the microscope.
- d. For Discussion or possible future exam questions: How do you think being able to see microscopic things changed scientific study?

1. Chapter 9: "You Are Linnaeus!" (12 pages = 18 minutes)

- a. Focus: classification
- b. *Standards:*
- c. Experiment/activity:

i. This [activity](#) looks interesting...maybe? Here's the [cards](#) that go with it.

ii. or you could look at [this page](#), then take everyone's fingerprint and "classify" them. (Approximately 60% of all fingerprints are loops, 35% are whorls, and 5% are arches.)

b. Additional text: Benny's Animals and How He Put Them In Order by Millicent E. Selsam (15 min, this book seems too easy at first, it is an "I Can Read Book" after all, but it really simplifies the point of the classification system. I'm going to schedule it for the grade 3-4 class, but if you feel like your students can use a little foundation, then go ahead and use it now. It will be a few years before they would be hearing it a second time. In future lessons we will read how people improved upon the classification system, but this will give a good foundation if you feel they need it.)

c. Special Study: This would be a good time for everyone to identify the classification of their special study specimen. You could even have them write the name and classification on a 3x5 card and group like specimens as an additional activity.

d. Notebook: Write out the current classification hierarchy ([here's a simple one](#) that they can copy, also also the [5 kingdoms](#)) and tell what you have learned about it.

e. Narration: If any of the students are reading Beloved Botanist: The story of Carl Linnaeus by Adrien Stoutenburg, now would be a great time for them to narrate to the class anything interesting they have learned from the book.

f. Other resources:

i. Our current [classification system explained](#).

ii. A web-based [game](#) might be good for those that missed class

b. For Discussion or possible future exam questions: Why do you think scientists would be more interested in the details of internal and external structures than the behavior or general appearance of a vertebrate when trying to classify them?

1. Chapter 10: The Baron and the Fossil (10 pages = 15 minutes)

- a. Focus: fossils, paleontology, species extinction, endangered animals
- b. *Standards:* "Explain why the extinction of a species may occur when the environment changes." (3.1.7.C2)
- c. Experiment/activity:

i. The following lists [endangered species in PA](#). Is it possible any of these plants or animals are things the students have studied recently, or are on school grounds? It might be good to print pictures of each of these plants and animals so students can watch for them.

ii. Review PA's [Wildlife Action Plan](#). Possibly print out a copy for each student.

iii. Possibly take a tour of school grounds while doing the [Disappearing Habitats activity](#).

b. Additional book (that you have!): The Frog Scientist by Pamela S. Turner

c. Notebook: What have you learned today?

d. Special study: Have students consider if their special study specimen is on the endangered species list. Is there a species similar to their specimen that is listed? If so, what is the difference between it and the endangered species, in terms of population, habitat, and other factors?

e. For Discussion or possible future exam questions: Why should we protect threatened and endangered species? (Once they are gone, they are gone forever and there is no going back. Losing even a single species can have disastrous impacts on the rest of the ecosystem, because the effects will be felt throughout the food chain. Other discussion points include: Medical value, Agricultural significance, Aesthetic/Recreational)

f. Note: Endangered Species Day is held on the 3rd Friday of each May.

1. *The Iceman* by Don Lessem
 - a. Focus: fossils, paleontology, species extinction
 - b. Standards: "Identify evidence drawn from geology, fossils and comparative anatomy that provides the basis for the theory of evolution." (3.1.7.C3)
 - c. Experiment/activity:
 - i. The [Mystery Fossil Bones](#) Activity. You will want to print out the [bones](#) and page 2 of the activity for each group. You might want to print out a copy of the fossil revealed for each person (pg 5).
 - ii. Maybe buy this [fossil sorting kit](#)?
 - b. Notebook:
 - i. Tell what you learned today
 - ii. Copy your group's guess at the mystery fossil into your book, and possibly cut out and paste in the picture from the fossil revealed worksheet.
 - b. Additional book: Did dinosaurs have feathers? by Kathleen Weidner Zoehfeld (Discusses the discovery and analysis of Archaeopteryx, the "mystery fossil" from experiment i. This is a short, easy book.)
 - c. For Discussion or possible future exam questions: Use the "summary questions" from the activity as a class discussion. One of which is: How is it possible for scientists to do studies about things that happened so many years ago?
 - d. Free read: Ötzi the iceman by Amanda Lanser
1. Chapter 11: Lamarch and the Ladder of Life (12 pages = 18 minutes)
 - a. Focus: adaptation
 - b. Standards: "Explain mechanisms organisms use to adapt to their environment." (3.1.8.A8.)
 - c. Experiment/activity: [Fill the Bill](#) activity
 - d. Notebook: Tell what you learned about the different types of bird beaks and how each type of beak is adapted to feed on specific foods.
 - e. Video: Study Jams: [Adaptation](#)
 - f. Picture book:
 - i. Would You Survive?: Animal and Plant Adaptation by John Townsend (**I can't find a copy locally**)
 - b. Free reads:
 - i. What Do You Do When Something Wants To Eat You? by Steve Jenkins (This will be used in grade 1-2, but before the year 2021 no kids will be in your class that were also in the grade 1-2 class who read it. Also if some of your students are new to the school, then it would be worthwhile.)
 - ii. Exploding Ants: Amazing Facts About How Animals Adapt by Joanne Settel
 - b. Special Study: What mechanisms does your specimen have or use to adapt to its environment?
 - i. How does its body covering adapt the animal to its environment?
 - ii. What body parts does your animal use for food getting?
 - iii. Explain how your animal could survive in another environment.
 - iv. Does it migrate?
 - b. For Discussion or possible future exam questions: From the activity: If you have time go outside with your students to look for birds and direct their attention to their beaks. What do their beaks tell you about what they eat?
 1. Chapter 12: The Birth and Growth of Darwin's Theory (13 pages)
 - a. Focus: the theory of evolution and survival of the fittest
 - b. Standards:
 - i. "Describe how natural selection is an underlying factor in a population's ability to adapt to changes." (3.1.7.C1.)
 - ii. "Explain how reproductive success coupled with advantageous traits over many generations contributes to natural selection" (3.1.8.C1.)
 - b. Experiment/activity: This [activity](#) shows how natural selection works.

- c. Notebook: Tell what you have learned about how color affects and organism's ability to survive in certain environments.
- d. Picture book: Darwin: With Glimpses into His Private Journal and Letters by Alice B. McGinty
- e. Narration: If any of the students are reading *The Voyage of the Beagle* by Charles Darwin, now would be a great time for them to narrate to the class anything interesting they have learned from the book.
- f. For Discussion or possible future exam questions:
 - i. Describe the importance of coloration in avoiding predation.
 - ii. Relate environmental change to changes in organisms.
 - iii. Explain how natural selection causes populations to change.

- 1. Chapter 13: Von Baer and His Embryos (9 pages)
 - a. Focus: embryos
 - b. Standards: *"Compare sexual reproduction with asexual reproduction"* (3.1.7.B2)
 - c. Experiment/activity:

i. [Timing is Everything](#) activity. Find the [answers here](#).

ii. [Investigating Reproductive Strategies](#) activity (We will be learning about genes and meiosis later, so for now, let's focus on the bigger picture.)

- b. Notebook: Tell what you have learned today.
- c. Video: maybe? [Human Development](#) (2:18 minutes)
- d. Special Study: This is a good time for students to consider what their special study specimen looks like at birth (or even in vitro if it is a mammal, and if they want to look that up)? How does its looks change as it grows? What stages does it go through if it is a an insect? This would also be a good time to consider if it has parents that take care of it at birth, and if so, how do the parents care for the babies?
- e. [Sexual vs. Asexual Reproduction](#) activity for someone who missed class
- f. For Discussion or possible future exam questions:

i. Have you noticed that most of the people we have studied in this book, which is a compilation of biographies, have studied multiple disciplines in science? Karl Ernst von Baer was a naturalist, biologist, geologist, meteorologist, geographer and a founding father of embryology. These day people specialize just in one field, for instance, cardiology (doctor of the heart,) chemistry, or dermatology (the study and treatment of disorders and diseases of the skin,) just to name a few scientific specialties. What are the pro's and con's to specializing in just one field of study rather than having a broad range of scientific interests like the scientists of old did?

- 1. Chapter 14: Schleiden and Schwann Agree on a Theory (8 pages)
 - a. Focus: cell theory: all living things are composed of cells
 - b. Standards: *"Explain how the cell is the basic structural and functional unit of living things."* (3.1.7.A5)
 - c. Experiment/activity:

i. [Living or Non-Living Experiment](#)

ii. Various types of animal cells: [worksheet](#), (print it out in black ink only)

- b. Notebook: Copy the different types of animal cells into your notebook.
- c. If you are done early you can read the picture book scheduled for the next lesson.

1. ~~Cellular Biology: Organelles, Structure, Function by April Chloe Terrazas~~ (**Requesting that my library find this**, see if it covers [these things](#) - I found this online. It's TOO young. I'll try to find something else)

- a. Focus: cell theory: cells are the smallest unit (structure) of living things that can perform the processes (functions) necessary for life
- b. Standards: *"Compare life processes (e.g. growth, digestion) at the organism level with life processes at the cellular level."* (3.1.7.A7.)
- c. Experiment/activity: Continuing advances in microscopes and instrumentation have increased the understanding of cell organelles and their functions.

i. Go through the animal and plant worksheets, working together to label the parts and review the function of each part.

1. Typical animal cell: [fill in worksheet](#), answers are included on the same web page
2. Plant cell: [fill in worksheet, answers](#)

ii. Comparison of plant and animal cell: have the student help you create a venn diagram of the similarities and differences between plants and animals that are evident at the cellular level. [Here's a cheat sheet.](#)

1. This is a nice worksheet including [both a labeled plant and animal cell](#).

b. Notebook: Students should draw and label an animal cell and a plant cell in their notebook.

c. For those that miss class: [plant and animal cell tutorials and games](#)

d. For Discussion or possible future exam questions:

i. How do the processes of an individual cell compare to the overall processes of the body.

ii. Why do you think plant cells are so much more simple than animal cells.

1. Double Talking Helix Blues by Joel Herskowitz (?) OR learn the basics of DNA using this [Tour of the Basics](#)

a. Focus: DNA, Genes, Chromosomes

b. Standards: *"Identify the levels of organization from cell to organism."* (3.1.7.A6.)

c. Experiment/activity:

i. [Have Your DNA and Eat It Too](#) - Activity

ii. Links to supplements for the above activity:

1. [Build a DNA Molecule](#) - Interactive internet module
2. You can follow this activity with the [Reading DNA](#) activity
3. [How to Extract DNA from Anything Living](#) activity

iii. Listen to the song the book ["Double Talking Helix Blues"](#) is based on.

b. Notebook: Draw and explain what you have learned about DNA

1. Chapter 15: The Stuff of Life (10 pages = 15 minutes)

a. Focus: cell theory: living cells come only from other living cells, cell cycle

b. Standards:

i. *"Explain how cells arise from preexisting cells."* (3.1.7.A4.)

b. Experiment/activity: I don't think you are going to get around this section without an old-fashioned lecture or by using a video to explain what happens when cells duplicate.

i. This is a good YouTube video explaining the process of [Mitosis](#). (6:10)

ii. This short video explains the general [difference between Mitosis and Meiosis](#). (0:51)

1. Note 1: Although it is appropriate for students at this level to learn to recognize the stages of the cell cycle, an exploration of the individual stages of meiosis may be reserved for high school Biology.
2. Note 2: When reading chapter 13 about embryos, we learned a bit about asexual vs. sexual reproduction. Now would be a good time to point out that sexual reproduction uses meiosis, but asexual reproduction does not.

b. Notebook:

i. Draw and explain the six phases of the cell cycle. It might help for them to use a copy of this [worksheet of the cell cycle](#).

ii. Write out the components of cell theory? (all living things are made of one or more cells, the cell is the smallest unit of life, all new cells come from preexisting cells)

b. For Discussion or possible future exam questions:

i. What makes the cell theory a theory?

ii. State and explain the components of cell theory.

1. Chapter 16: Pea Vines and Mathematics (8 pages = 12 minutes)

a. Focus: Genes, hybrids

b. Standards:

i. "Compare and contrast observable pattern in the physical characteristics across families, strains and species" (3.1.7.B5.)

b. Experiment/activity:

i. This [genetics activity](#) helps students to understand basic genetics concepts, including how genotype influences phenotype and how understanding meiosis and fertilization provides the basis for understanding inheritance. I would work through it together as a class. The [teachers notes](#) have some information you will need to provide to the students as you proceed through the worksheet.

ii. Alternative activity:

1. [A Recipe for Traits](#): students create then decode a "DNA recipe" to complete a drawing of a dog.

b. Notebook: Write what you have learned about about inheritable traits.

c. Picture book: Gregor Mendel: The Friar Who Grew Peas by Cheryl Bardoe

d. Narration: If any of the students are reading Gregor Mendel: Planting the Seeds of Genetics by Simon Mawer, now would be a great time for them to narrate to the class anything interesting they have learned from the book. (Or during the next class period.)

e. For Discussion or possible future exam questions: Are Punnett squares as accurate in determining traits as they are easy to do? (For Mendelian inherited traits [examples of Mendelian inheritance include autosomal dominant, autosomal recessive, and sex-linked genes] Punnett squares work pretty well, however they only make predictions and show probabilities; they are not a guarantee of specific results, e.g. although a Pp genotype produces both P and p gametes, there is no guarantee that half the gametes that actually accomplish fertilization will be P and the other half will be p. On the other hand, if the trait is due to the interaction of multiple genes, they are not very useful.)

1. How Heredity Works by Jeanne Bendick (**possibly not all at once**)

a. Focus: Genes, hybrids

b. Standards:

i. "Compare and contrast observable pattern in the physical characteristics across families, strains and species" (3.1.7.B5.)

b. Experiment/activity:

i. This activity is an [inventory of the student's traits](#), which you then graph.

ii. The activity [used blood tests to identify babies possibly switched at birth](#). It has students use blood types to identify the parents of the babies. (The second activity on this worksheet is about a murder might be better skipped, because it's a little more involved, and possibly too graphic - you decide.)

iii. Alternative activity:

1. [PTC: Genes and Bitter Taste](#)

b. Video: Study Jams: [Heredity](#)

c. Notebook: Take an inventory of your inherited traits:

i. Can you touch your tongue to your nose?

ii. Can you curl your tongue?

iii. Do you have dimples when you smile?

iv. Can you bend the last joint on your fingers?

v. Can you spread your middle and ring finger while keeping the rest of your fingers together?

vi. Can you spread your toes?

vii. Can you wiggle your little toe?

viii. If you can do any of these things, then you inherited that trait from one or both of your parents.

ix. Possibly interview your parents and draw a Punnett squares showing how you might have received (or not received) these traits from your parents.

b. Narration: If any of the students are reading Gregor Mendel: Planting the Seeds of Genetics by Simon Mawer, now would be a great time for them to narrate to the class anything interesting they have learned from the book. (If it didn't get done during the last class period.)

1. Chapter 17: Primroses in a Potato Field (7 pages = 10 minutes)

a. Focus: Genes, hybrids, mutations

b. Standards: *genetics, selective breeding, "Explain that mutations can alter a gene and are the original source of new variations in a population." (3.1.7.C2.)*

c. Experiment/activity:

i. Play a game of telephone:

1. Line up 10-12 students and hand the one on the end a message.

2. Ask that student to pass the message along in whispers.

3. The person at the end of the line is to do whatever the message said. (Remind the students that you wouldn't ask them to do anything inappropriate, so if it sounded like something you wouldn't make them do, then don't do it.)

4. Sample messages are:

a. "Stand up, jump three times, pat your belly, spin around, take a bow."

b. "Go to the board, draw a circle, attach a plus sign below it, attach a triangle above it, at the tip of the triangle draw a squiggly."

2. Then have a discussion on why you had them do this. Talk about what mutation were represented. In some cases, you probably experienced a point mutation (like if someone replaces "spin around" with "sit down") and in other cases you might have experienced a deletion (completely missing part of the instruction). Maybe you even experienced an extra instruction thrown in there. Possibly mention that that it represented protein synthesis (a message in words being changed into a action representing nucleic acids being translated into amino acids.)

ii. Another idea is to write a sentence on the board, but delete one letter. Like the letter e, and then ask the students how it affects the whole sentence. Or replace all letter m's with the letter t, or some such switch. Ask them if they can still interpret what the sentence means.

b. Notebook: Tell what you have learned about gene mutations.

c. Video: [Malaria and Sickle Cell Anemia](#): This video is 14 minutes long, but it is fabulous. Pulling together so much of what we have learned so far this term. It's a story so the length isn't too much.

d. Additional text: **How Heredity Works by Jeanne Bendick (continued if needed)**

e. For Discussion or possible future exam questions:

i. How can a mutation be harmful in one environment and helpful in another?

ii. Do you think a genetic test should be developed so people can find out whether they are immune to various genetic diseases? What might be the pros and cons of such a test?

1. Chapter 18: We Are Still At the Beginning (10 pages = 15 minutes)

a. Focus: Genes, chromosomes, chromosome maps and photographs,

b. Standards: *genetics, "Describe how selective breeding and biotechnology can alter genetic composition of organisms."*

c. Experiment/activity: Learning about Artificial Selection through Selective Breeding

i. [Artificially Selecting Dogs](#): this activity looks good, but the lesson plan it is immersed in is a little convoluted. I would pair it down a bit if I were you.

ii. Read this article aloud about [Selective Breeding Problems](#) (or print a copy for everyone to read alone)

b. Notebook: Describing the process of artificial selection or selective breeding.

c. Images: This website shows images of various ["mutant" fruit flies](#).

d. For those that miss class: here is a [game about selective breeding](#).

e. For Discussion or possible future exam questions:

i. If you were to buy a puppy of your own, would you choose a purebred or a mixed breed? Why?

1. Genetic Engineering vs. Selective Breeding

- a. Focus: How Genetic Engineering is different from Selective Breeding
 - b. Standards: “Compare sexual reproduction with asexual reproduction” (3.1.7.B2)*Again
 - c. Experiment/activity:
- i. Possibly a lecture on Genetic Engineering and Selective Breeding based on this [short overview](#) or based on [parts of] this [video](#) (12:01). (You could show this video instead of doing a lecture.)
- ii. and/or a lecture about [How Cloning Works](#). This video tells the [Story of Dolly the Cloned Sheep](#) sheep and how it led to stem-cell research. (13:39) *I’m not sure it is necessary to watch the video in class, but there isn’t much else that is good on the subject. You might be stuck with a lecture on these topics.
- b. Notebook: What did you learn about genetic engineering and cloning?
 - c. Note: cloning is asexual reproduction.
 - d. For Discussion: there is so much controversy around GMO food, cloning, stem-cell research. You might want to have a class discussion about this...or not.

1. Class presentations

- a. Each student should have an opportunity to share what they have learned about their special study.
- b. *This should constitute part of their exam.*

1. Class presentations continued?

- a.
 - 1. Exam
- (Goal: 26 classes)
- **Current Events:**
You can subscribe to the biology news on Google.

- **Notebooking:**
You will want the students to enter narrations in their notebooks, including narrations on the spine text, free reads, experiments, activities, and current events. They can and should draw pictures where appropriate to better show what they know. This is not a test, so if they need to look at a diagram, in order to copy it into their own book, that is acceptable. They may also include quotes that they particularly liked from the reading.

STATE STANDARDS

**Many of these are covered during Botany

- 3.1.7.A1. Describe the similarities and differences of physical characteristics in diverse organisms.
 - 3.1.7.A2. Describes how organisms obtain and use energy throughout their lives.
 - 3.1.7.A3. Explain why the life cycles of different organisms have varied lengths.
 - 3.1.7.A4. Explain how cells arise from pre-existing cells.
 - 3.1.7.A5. Explain how the cell is the basic structural and functional unit of living things.
 - 3.1.7.A6. Identify the levels of organization from cell to organism.
 - 3.1.7.A7. Compare life processes (e.g. growth, digestion) at the organism level with life processes at the cellular level.
 - 3.1.7.A8. MODELS Apply the appropriate models to show interactions among organisms in an environment.
 - 3.1.8.A8. CHANGE AND CONSTANCY Explain mechanisms organisms use to adapt to their environment.
 - 3.1.7.B1. Explain how genetic instructions influence inherited traits.
- Identify Mendelian patterns of inheritance.

3.1.7.B2. Compare sexual reproduction with asexual reproduction.

3.1.7.B4. Describe how selective breeding and biotechnology can alter the genetic composition of organisms.

3.1.7 B5. PATTERNS Compare and contrast observable patterns in the physical characteristics across families, strains and species.

3.1.7.C1. Describe how natural selection is an underlying factor in a population's ability to adapt to changes.

3.1.8.C1. Explain how reproductive success coupled with advantageous traits over many generations contributes to natural selection.

3.1.7.C2. Explain why the extinction of a species may occur when the environment changes.

Explain that mutations can alter a gene and are the original source of new variations in a population.

3.1.7.C3. CONSTANCY AND CHANGE Identify evidence drawn from geology, fossils, and comparative anatomy that provides the basis for the theory of evolution.

Middle School Biology

Spine:

Science Matters: Achieving Scientific Literacy by Robert M. Hazen (IP, specific chapters, 75-93 p. total)

Life Itself: Exploring the Realm of the Living Cell by Boyce Rensberger (IP, specific chapters, 143 p. total)

- NOTE: This is a slow book, 3-4 minutes per page. You would need to read 4-5 pages per rotation to complete 2 chapters per term. That equals about a 20 min per week. I think that is doable, especially in light of the fact that the cell is the foundation of about 3/4 of the HS bio standards.

13 Things That Don't Make Sense by Michael Brooks (IP, specific chapters, 26 p. total)

Class read/free read: *I haven't really considered this list yet. We can get back to it after we have the spines figured out.

The Microbe Hunters by Paul DeKruif (set owned)

Monk in the Garden by Robin Henig (set owned, 304 p.)

The Double Helix: A Personal Account of the Discovery of the Structure of DNA by James D. Watson (set owned, 256 p.)

Beloved Botanist: The Story of Carl Linnaeus by Adrien Stoutenburg (192 p.)

The Man Who Planted Trees by Jean Giono (74 p. fiction, short)

The Origin of Humankind by Leakey (Used in previous years, 190 p.)

Considered elsewhere?

Vertebrates - nature study: mammals, birds, reptiles, amphibians & fish

Invertebrates - nature study: sea creatures, earthworms, insects, spiders

Botany - First Studies of Plant Life, by George Francis Atkinson (set owned of part 1?)

OUTLINE

Term 1

Reading:

- Introduction. Scientific Literacy: What It Is, Why It's Important, and Why We Don't Have It (*Only if you think there is time and they will get it.)
- Science Matters, Ch 15. The Ladder of Life - All living things are made from cells, the chemical factories of life. (22 pages) Topics: cells, enzymes, elements in the body, cell respiration, fermentation, classification systems
- Life Itself, Ch 1. A Particle of Life (25 p.)
- Life Itself, Ch 2. Molecular Motors (19 p.)
- 13 Things That Don't Make Sense by Michael Brooks, Chapter 5: Life, Are you more than just a bag of chemicals? (14 p.)

Term 2

Reading:

- Science Matters, Ch 16. The Code of Life - All life is based on the same genetic code (19 pages) Topics: Genetics, DNA/RNA, viruses, cellular reproduction
- Life Itself, Ch 3. Animation (25 p.)
- Life Itself, Ch 4. The Living-room Cell (19 p.)
- 13 Things That Don't Make Sense by Michael Brooks, Chapter 8: A Giant Virus, It's a freak that could rewrite the story of life (12 p.) (viruses, classification)

Term 3

Reading:

- Science Matters, Ch 17. Biotechnology - All life is based on the same chemistry and genetic code. (12 pages) Topics: DNA fingerprinting, genetic engineering, cloning, pharming, stem cell research
- Life Itself, Ch 5. How Genes Work (37 p.)
- Life Itself, Ch 6. One Life Becomes Two (28 p.)
- Science Matters, Ch 18. Evolution - All forms of life evolved by natural selection. (22 p.) Topics: Natural selection, evolution, extinction

POSSIBLY ADD:

Ch 19. Ecosystems - All life is connected (18 p.) *This is not actually a biology requirement, but an Environment and Ecology requirement. It is also my favorite chapter in this book.

Topics: Food web, energy and carbon cycle, environmental concerns such as ozone depletion, acid rain and climate change

PA Standards

Common Characteristics of Life

- 3.1.10.A1. Explain the characteristics of life common to all organisms.
- 3.1.B.A1. Describe the common characteristics of life.
- 3.1.B.A1. Compare and contrast the cellular structures and degrees of complexity of prokaryotic and eukaryotic organisms.
- 3.1.B.A1. Explain that some structures in eukaryotic cells developed from early prokaryotic cells (e.g., mitochondria, chloroplasts)
- 3.1.C.A1. Explain the chemistry of metabolism.
- 3.1.12.A1. Relate changes in the environment to various organisms' ability to compensate using homeostatic mechanisms.

Energy Flow

- 3.1.10.A2. Explain cell processes in terms of chemical reactions and energy changes.
- 3.1.B.A2. Identify the initial reactants, final products, and general purposes of photosynthesis and cellular respiration.
- 3.1.B.A2. Explain the important role of ATP in cell metabolism.
- 3.1.B.A2. Describe the relationship between photosynthesis and cellular respiration in photosynthetic organisms.
- 3.1.B.A2. Explain why many biological macromolecules such as ATP and lipids contain high energy bonds.

- 3.1.B.A2. Explain the importance of enzymes as catalysts in cell reactions.
- 3.1.B.A2. Identify how factors such as pH and temperature may affect enzyme function.
- 3.1.C.A2. Describe how changes in energy affect the rate of chemical reactions.
- 3.1.12.A2. Evaluate how organisms must derive energy from their environment or their food in order to survive.

Life Cycles

- 3.1.10.A3. Compare and contrast the life cycles of different organisms.
- 3.1.B.A3. Explain how all organisms begin their life cycles as a single cell and that in multicellular organisms, successive generations of embryonic cells form by cell division.

Cell Cycles

- 3.1.10.A4. Describe the cell cycle and the process and significance of mitosis.
- 3.1.B.A4. Summarize the stages of the cell cycle.
- 3.1.B.A4. Examine how interactions among the different molecules in the cell cause the distinct stages of the cell cycle which can also be influenced by other signaling molecules.
- 3.1.B.A4. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.
- 3.1.B.A4. Compare and contrast a virus and a cell. Relate the stages of viral cycles to the cell cycle.
- 3.1.C.A4. Relate mitosis and meiosis at the molecular level.
- 3.1.12.A4. Explain how the cell cycle is regulated.

Form and Function

- 3.1.10.A5. Relate life processes to sub-cellular and cellular structures to their functions.
- 3.1.B.A5. Relate the structure of cell organelles to their function (energy capture and release, transport, waste removal, protein synthesis, movement, etc).
- 3.1.B.A5. Explain the role of water in cell metabolism.
- 3.1.B.A5. Explain how the cell membrane functions as a regulatory structure and protective barrier for the cell.
- 3.1.B.A5. Describe transport mechanisms across the plasma membrane.
- 3.1.12.A5. Analyze how structure is related to function at all levels of biological organization from molecules to organisms.

Organization

- 3.1.10.A6. Identify the advantages of multi-cellularity in organisms.
- 3.1.B.A6. Explain how cells differentiate in multicellular organisms.
- 3.1.12.A6. Analyze how cells in different tissues/organs are specialized to perform specific functions.

Molecular Basis of Life

- 3.1.10.A7. Describe the relationship between the structure of organic molecules and the function they serve in living organisms.
- 3.1.10.A7. Explain how cells store and use information to guide their functions.
- 3.1.B.A7. Analyze the importance of carbon to the structure of biological macromolecules.
- 3.1.B.A7. Compare and contrast the functions and structures of proteins, lipids, carbohydrates, and nucleic acids.
- 3.1.B.A7. Explain the consequences of extreme changes in pH and temperature on cell proteins.
- 3.1.C.A7. Illustrate the formation of carbohydrates, lipids, proteins, and nucleic acids.
- 3.1.12.A7. Evaluate metabolic activities using experimental knowledge of enzymes.
- 3.1.12.A7. Describe the potential impact of stem cell research on the biochemistry and physiology of life.

Unifying Themes

- 3.1.10.A8. Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer programs.
- 3.1.B.A8. CHANGE AND CONSTANCY Recognize that systems within cells and multicellular organisms interact to maintain homeostasis.
- 3.1.B.A8. PATTERNS Demonstrate the repeating patterns that occur in biological polymers.
- 3.1.B.A8. SYSTEMS Describe how the unique properties of water support life.
- 3.1.12.A8. CHANGE AND CONSTANCY Describe and interpret dynamic changes in stable systems.

Heredity

- 3.1.10.B1. Describe how genetic information is inherited and expressed.
- 3.1.B.B1. Explain that the information passed from parents to offspring is transmitted by means of genes which are coded in DNA molecules.
- 3.1.B.B1. Explain the basic process of DNA replication.
- 3.1.B.B1. Describe the basic processes of transcription and translation.
- 3.1.B.B1. Explain how crossing over, jumping genes, and deletion and duplication of genes results in genetic variation.
- 3.1.B.B1. Explain how mutations can alter genetic information and the possible consequences on resultant cells.
- 3.1.12.B1. Explain gene inheritance and expression at the molecular level.

Reproduction

- 3.1.10.B2. Explain the process of meiosis resulting in the formation of gametes.
- 3.1.10.B2. Compare and contrast the function of mitosis and meiosis.
- 3.1.B.B2. Describe how the process of meiosis results in the formation of haploid gametes and analyze the importance of meiosis in sexual reproduction.
- 3.1.B.B2. Compare and contrast the function of mitosis and meiosis.
- 3.1.B.B2. Illustrate that the sorting and recombining of genes in sexual reproduction results in a great variety of possible gene combinations in offspring.
- 3.1.12.B2. Evaluate the process of sexual reproduction in influencing genetic variability in a population.

Molecular Basis of Life

- 3.1.10.B3. Describe the basic structure of DNA and its function in genetic inheritance.
- 3.1.10.B3. Describe the role of DNA in protein synthesis as it relates to gene expression.
- 3.1.B.B3. Describe the basic structure of DNA, including the role of hydrogen bonding.
- 3.1.B.B3. Explain how the process of DNA replication results in the transmission and conservation of the genetic code.
- 3.1.B.B3. Describe how transcription and translation result in gene expression.
- 3.1.B.B3. Differentiate among the end products of replication, transcription, and translation.
- 3.1.B.B3. Cite evidence to support that the genetic code is universal.
- 3.1.C.B3. Describe the structure of the DNA and RNA molecules.
- 3.1.12.B3. Analyze gene expression at the molecular level.
- 3.1.12.B3. Explain the impact of environmental factors on gene expression.

Biotechnology

- 3.1.10.B4. Explain how genetic technologies have impacted the fields of medicine, forensics, and agriculture.
- 3.1.12.B4. Evaluate the societal impact of genetic engineering techniques and applications.

Unifying Themes

- 3.1.10 B5. PATTERNS Use models to demonstrate patterns in biomacromolecules.
- 3.1.10 B5. PATTERNS Compare and contrast Mendelian and nonMendelian patterns of inheritance.
- 3.1.B.B5. PATTERNS Describe how Mendel's laws of segregation and independent assortment can be observed through patterns of inheritance.
- 3.1.B.B5. PATTERNS Distinguish among observed inheritance patterns caused by several types of genetic traits (dominant, recessive, codominant, sex-linked, polygenic, incomplete dominance, multiple alleles)
- 3.1.B.B5. CONSTANCY AND CHANGE Explain how the processes of replication, transcription, and translation are similar in all organisms.
- 3.1.B.B5. CONSTANCY AND CHANGE Explain how gene actions, patterns of heredity, and reproduction of cells and organisms account for the continuity of life.
- 3.1.B.B5. SCALE Demonstrate how inherited characteristics can be observed at the molecular, cellular, and organism levels.
- 3.1.C.B5. PATTERNS Use models to demonstrate patterns in biomacromolecules.
- 3.1.12 B5. PATTERNS Relate the monomer structure of biomacromolecules to their functional roles.

Natural Selection

- 3.1.10.C1. Explain the mechanisms of biological evolution.
- 3.1.B.C1. Describe species as reproductively distinct groups of organisms.
- 3.1.B.C1. Analyze the role that geographic isolation can play in speciation.

- 3.1.B.C1. Explain how evolution through natural selection can result in changes in biodiversity through the increase or decrease of genetic diversity within a population.
- 3.1.B.C1. Describe how the degree of kinship between species can be inferred from the similarity in their DNA sequences.
- 3.1.12.C1. Analyze how natural selection leads to speciation.

Adaptation

- 3.1.10.C2. Explain the role of mutations and gene recombination in changing a population of organisms.
- 3.1.B.C2. Describe the theory suggesting that life on Earth arose as a single, primitive prokaryote about 4 billion years ago and that for the next 2 billion years, a huge diversity of single celled organisms evolved.
- 3.1.B.C2. Analyze how increasingly complex, multicellular organisms evolved once cells with nuclei developed.
- 3.1.B.C2. Describe how mutations in sex cells may be passed on to successive generations and that the resulting phenotype may help, harm, or have little or no effect on the offspring's success in its environment.
- 3.1.B.C2. Describe the relationship between environmental changes and changes in the gene pool of a population.
- 3.1.C.C2. Use molecular models to demonstrate gene mutation and recombination at the molecular level.
- 3.1.12.C2. Analyze how genotypic and phenotypic variation can result in adaptations that influence an organism's success in an environment.

Unifying Themes

- 3.1.10.C3. CONSTANCY AND CHANGE Interpret data from fossil records, anatomy and physiology, and DNA studies relevant to the theory of evolution.
- 3.1.B.C3. CONSTANCY AND CHANGE Compare and contrast various theories of evolution.
- 3.1.B.C3. CONSTANCY AND CHANGE Interpret data from fossil records, anatomy and physiology, and DNA studies relevant to the theory of evolution.
- 3.1.B.C3. PATTERNS Discuss the implications of a universal genetic code for evolution.
- 3.1.12.C3. CONSTANCY AND CHANGE Analyze the evidence to support various theories of evolution (gradualism, punctuated equilibrium).
- 3.1.12.C3. CONSTANCY AND CHANGE Evaluate survival of the fittest in terms of species that have remained unchanged over long periods of time.

Resources/Experiments:

Video on DNA and RNA: https://www.youtube.com/watch?v=_EK3g6px7lk

Switching Genes On and Off (fruit fly wing spots): <http://tn.pbbslearningmedia.org/resource/novat10.sci.life.evo.fruitfly/switching-genes-on-and-off/>

[Cancer gene mutation activity](#)

You could use [this activity](#) to make a cladogram as a class. or [this activity](#) might be better.

Middle School Astronomy

One Term: planning for 26 class periods per term, 1:25 min each (9 weeks)

Class Format:

I see the class format going something like this:

1. Spine text read together
2. Activity based on spine text completed together
3. Notebooking time
4. Possibly another activity, picture book and/or a narration by a class member
5. Free read
6. Free read narration

Spine Texts:

- The Planets by Dava Sobel
- Signs and Seasons: Understanding the Elements of Classical Astronomy, by Jay Ryan and accompanying Field Journal

OR

- The Telescope Makers: From Galileo to the Space Age by Barbara Land (245 pp, 10 ch, Could work as a spine text, Kirkus review "It is interesting, smoothly written, and very well documented with exciting quotations from the writings of the ten telescope-makers surveyed. ...The author also does more than recount the stories; she analyzes them in terms of an authentic view of how science progresses.") *looks like a free eBook might be possible at keenbooks.org
 - a. Hans Lippershey's ingenious spyglass
 - b. Galileo's new window on the heavens
 - c. Johannes Kepler, the nearsighted wizard
 - d. Isaac Newton's reflecting telescope
 - e. William Herschel's giant reflectors
 - f. Joseph Von Fraunhofer's lines and lenses
 - g. Lord Rosse's leviathan of Parsonstown
 - h. George Ellery Hale's view from Palomar
 - i. Bernhard Schmidt's sky camera
 - j. Grote Reber's listening telescope
 - k. Herbert Friedman's rocket telescopes

Additional Books:

- Nicolaus Copernicus: The Earth Is a Planet by Dennis B. Fradin (picture book)
- The whole set of Seymour Simon's individual planet books
- 13 Things That Don't Make Sense by Michael Brooks - This book looks at varying things in the science field, but the ones I would think about reading are Ch 1 The missing Universe: We can only account for 4 percent of the cosmos (covers the expanding universe question and Black holes), Ch 2 The Pioneer Anomaly: Two spacecrafts are flouting the laws of physics, Ch 3 Varying Constants: Destabilizing our view of the universe (I think this is the chapter that covers the Super Nova), Ch 6 Viking: NASA scientists found evidence for life on Mars, then they changed their minds, maybe Ch 7 The WOW! Signal: Has ET already been in touch.

Free Read Options:

- Great Astronomers, by R.S. Ball
- Copernicus: Founder of Modern Astronomy by Catherine M. Andronik (112 pages - I haven't read this)
- Galileo's Daughter by Dava Sobel
- Galileo and the Magic Numbers by Sidney Rosen
- Robert Goddard Trail Blazer To The Stars by Charles Daugherty
- Robert Goddard: Father of the Space Age by Charles Spain Verral and Paul Frame (80 pp)
- Rocket Genius: Robert Goddard - Father of the Space Age by Charles Spain Verral (65 pp)
- The boy who dreamed of rockets: How Robert Goddard became the father of the space age by Robert M Quackenbush
- The Quest of Johannes Kepler, Astronomer by Barbara Land (128 pp, biography)
- More books on my Astronomy page: <http://www.sabbath-mood-homeschool.com/p/astronomy.html>

Science Notebook:

Whenever you do not narrate aloud as a class, you will want your students to enter narrations in their notebooks, including narrations of the spine text, free reads, experiments, activities, and current events - not all at the same time, but rather after each reading/activity you do. They can and should draw pictures where appropriate to better show what they know. This is not a test, so if they need to look at a diagram, in order to copy it into their own book, that is acceptable. They may also include quotes that they particularly liked from the reading.

Activities, Experiment/activity:, etc:

- Handbook of Nature Study pg 815-855
- Activities:
 - make a personal map of the constellations
 - build a telescope
 - go to a planetarium
 - make a model of our solar system
- How to Spot and Track Satellites: <http://www.universetoday.com/103382/how-to-spot-and-track-satellites/>
- <http://www.pbs.org/seeinginthedark/>
- Current Events
- Follow @universetoday on Twitter OR check out <http://www.universetoday.com/>
- Great Moments in Science: Experiments and Readers Theatre by Kendall Haven
- Note the moon cycle when it can be seen during the day

STATE STANDARDS

3.3.7.B1. Explain how gravity is the major force in the formation of the planets, stars, and the solar system.

Describe gravity as a major force in determining the motions of planets, stars, and the solar system.

Compare and contrast properties and conditions of objects in the solar system to those on Earth.

3.3.8.B1. Explain how light, measured remotely, can be used to classify objects in the universe.

3.3.7.B2. SCALE AND MEASUREMENT Identify a variety of instruments used to gather evidence about the universe.

PATTERNS Describe repeating patterns in the Sun-Earth-Moon system and the positions of stars.

SCALE Relate planetary size and distance in our solar system using an appropriate scale model.

3.3.8.B2. SCALE AND MEASUREMENT Explain measurements and evidence indicating the age of the universe.

Middle School Technology and Engineering

Recycling: On our trip to the Pocono Environmental Education Center (PEEC) we learned about how different materials can be recycled for insulation (jeans and plastic) as well as how plastic bottles can be used to collect heat to heat buildings.

Medical:

Louis Pasteur: Disease Fighter by Linda Wasmer Smith (gr. 5-8, ? pp)

To Heal the Heart of a Child: Helen Taussig, M.D. by Helen Taussig (gr. 7+, 128 pp)

Girl Doctor by Joanne Landers Henry, (about Elizabeth Blackwell)

Clara Barton: Founder of the American Red Cross by Augusta C Stevenson

Agriculture:

Communication:

Charles Babbage: And the Engines of Perfection by Bruce Collier (computer)

Alexander Graham Bell: An Inventive Life by Elizabeth MacLeod

Always Inventing by Tom L Matthews (about Alexander Graham Bell).

Ahoy! Ahoy! Are You There? A Story of Alexander Graham Bell by Robert Quackenbush

Transportation:

Team Moon by Catherine Thimmesh (grade 4-7, Gill may have some.)

Neil Armstrong; Young Pilot by Montrew Dunham

The Wright Brothers: Pioneers of American Aviation (Landmark Books) by Quentin Reynolds (gr. 3-7, 160 pp)

Manufacturing:

Construction:

Building Big by David Macaulay (gr. 7+, specifically the bridge chapter)

Building Big: Bridges (DVD) by David Macaulay

Conservation:

Tools:

Electrical Genius, Nicola Tesla by A. Beckhard

General Inventions:

The Story of Inventions, by Michael J. McHugh and Frank P. Bachman

STATE STANDARDS

3.4.7.A1. Explain how technology is closely linked to creativity, which has resulted in innovation and invention.

3.4.8.A1. Analyze the development of technology based on affordability or urgency.

3.4.7.A2. Explain how different technologies involve different sets of processes. 3.4.8.A2. Explain how controls are steps that people perform using information about the system that causes systems to change.

3.4.7.A3. Explain how knowledge gained from other fields of study has a direct effect on the development of technological products and systems.

3.4.8.A3. Compare how a product, system, or environment developed for one setting may be applied to another setting.

3.4.7.B1. Explain how the use of technology can have consequences that affect humans in many ways.

3.4.8.B1. Evaluate the societal implications of the management of waste produced by technology.

3.4.7.B2. Explain how decisions to develop and use technologies may be influenced by environmental and economic concerns.

- 3.4.8.B2. Compare and contrast decisions to develop and use technologies as related to environmental and economic concerns.
- 3.4.7.B3. Describe how invention and innovation lead to changes in society and the creation of new needs and wants.
- 3.4.8.B3. Explain how throughout history, new technologies have resulted from the demands, values, and interests of individuals, businesses, industries, and societies.
- 3.4.7.B4. Explain how many inventions and innovations have evolved by using deliberate and methodical processes of tests and refinements.
- 3.4.8.B4. Explain how societal and cultural priorities and values are reflected in technological devices.
- 3.4.7.C1. Describe how design, as a creative planning process, leads to useful products and systems.
- 3.4.8.C1. Evaluate the criteria and constraints of a design.
- 3.4.7.C2. Explain how modeling, testing, evaluating, and modifying are used to transform ideas into practical solutions.
- 3.4.8.C2. Explore the design process as a collaborative endeavor in which each person in the group presents his or her ideas in an open forum.
- 3.4.7.C3. Describe how troubleshooting as a problem-solving method may identify the cause of a malfunction in a technological system.
- 3.4.8.C3. Analyze how a multidisciplinary (STEM) approach to problem solving will yield greater results.
- 3.4.7.D1. Identify and collect information about everyday problems that can be solved by technology and generate ideas and requirements for solving a problem.
- 3.4.8.D1. Test and evaluate the solutions for a design problem.
- 3.4.7.D2. Select and safely use appropriate tools, products and systems for specific tasks.
- 3.4.8.D2. Operate and maintain systems in order to achieve a given purpose.
- 3.4.7.D3. Use data collected to analyze and interpret trends in order to identify the positive or negative effects of a technology.
- 3.4.8.D3. Interpret and evaluate the accuracy of the information obtained and determine its usefulness.
- 3.4.7.E1. Investigate recent advancements in medical technologies and their impact on quality of life.
- 3.4.8.E1. Analyze what technologies are used in genetic engineering and predict how it may change the future of medicine.
- 3.4.7.E2. Examine specialized equipment and practices used to improve the production of food, fiber, fuel, and other useful products and in the care of animals.
- 3.4.8.E2. Describe how biotechnology applies the principles of biology to create commercial products or processes.
- 3.4.7.E3. Examine the efficiency of energy use in our environment
- 3.4.8.E3. Examine power systems are used to drive and provide propulsion to other technological products or systems.
- 3.4.7.E4. Illustrate how information can be acquired and sent through a variety of technological sources, including print and electronic media.
- 3.4.8.E4. Describe how the design of the message is influenced by such factors as the intended audience, medium, purpose, and nature of the message.
- 3.4.7.E5. Explain how processes, such as receiving, holding, storing, loading, moving, unloading, delivering, evaluating, marketing, managing and communicating are necessary for the entire system to operate efficiently.
- 3.4.8.E5. Describe how governmental regulations influence the design, operation and efficiency of transportation systems.
- 3.4.7.E6. Examine the processes involved in extracting (e.g., harvesting, drilling, mining) raw materials from the earth for use in manufacturing processes.
- 3.4.8.E6. Analyze the steps involved in the manufacturing process (e.g., design, development, production, marketing and servicing of products and systems).
- 3.4.7.E7. Examine subsystems found in the construction of a building.
- 3.4.8.E7. Analyze factors that determine structural design (e.g., building laws and codes, style, convenience, cost, climate, and function).

Author's Notes:

I would say that if The Story of Inventions is not used elsewhere in the school, then it would make a good spine. Then the students could each pick a book/biography from the other areas of technology and inventions to read and report on.

ON THE OTHER HAND, I think utilizing Building Big and the corresponding DVD would be great too. The kids could each build a bridge using popsicle sticks (or pasta - something I just heard of,) and then at the end of the term you could have a competition to see whose bridge holds the most weight.

Gillingham Natural History Curriculum - Year 9

OVERVIEW

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Rocks	Trees	Cultivated Crops
Reptiles, Amphibians and Fish	Earthworms	Birds

NATURAL HISTORY

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Rocks	Trees	Cultivated Crops: Herbs
<p>The Rock Book by Carroll Lane Fenton (432 p.) The Story of Rocks by Dorothy Edwards Shuttlesworth (56 p.) Adventures with Rocks and Minerals: geology experiments for young people Barrow, Lloyd H.</p> <p><i>Object lessons:</i> Can they grow their own Geode? http://handbookofnaturestudy.com/2012/08/outdoor-hour-challenge-granite-rock-nature-study.html/</p> <p>Teacher background: HoNS Rocks and Minerals: p. 743-744 Rocks: p. 744-750</p> <p>Activities included in text Lesson 209, Igneous Rocks: Granite, p. 747 Lesson 210, Calcite, Limestone, and Marble, p. 749 1) look at rocks 2) identify them 3) collect them</p>	<p>Trees and trails by Clarence J. Hylander (RA based on availability) Because of a Tree by Lorus Johnson Milne (152 p.) The Apple from Winter Sunshine by John Burroughs (link) Bird Life in an Old Apple-Tree from Riverby by John Burroughs (link) Stumpin' Around and Forrest Cycles and Home, Home in a Tree Teacher background: HoNS Trees: p. 618-623</p> <p>Object Lessons: Lesson 172 (do autumn work early in the term, then winter work mid term. Come back to the Spring work later during term 3 Lesson 173 early in the term Pick a "class tree" to watch for the rest of the year. See if there is a lesson in HoNS for the tree you picked (lessons 174-191, see list of 19 trees in the contents p. xviii)</p>	<p>This Noble Harvest: A Chronicle of Herbs by Anne Ophelia Dowden</p>
Reptiles, Amphibians and Fish	Earthworms	Birds
<p>Frogs and Toads of the World by Hilda Simon (128 p) Reptiles Around the World by C.H. Pope (120 p.) Grim: The Story of a Pike by J. Muir (Danish – Fleuron) (81 p.)</p> <p>Teacher background: HoNS Amphibians, p. 170-192</p> <p><i>Object lessons:</i> Would you mind keeping a pet toad, frog or salamander? Search for toads, frogs and salamanders. Depending on what you find, use the following lessons to guide your study: Lesson 44: The Tadpole Aquarium Lesson 45: The Toad Lesson 46: Spring Peeper or Pickering's Hyla Lesson 47: The Frog Lesson 48: The Newt or Eft</p>	<p>The Earth Moved: On the Remarkable Achievements of Earthworms by Amy Stewart (241 p.) Earthworms by Dorothy Hogner (51 p. 6 under \$10, easier) How to build a Wormery Discovering What Earthworms Do by Seymour Simon (48 p. RA based on availability)</p> <p>Teacher background: HoNS Invertebrate Animals Other Than Insects, p. 416 The Earthworm, p.422-425</p> <p><i>Object lessons:</i> Lesson 107, The Earthworm, p.424</p>	<p>Bird by Lois Darling and Louis Darling (261 p. RA based on availability/price) John Burroughs books: Riverby (Bird Life in an Old Apple-Tree, Birds' Eggs, Bird Courtship) Locusts and Wild Honey (Birds'-nesting, Birds and birds) Wake-Robin (The Bluebird-a poem, Birds' Nests) The Wit of a Duck and Other Papers (The downy woodpecker-a poem) Selected Chapters from Bird Stories from Burroughs</p> <p>How to Make Suet for Wild Birds</p>

Gillingham Natural History Curriculum - Year 10

OVERVIEW

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Weeds	Moss and Ferns	Garden Flowers
Spiders	Mammals	Insects

NATURAL HISTORY

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Wildflowers	Moss and Ferns	Garden Flowers
<p>Because of a Flower by by Lorus Johnson Milne (152 p.) Secrets of Wildflowers by Jack Sanders (320 p.) *FR, includes folklore, interesting facts and history</p> <p>There are also a few short pieces by John Burroughs that you could print out and read aloud: **Because these are written in a more formal tongue (even though they are just his musings!), remember that you should prepare by knowing the reading before attempting the read it aloud. Then you will be better able to "read into" the students, as CM says.</p> <p>Fragrant Wild Flowers (from A Year in the Fields, see page 125) Weeds (from A Year in the Fields, see page 135) Among the Wild-Flowers (from Riverby, see page 1)</p> <p>Teacher background: HoNS How to Begin the Study of Plants and Their Flowers, p. 453-459 Wild Flowers, p. 460 Weeds, p. 512-513 Lesson 135, Outline for the Study of a Weed, p. 513</p> <p>Object Lessons: Lesson 135, Outline for the Study of a Weed, p. 513 See if there is a lesson in HoNS for the wild flowers and weeds nearby (see list of 19 wildflowers and 1 weeds in the contents p. xvii)</p> <p>Goldenrod I don't have any books on Goldenrod, but you might want to search around for the Goldenrod Gall Goldenrod Legends and Lore</p>	<p>Story of Mosses, Ferns and Mushrooms, Sterling by Dorothy Sterling (159 p.) Ferns by Bernice Kohn (78 p.) Non-flowering plants by Floyd Stephen (reference)</p> <p>Teacher background: HoNS The Hair-Cap Moss or Pigeon Wheat, p. 709-714</p> <p>*You will want to get started with this subject as soon as term 2 starts, or even before, but you can also gather some moss to keep in your classroom.</p> <p>Object Lessons: Lesson 197, The Hair-Cap Moss, p. 711</p>	<p>Look at a Flower by Anne Ophelia T. Dowden Roses by Anne Ophelia Dowden</p> <p>How to Begin the Study of Plants and Their Flowers, p. 453-459 Garden Flowers, p. 546 Bee-Larkspur, p. 568-570 Blue Flag or Iris, p. 571-573 Bachelor's Button, page 578-579 Sweet Pea, p. 588-589</p> <p>Object Lessons: Do any of the following lesson as you find these particular flowers: Lesson 157, Bee-Larkspur, p. 570 Lesson 158, Blue Flag or Iris, p. 573 *early in spring Lesson 160, The Bachelor's Button, see lesson 131 on page 503 Lesson 164, Sweet Pea, p. 589 Plant any of these flowers.</p>
Spiders	Mammals – Animal Survival	Insects
<p>Spiders and Their Kin by Herbert W. Levin and Lorna R. Levin (for reference) Spiders and How They Live by Eugene David</p>	<p>Winter World: The Ingenuity of Animal Survival by Bernd Heinrich (400 pages)</p>	<p>General: How to Follow the Adventures of Insects by Vinson Brown (maybe 9 or RA) *Read a section & follow it's lead for NS)</p>

<p>The Life of the Spider by Jean Henry Fabre (select a chapter or two from the list below)</p> <ul style="list-style-type: none"> • Chapters 9-15 (Middle school will be assigned the other chapters) • Ch 9-14: Garden Spiders, which might include orb weavers. You have 3 garden spiders in your area: Black and Yellow Garden Spider (shown in the top right corner), Banded Garden Spider and Ant Mimic Spider. • Ch 15: The Labyrinth Spider. This is about funnel web spiders of which you have 2 in PA: Grass Spiders and Barn Funnel Weaver. <p>Teacher background: HoNS Daddy Longlegs or Grandfather Greybeard, p. 432-434 Spiders, p. 435-436 Cobwebs, p. 436-438 The Funnel Web of a Grass Spider, p. 438 The Orb Web, p. 439-441 The Filmy Dome, p. Ballooning Spiders, p. The White Crab Spider, p. 445-446 How Spiders Take Care of Their Eggs, p. 446-</p> <p>Object Lessons, choose from the following: Lesson 109, The Daddy Longlegs, p. 434 Lesson 110, Cobwebs, 437 Lesson 111, The Funnel Web, p. 438 Lesson 112, The Orb Web, p.441 Lesson 113, The Filmy Dome, p.443 Lesson 114, Ballooning Spiders, p. 445 Lesson 115, The White Crab Spider, p. 446 Lesson 116, How Spiders Take Care of Their Eggs, p. 447</p>		<p>Bug Watching with Charles Henry Turner (RA based on availability) The Life of the Caterpillar, by J. Henri Fabre Listening to Crickets: A Story about Rachel Carson by Candice Ransom (G 3-8) Insect Builders and Craftsmen by Hutchins All About the Insect World by Lane Monarch Butterflies by Hopf All About Moths and Butterflies by Lemmon Dragonflies by Simon Wonders of the Beetle World by Lavine Fireflies in Nature and the Laboratory by Pool Insects by Fabre (Gill may have some)</p> <p>Teacher background: HoNS Insects, p. 294-300 The Gall Dwellers, p. 335-338 The Cockroach, p. 350-351 The Housefly, p. 358-361 The Colorado Potato Beetle, p. 363-364 The Ladybird, p. 364-366 The Firefly, p. 367-369</p> <p>Object Lessons as these particular insects are found: Lesson 79, The Gall Dwellers, p. 337 Lesson 83, The Cockroach, p. 351 Lesson 87, The Housefly, p. 360 Lesson 88, The Colorado Potato Beetle, p. 363 Lesson 89, The Ladybird, p. 89 *Kindergarden will be setting some free in the garden Lesson 90, The Firefly, p. 368</p>
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NATURAL HISTORY – OBJECT LESSONS

Handbook of Nature Study (HoNS) Prep for NS:

The Teaching of Nature Study, pages 1-15

How to Use This Book, pages 23-24

* Children this age should not do any cutting or pulling apart of the flowers. You may do the cutting, and then allow them to look, or forgo this step and just look at it as is.

Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Weeds and Wildflowers: Dandelion, Milkweed & General Teacher background: HoNS How to Begin the Study of Plants and Their Flowers, p. 453-459 Wild Flowers, p. 460 Milkweed, p. 491-495 Weeds, p. 512-513 Outline for the Study of a Weed, p. 513 Dandelion, p. 531-535 Object Lessons: 1. Lesson 135, Outline for the Study of a Weed, p. 513 2. Lesson 144, Dandelion, p. 534 3. Lesson 128, Milkweed, p. 493	Flowerless Plants: Fungi Teacher background: HoNS Mushrooms and Other Fungi, p. 714-726 *You will want to get started with this subject as soon as term 2 starts, or even before. Object Lessons: 1. Lesson 198, Mushrooms, p. 717 (typically autumn) *repeat this lesson for all of the mushrooms you find. 2. Lesson 199, Puffballs, p. 720 (late summer) 3. Lesson 200, Bracket Fungi, p. 721 (anytime) 4. Lesson 201, Hedgehog Fungi, p. 725 (autumn) 5. Lesson 202, The Scarlet Saucer, p. 725 (winter) 6. Lesson 203, Morels, p. 726 (May)	Garden Flowers: Poppies Teacher background: HoNS How to Begin the Study of Plants and Their Flowers, p. 453-459 Garden Flowers, p. 546 The Poppies, p. 560-562 Object Lessons: 1. Plant poppies 2. Look at a poppy seed with a hand lens. 3. Lesson 154, The Poppies, p. 562-563, split the lesson over several days: a. HoNS questions 1-3 b. HoNS questions 4-5 (6) c. HoNS questions 7-8 d. HoNS questions 9-11
Spiders Teacher background: HoNS Daddy Longlegs or Grandfather Greybeard, p. 432-434 Spiders, p. 435-436 Cobwebs, p. 436-438 The Funnel Web of a Grass Spider, p. 438 The Orb Web, p. 439-441 The Filmy Dome, p. Ballooning Spiders, p. The White Crab Spider, p. 445-446 How Spiders Take Care of Their Eggs, p. 446- Object Lessons, choose from the following: 10. Lesson 109, The Daddy Longlegs, p. 434 11. Lesson 110, Cobwebs, 437 12. Lesson 111, The Funnel Web, p. 438 13. Lesson 112, The Orb Web, p.441 14. Lesson 113, The Filmy Dome, p.443 15. Lesson 114, Ballooning Spiders, p. 445 16. Lesson 115, The White Crab Spider, p. 446 17. Lesson 116, How Spiders Take Care of Their Eggs, p. 447 18. Possible additional activities: a. Measure the width and height of each web you find. Count how many threads cross through the center of the web and how many threads attach the web to the shrub.	Mammals: Dogs, Foxes & General Teacher background: HoNS Intro: p. 26, 214 The Wolf, p.250 The Fox, p.253 Dogs, p. 254-260 Object Lessons: 2. Lesson 63, The Dog, p. 258 3. Lesson 62, The Fox, p. 253	Insects of Fields & Wood: Crickets & Grasshoppers Teacher background: HoNS Insects, p. 294-300 The Grasshopper: 338-343 The Katydid, p. 343-344 The Black Cricket, p. 344-348 The Snowy Tree Cricket 348-350 Object Lessons, do the following if any of these creatures are found: 1. Maybe get pet crickets 2. Lesson 80, The Grasshopper 3. Lesson 81, The Katydid 4. Lesson 82, The Black Cricket e. Maybe get pet crickets 5. Lesson 82 repeated for the Snowy Tree Cricket

<p>b. Preserve a Spider Web – directions (link) *Spiders rebuild their webs daily, but be sure you are the last class to do nature study on this day. You don't want other classes to find the "object" of their lesson gone.</p> <p>c. Watch this slow motion video of a spider building a web (link) (2:27 min)</p> <p>d. Try building a web yourselves.</p> <ol style="list-style-type: none"> How much bigger is a web compared to its spider creator? Could you make something that was five or ten times the size of you? If you had to build a web like a spider, how big would it be? Multiply your height in inches times ten. Divide students into small groups. Each group should choose a location to build between two stationary objects and start with the basic frame of one horizontal line and one vertical line. Students should design their web similarly to the way a real spider would. (Use yarn and either tape or knots to attach pieces.) Consider which parts would be sticky and which non-sticky. How similar does your finished web look to the real thing? Do they think their webs could catch some prey? Why or why not? <p>e. Research how a spider web is useful to someone or something besides a spider? e.g. Cross hairs for optical instruments, (Gun sights, microscopes, telescope finder scopes), Birds use webs for constructing nests, Spider webs can be used to cover an injury and help the blood to clot, Scientists are experimenting with using spider webs in repairing torn human ligaments.</p> <p>f. In curled-up leaves and moist places, such as rotting stumps, you can find very small silky cocoons about a quarter of an inch long. Open one very carefully outdoors with fine scissors or twigs cut to sharp points. You will find that instead of the insect pupa you expect in a cocoon, there is a living spider that has sealed itself up for the winter. Nudge this animal (or any other spider you find anywhere in winter) with a twig and see whether it actively looks for a protected place or simply goes forward a few steps and then stops. Whether it is active enough to look for a crevice immediately may depend on the temperature or the species, or both. Examine the cocoon silk under a hand lens or microscope. Also look for eggs or hibernating young spiders. (From Winter Science Activities by John M. Youngpeter - Project 30 - Cold Spiders)</p>		
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NATURAL HISTORY – OBJECT LESSONS

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Term 1 (Fall)	Term 2 (Winter)	Term 3 (Spring)
Weeds and Wildflowers: Clover & General Teacher background: HoNS How to Begin the Study of Plants and Their Flowers, p. 453-459 Wild Flowers, p. 460 Weeds, p. 512-513 Cultivated Crops, p. 591-594 The Clovers, p. 591-598 Object Lessons: <ol style="list-style-type: none"> Lesson 135, Outline for the Study of a Weed, p. 513 Lesson 165, The Clovers, p. 594 Lesson 166, Sweet Clover, p.596 Lesson 167, White Clover, p.597 	Flowerless Plants: Ferns Teacher background: HoNS Ferns, p. 693-706 * You could keep a hanging fern in your classroom. Object Lessons: <ol style="list-style-type: none"> Lesson 192, The Christmas Fern, p. 695 (late may if you are watching it grow from the ground, but you could buy a hanging fern and keep it in your classroom.) Lesson 193, Bracken, p. 697 (summer) Lesson 194, How a Fern Bud Unfolds, p. 699 (May to September) Lesson 195, The Fruiting of the Fern, p. 701 (June to September) 	Garden Flowers: Tulips Teacher background: HoNS How to Begin the Study of Plants and Their Flowers, p. 453-459 Garden Flowers, p. 546 The Tulip, p. 552-555 Object Lessons: <ol style="list-style-type: none"> Buy a pot of blooming, or better yet, nearly blooming tulips to keep in your classroom. If you have some growing on school grounds either take your students to look at them firsthand or pick some flowers that are just opening. Lesson 151, The Tulip, p. 554-555, split the lesson over several days: <ol style="list-style-type: none"> Questions 1-3 Questions 4-5 Questions 6 Questions 7 Questions 8 Lesson: Plant tulips Lesson: Force Tulips – Chill Tulips for at least 15 weeks. (Start them chilling before Thanksgiving or Christmas break.) Grow in soil mix. Picture Study: Monet's Tulip Field with the Rijnsburg Windmill
Spiders Teacher background: HoNS Daddy Longlegs or Grandfather Greybeard, p. 432-434 Spiders, p. 435-436 Cobwebs, p. 436-438 The Funnel Web of a Grass Spider, p. 438 The Orb Web, p. 439-441 The Filmy Dome, p. Ballooning Spiders, p. The White Crab Spider, p. 445-446 How Spiders Take Care of Their Eggs, p. 446- Object Lessons, choose from the following: <ol style="list-style-type: none"> Lesson 109, The Daddy Longlegs, p. 434 Lesson 110, Cobwebs, 437 Lesson 111, The Funnel Web, p. 438 	Mammals: Mouse, Cat & General Teacher background: HoNS Animal Groups, p. 26 Mammals, p. 214 Mouse, p. 224-228 Cat, p. 260-266 Object Lessons: <ol style="list-style-type: none"> Lesson 55, The House Mouse, p. 227 Lesson 64, The Cat, p. 265 	Insects of Fields & Wood: Butterflies Teacher background: HoNS Insects, p. 294-300 Various Butterflies, p. 301-334 Object Lessons, do the following if any of these butterflies are found: <ol style="list-style-type: none"> Lesson 70, The Black Swallowtail Butterfly, p. 303 Lesson 71, The Monarch Butterfly, p. 308 Lesson 72, The Isabella Tiger Moth or Woolly Bear, p. 312 Lesson 73, Cecropia, p. 316 Lesson 74, Promethea, p. 319 Lesson 75, Hummingbird or Sphinx Moths, p. 323 Lesson 76, Codling Moth, p. 327 Lesson 77, Leaf-miners, p. 331 Lesson 78, Leaf-rollers, p. 334

22. Lesson 112, The Orb Web, p.441
23. Lesson 113, The Filmy Dome, p.443
24. Lesson 114, Ballooning Spiders, p. 445
25. Lesson 115, The White Crab Spider, p. 446
26. Lesson 116, How Spiders Take Care of Their Eggs, p. 447
27. Possible additional activities:
 - a. Measure the width and height of each web you find. Count how many threads cross through the center of the web and how many threads attach the web to the shrub.
 - b. Preserve a Spider Web – directions ([link](#)) *Spiders rebuild their webs daily, but be sure you are the last class to do nature study on this day. You don't want other classes to find the "object" of their lesson gone.
 - c. Watch this slow motion video of a spider building a web ([link](#)) (2:27 min)
 - d. Try building a web yourselves.
 - i. How much bigger is a web compared to its spider creator? Could you make something that was five or ten times the size of you? If you had to build a web like a spider, how big would it be? Multiply your height in inches times ten.
 - ii. Divide students into small groups. Each group should choose a location to build between two stationary objects and start with the basic frame of one horizontal line and one vertical line. Students should design their web similarly to the way a real spider would. (Use yarn and either tape or knots to attach pieces.) Consider which parts would be sticky and which non-sticky.
 - iii. How similar does your finished web look to the real thing? Do they think their webs could catch some prey? Why or why not?
 - e. Research how a spider web is useful to someone or something besides a spider? e.g. Cross hairs for optical instruments, (Gun sights, microscopes, telescope finder scopes), Birds use webs for constructing nests, Spider webs can be used to cover an injury and help the blood to clot, Scientists are experimenting with using spider webs in repairing torn human ligaments.
 - f. In curled-up leaves and moist places, such as rotting stumps, you can find very small silky cocoons about a quarter of an inch long. Open one very carefully outdoors with fine scissors or twigs cut to sharp points. You will find that instead of the insect pupa you expect in a cocoon, there is a living spider that has sealed itself up for the winter. Nudge this animal (or any other spider you find anywhere in winter) with a twig and see whether it actively looks for a protected place or simply goes forward a few steps and then stops. Whether it is active enough to look for a crevice

immediately may depend on the temperature or the species, or both. Examine the cocoon silk under a hand lens or microscope. Also look for eggs or hibernating young spiders. (From Winter Science Activities by John M. Youngpeter - Project 30 - Cold Spiders)		
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High School Chemistry

HS Chemistry Principles see attached

Books:

Term 1 & 2

The Romance of Chemistry by Keith Gordon Irwin (gr. 8.8, 140 p.)

Also looking at:

The Periodic Kingdom by Peter (P.W.) Atkins

What is Chemistry? by Peter (P.W.) Atkins

Interspersed with topical books (see options I'm looking at below)

Term 3

How chemistry is used in modern life:

1. Agricultural
2. Food (cooking, baking)
3. Soaps and detergents
4. Health Care and Beauty (makeup and anti-wrinkle creams, the sunscreen)
5. Fuel (petro-chemical industries and refineries)
6. Weapons (old and new)
7. Industries and Transport (cloth mills, leather factories, metal industries)
8. Medicine/Medical chemistry ([Pharmaceuticals](#))
9. Chemical Engineering (Petrochemistry and Synthetic Polymers, [link](#))
10. Environmental issues

Topical: (maybe use select chapters of some of the following)

- The Noble Gases by Isaac Asimov (171 p. helium, neon, argon, krypton, xenon, and radon)

- The Architecture of Molecules by Linus Pauling and Roger Hayward (117 p.)
- Stories of the Invisible: A Guided Tour of Molecules by Philip Ball (224 p.)
- Molecules at an Exhibition: Portraits of Intriguing Materials in Everyday Life by John Emsley (272 p.) - maybe just individual chapters
- The Periodic Kingdom by P.W. Atkins (IP, 176 p.)
- The Story of Oxygen by Karen Fitzgerald (g. 5+)
- The Story of Nitrogen by Karen Fitzgerald (g. 5+, 63 p.)
- The Story of Iron by Karen Fitzgerald (g. 5+, 64 p.)
- The Story of Carbon by Mark Uehling (63 p.)
- The Story of Gold by Hal Hellman (63 p.)
- The Story of Hydrogen by Mark Uehling (63 p.)
- The Story of the Atom by Mae Blacker Freeman, Ira Maximilian Freeman
- Atoms at Work by Bischof
- Biography of an Atom by Pursell

Class read:

Uncle Tungsten: Memories of a Chemical Boyhood by Oliver Sacks (set) *even though you have a set of these, it might be better to let each student select a book that is good for their reading level and interest from the free reads list below.

The Mystery of the Scarlet Letter by Arthur Conan Doyle & forensics fingerprinting kit (used previously)

Optional additional free reads or to read after class reads:

- The Disappearing Spoon by Sam Keen (class set)
- The Chemical History of a Candle by Faraday (class set)
- Doctor Paracelsus by Sidney Rosen (214 p.)
- The Invention of Air by Steven Johnson, about Joseph Priestley (276 p.)
- Antoine Lavoisier: Scientist and Citizen by Sarah R, Riedman (192 p.)
- Mendeleyev and His Periodic Table by Robin McKown (191 p.)
- The Radium Woman by Eleanor Doorly (Marie Curie - 196 p.)
- Mauve: How One Man Invented a Color that Changed the World by Simon Garfield (240 p.)
- Bright Earth: Art and the Invention of Color by Philip Ball (382 p.)
- Why Things Break: Understanding the World by the Way It Comes Apart by Mark Eberhart (272 p.)
- Oxygen: The Molecule that Made the World by Nick Lane (384 p.)

- That's the Way the Cookie Crumbles by Dr. J. Schwarcz

Resources:

- The Elements by Gray (7)
- Vault: Treasures of the Periodic Table (1)
- The Photographic Card Deck of the Elements (1)
- Current Events: <http://www.scientificamerican.com/chemistry/>
- Periodic Videos: <http://www.periodicvideos.com/>
- Keep a timeline in class to show how chemistry progressed.
- Chemistry, Matter & Change Student edition and CM&C Science Notebook Student Ed, & CM&C Lab Manual

Experiments:

- [Off the Shelf Chemistry Laboratory Experiments](#) *I have done a lot of these experiments and they were all easy to follow and simple, but not too basic. They do require some equipment however.
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Activities:

- "[Make Five](#)" a game about mineral chemical formulas
- [Elements song](#) (updated)

Teacher Resources:

- E-Z Chemistry (set)

The Romance of Chemistry (~2 minutes per page = 9 30-minute reads)

1. see outline of notes [here](#)

UPPER SCHOOL SCIENCE

Chemistry Principles Outline

1. Matter
 - a. Properties of matter
 - i. Weight (specific gravity)
 - ii. Mass
 - iii. Volume
 - iv. Density
 - v. Temperature
 2. Atoms
 - a. Structure (protons, neutrons, electrons)
 - b. Lepton
 - c. Quark
 2. Elements
 - a. Arranged on periodic table
 - b. Relative Atomic Weight
 - c. Isotopes
 - d. Metals
 - i. Conducts electricity
 - ii. Conducts heat
 - iii. Shiny, own characteristic color
 - iv. Can change shape without cracking or breaking
 1. Malleability (hammering)
 2. Ductility (stretching)
 - b. Nonmetal (carbon, oxygen, wood, rocks, glass)
 - c. Crystals (metals and nonmetals can form crystals)
 2. Compounds and Chemical Formulas/Nomenclature
 - a. Elements of the compound do not retain their original properties.
 - b. Chemical change – energy change in a chemical reaction
 - c. Chemical bonds
 - i. Covalent bonding
 - ii. Ionic bonding
 - iii. Metallic bonding
 - b. Mole (Avogadro's constant)
 2. Reactions

- a. Reactants and Products
- b. Stoichiometry
- c. 4 types
- i. Electron transfer
- ii. Oxidation
- iii. Radicals
- iv. Lewis acid-base reactions
- 2. States of Matter
 - a. States of Matter: Solid, liquid and gas
 - b. Liquid
 - i. Viscosity – flow
 - ii. Surface tension
 - iii. Solvent
 - iv. Exerts upward pressure, which increases with depth (buoyant force)
 - v. Boiling and freezing point
 - b. Kinetic theory of matter
 - i. Molecules are in constant motion (heat energy)
 - ii. Gas molecules move faster than liquid molecules at the same temp
 - iii. Molecules in a solid have only limited motion
 - iv. The motion of molecules depends on their temp
 - b. Physical and Chemical Change
 - 2. Gas
 - a. Kinetic theory of gasses
 - b. Pressure, temperature, volume
 - c. Boyle's Law
 - d. Oxidation
 - 2. Mixtures
 - a. Homogenous (solutions) – mixture is uniform (e.g. air, or sugar in water)
 - i. How substances dissolve
 - ii. Rate of solution
 - iii. Alloy (Brass, bronze, steel)
 - iv. Solvent/solubility (concentrated and dilute)
 - b. Heterogeneous – mixture of two or more compounds easily identified (e.g. sand and water)
 - c. Suspension
 - d. Separating mixtures
 - e. Dissolving
 - 2. Acids and Bases
 - a. Conduct electrical current
 - b. Neutralize each other
 - 2. Electrochemistry
 - 3. Nuclear Chemistry

High School Biology

Spine:

Science Matters: Achieving Scientific Literacy by Robert M. Hazen (IP, specific chapters, 75-93 p. total)

Life Itself: Exploring the Realm of the Living Cell by Boyce Rensberger (IP, specific chapters, 143 p. total)

- NOTE: This is a slow book, 3-4 minutes per page. You would need to read 4-5 pages per rotation to complete 2 chapters per term. That equals about a 20 min per week. I think that is doable, especially in light of the fact that the cell is the foundation of about 3/4 of the HS bio standards.

13 Things That Don't Make Sense by Michael Brooks (IP, specific chapters, 26 p. total)

Class read/free read: *I haven't really considered this list yet. We can get back to it after we have the spines figured out.

The Microbe Hunters by Paul DeKruif (set owned)

Monk in the Garden by Robin Henig (set owned, 304 p.)

The Double Helix: A Personal Account of the Discovery of the Structure of DNA by James D. Watson (set owned, 256 p.)

Beloved Botanist: The Story of Carl Linnaeus by Adrien Stoutenburg (192 p.)

The Man Who Planted Trees by Jean Giono (74 p. fiction, short)

The Origin of Humankind by Leakey (Used in previous years, 190 p.)

Considered elsewhere?

Vertebrates - nature study: mammals, birds, reptiles, amphibians & fish

Invertebrates - nature study: sea creatures, earthworms, insects, spiders

Botany - First Studies of Plant Life, by George Francis Atkinson (set owned of part 1?)

OUTLINE

Term 1

Reading:

- Introduction. Scientific Literacy: What It Is, Why It's Important, and Why We Don't Have It (*Only if you think there is time and they will get it.)
- Science Matters, Ch 15. The Ladder of Life - All living things are made from cells, the chemical factories of life. (22 pages) Topics: cells, enzymes, elements in the body, cell respiration, fermentation, classification systems
- Life Itself, Ch 1. A Particle of Life (25 p.)
- Life Itself, Ch 2. Molecular Motors (19 p.)
- 13 Things That Don't Make Sense by Michael Brooks, Chapter 5: Life, Are you more than just a bag of chemicals? (14 p.)

Term 2

Reading:

- Science Matters, Ch 16. The Code of Life - All life is based on the same genetic code (19 pages) Topics: Genetics, DNA/RNA, viruses, cellular reproduction
- Life Itself, Ch 3. Animation (25 p.)
- Life Itself, Ch 4. The Living-room Cell (19 p.)
- 13 Things That Don't Make Sense by Michael Brooks, Chapter 8: A Giant Virus, It's a freak that could rewrite the story of life (12 p.) (viruses, classification)

Term 3

Reading:

- Science Matters, Ch 17. Biotechnology - All life is based on the same chemistry and genetic code. (12 pages) Topics: DNA fingerprinting, genetic engineering, cloning, pharming, stem cell research
- Life Itself, Ch 5. How Genes Work (37 p.)
- Life Itself, Ch 6. One Life Becomes Two (28 p.)
- Science Matters, Ch 18. Evolution - All forms of life evolved by natural selection. (22 p.) Topics: Natural selection, evolution, extinction

POSSIBLY ADD:

Ch 19. Ecosystems - All life is connected (18 p.) *This is not actually a biology requirement, but an Environment and Ecology requirement. It is also my favorite chapter in this book.

Topics: Food web, energy and carbon cycle, environmental concerns such as ozone depletion, acid rain and climate change

PA Standards

Common Characteristics of Life

3.1.10.A1. Explain the characteristics of life common to all organisms.

3.1.B.A1. Describe the common characteristics of life.

3.1.B.A1. Compare and contrast the cellular structures and degrees of complexity of prokaryotic and eukaryotic organisms.

3.1.B.A1. Explain that some structures in eukaryotic cells developed from early prokaryotic cells (e.g., mitochondria, chloroplasts)

3.1.C.A1. Explain the chemistry of metabolism.

3.1.12.A1. Relate changes in the environment to various organisms' ability to compensate using homeostatic mechanisms.

Energy Flow

- 3.1.10.A2. Explain cell processes in terms of chemical reactions and energy changes.
- 3.1.B.A2. Identify the initial reactants, final products, and general purposes of photosynthesis and cellular respiration.
- 3.1.B.A2. Explain the important role of ATP in cell metabolism.
- 3.1.B.A2. Describe the relationship between photosynthesis and cellular respiration in photosynthetic organisms.
- 3.1.B.A2. Explain why many biological macromolecules such as ATP and lipids contain high energy bonds.
- 3.1.B.A2. Explain the importance of enzymes as catalysts in cell reactions.
- 3.1.B.A2. Identify how factors such as pH and temperature may affect enzyme function.
- 3.1.C.A2. Describe how changes in energy affect the rate of chemical reactions.
- 3.1.12.A2. Evaluate how organisms must derive energy from their environment or their food in order to survive.

Life Cycles

- 3.1.10.A3. Compare and contrast the life cycles of different organisms.
- 3.1.B.A3. Explain how all organisms begin their life cycles as a single cell and that in multicellular organisms, successive generations of embryonic cells form by cell division.

Cell Cycles

- 3.1.10.A4. Describe the cell cycle and the process and significance of mitosis.
- 3.1.B.A4. Summarize the stages of the cell cycle.
- 3.1.B.A4. Examine how interactions among the different molecules in the cell cause the distinct stages of the cell cycle which can also be influenced by other signaling molecules.
- 3.1.B.A4. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.
- 3.1.B.A4. Compare and contrast a virus and a cell. Relate the stages of viral cycles to the cell cycle.
- 3.1.C.A4. Relate mitosis and meiosis at the molecular level.
- 3.1.12.A4. Explain how the cell cycle is regulated.

Form and Function

- 3.1.10.A5. Relate life processes to sub-cellular and cellular structures to their functions.
- 3.1.B.A5. Relate the structure of cell organelles to their function (energy capture and release, transport, waste removal, protein synthesis, movement, etc).
- 3.1.B.A5. Explain the role of water in cell metabolism.
- 3.1.B.A5. Explain how the cell membrane functions as a regulatory structure and protective barrier for the cell.
- 3.1.B.A5. Describe transport mechanisms across the plasma membrane.
- 3.1.12.A5. Analyze how structure is related to function at all levels of biological organization from molecules to organisms.

Organization

- 3.1.10.A6. Identify the advantages of multi-cellularity in organisms.
- 3.1.B.A6. Explain how cells differentiate in multicellular organisms.
- 3.1.12.A6. Analyze how cells in different tissues/organs are specialized to perform specific functions.

Molecular Basis of Life

- 3.1.10.A7. Describe the relationship between the structure of organic molecules and the function they serve in living organisms.
- 3.1.10.A7. Explain how cells store and use information to guide their functions.
- 3.1.B.A7. Analyze the importance of carbon to the structure of biological macromolecules.
- 3.1.B.A7. Compare and contrast the functions and structures of proteins, lipids, carbohydrates, and nucleic acids.
- 3.1.B.A7. Explain the consequences of extreme changes in pH and temperature on cell proteins.
- 3.1.C.A7. Illustrate the formation of carbohydrates, lipids, proteins, and nucleic acids.
- 3.1.12.A7. Evaluate metabolic activities using experimental knowledge of enzymes.
- 3.1.12.A7. Describe the potential impact of stem cell research on the biochemistry and physiology of life.

Unifying Themes

- 3.1.10.A8. Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer programs.
- 3.1.B.A8. CHANGE AND CONSTANCY Recognize that systems within cells and multicellular organisms interact to maintain homeostasis.

- 3.1.B.A8. PATTERNS Demonstrate the repeating patterns that occur in biological polymers.
- 3.1.B.A8. SYSTEMS Describe how the unique properties of water support life.
- 3.1.12.A8. CHANGE AND CONSTANCY Describe and interpret dynamic changes in stable systems.

Heredity

- 3.1.10.B1. Describe how genetic information is inherited and expressed.
- 3.1.B.B1. Explain that the information passed from parents to offspring is transmitted by means of genes which are coded in DNA molecules.
- 3.1.B.B1. Explain the basic process of DNA replication.
- 3.1.B.B1. Describe the basic processes of transcription and translation.
- 3.1.B.B1. Explain how crossing over, jumping genes, and deletion and duplication of genes results in genetic variation.
- 3.1.B.B1. Explain how mutations can alter genetic information and the possible consequences on resultant cells.
- 3.1.12.B1. Explain gene inheritance and expression at the molecular level.

Reproduction

- 3.1.10.B2. Explain the process of meiosis resulting in the formation of gametes.
- 3.1.10.B2. Compare and contrast the function of mitosis and meiosis.
- 3.1.B.B2. Describe how the process of meiosis results in the formation of haploid gametes and analyze the importance of meiosis in sexual reproduction.
- 3.1.B.B2. Compare and contrast the function of mitosis and meiosis.
- 3.1.B.B2. Illustrate that the sorting and recombining of genes in sexual reproduction results in a great variety of possible gene combinations in offspring.
- 3.1.12.B2. Evaluate the process of sexual reproduction in influencing genetic variability in a population.

Molecular Basis of Life

- 3.1.10.B3. Describe the basic structure of DNA and its function in genetic inheritance.
- 3.1.10.B3. Describe the role of DNA in protein synthesis as it relates to gene expression.
- 3.1.B.B3. Describe the basic structure of DNA, including the role of hydrogen bonding.
- 3.1.B.B3. Explain how the process of DNA replication results in the transmission and conservation of the genetic code.
- 3.1.B.B3. Describe how transcription and translation result in gene expression.
- 3.1.B.B3. Differentiate among the end products of replication, transcription, and translation.
- 3.1.B.B3. Cite evidence to support that the genetic code is universal.
- 3.1.C.B3. Describe the structure of the DNA and RNA molecules.
- 3.1.12.B3. Analyze gene expression at the molecular level.
- 3.1.12.B3. Explain the impact of environmental factors on gene expression.

Biotechnology

- 3.1.10.B4. Explain how genetic technologies have impacted the fields of medicine, forensics, and agriculture.
- 3.1.12.B4. Evaluate the societal impact of genetic engineering techniques and applications.

Unifying Themes

- 3.1.10 B5. PATTERNS Use models to demonstrate patterns in biomacromolecules.
- 3.1.10 B5. PATTERNS Compare and contrast Mendelian and nonMendelian patterns of inheritance.
- 3.1.B.B5. PATTERNS Describe how Mendel's laws of segregation and independent assortment can be observed through patterns of inheritance.
- 3.1.B.B5. PATTERNS Distinguish among observed inheritance patterns caused by several types of genetic traits (dominant, recessive, codominant, sex-linked, polygenic, incomplete dominance, multiple alleles)
- 3.1.B.B5. CONSTANCY AND CHANGE Explain how the processes of replication, transcription, and translation are similar in all organisms.
- 3.1.B.B5. CONSTANCY AND CHANGE Explain how gene actions, patterns of heredity, and reproduction of cells and organisms account for the continuity of life.
- 3.1.B.B5. SCALE Demonstrate how inherited characteristics can be observed at the molecular, cellular, and organism levels.
- 3.1.C.B5. PATTERNS Use models to demonstrate patterns in biomacromolecules.
- 3.1.12 B5. PATTERNS Relate the monomer structure of biomacromolecules to their functional roles.

Natural Selection

- 3.1.10.C1. Explain the mechanisms of biological evolution.
- 3.1.B.C1. Describe species as reproductively distinct groups of organisms.
- 3.1.B.C1. Analyze the role that geographic isolation can play in speciation.
- 3.1.B.C1. Explain how evolution through natural selection can result in changes in biodiversity through the increase or decrease of genetic diversity within a population.
- 3.1.B.C1. Describe how the degree of kinship between species can be inferred from the similarity in their DNA sequences.
- 3.1.12.C1. Analyze how natural selection leads to speciation.

Adaptation

- 3.1.10.C2. Explain the role of mutations and gene recombination in changing a population of organisms.
- 3.1.B.C2. Describe the theory suggesting that life on Earth arose as a single, primitive prokaryote about 4 billion years ago and that for the next 2 billion years, a huge diversity of single celled organisms evolved.
- 3.1.B.C2. Analyze how increasingly complex, multicellular organisms evolved once cells with nuclei developed.
- 3.1.B.C2. Describe how mutations in sex cells may be passed on to successive generations and that the resulting phenotype may help, harm, or have little or no effect on the offspring's success in its environment.
- 3.1.B.C2. Describe the relationship between environmental changes and changes in the gene pool of a population.
- 3.1.C.C2. Use molecular models to demonstrate gene mutation and recombination at the molecular level.
- 3.1.12.C2. Analyze how genotypic and phenotypic variation can result in adaptations that influence an organism's success in an environment.

Unifying Themes

- 3.1.10.C3. CONSTANCY AND CHANGE Interpret data from fossil records, anatomy and physiology, and DNA studies relevant to the theory of evolution.
- 3.1.B.C3. CONSTANCY AND CHANGE Compare and contrast various theories of evolution.
- 3.1.B.C3. CONSTANCY AND CHANGE Interpret data from fossil records, anatomy and physiology, and DNA studies relevant to the theory of evolution.
- 3.1.B.C3. PATTERNS Discuss the implications of a universal genetic code for evolution.
- 3.1.12.C3. CONSTANCY AND CHANGE Analyze the evidence to support various theories of evolution (gradualism, punctuated equilibrium).
- 3.1.12.C3. CONSTANCY AND CHANGE Evaluate survival of the fittest in terms of species that have remained unchanged over long periods of time.

Resources/Experiments:

Video on DNA and RNA: https://www.youtube.com/watch?v=_EK3g6px7Ik

Switching Genes On and Off (fruit fly wing spots): <http://tn.pbslearningmedia.org/resource/novat10.sci.life.evo.fruitfly/switching-genes-on-and-off/>

[Cancer gene mutation activity](#)

You could use [this activity](#) to make a cladogram as a class. or [this activity](#) might be better.

Earth and Space Sciences Secondary Standards

Earth Features and Processes that Change It

3.3.10.A1. Relate plate tectonics to both slow and rapid changes in the earth's surface.

Phet Interactive: Plate Tectonics

[Let's Review: Earth Science- The Physical Setting By: Edward J. Barron](#)

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| | <u>Exploring the Earth</u> By: John Wesley Powell |
| 3.3.10.A1. Describe the rock cycle and the processes that are responsible for the formation of igneous, sedimentary, and metamorphic rocks. | <u>The Practical Geologist: The Introductory Guide to the Basics of Geology and to Collecting and Identifying Rocks Paperback</u> by Dougal Dixon

<u>Beneath Our Feet : The Rocks of Planet Earth</u> by R. H. Vernon

<u>Let's Review: Earth Science- The Physical Setting</u> By: Edward J. Barron |
| 3.3.10.A1. Relate geochemical cycles to the conservation of matter. | <u>Let's Review: Earth Science- The Physical Setting</u> By: Edward J. Barron

<u>The Practical Geologist: The Introductory Guide to the Basics of Geology and to Collecting and Identifying Rocks Paperback</u> by Dougal Dixon |
| 3.3.10.A1. Explain how the Earth is composed of a number of dynamic, interacting systems exchanging energy or matter. | <u>Coal: A Human History</u> By: Barbara Freese

<u>Let's Review: Earth Science- The Physical Setting</u> By: Edward J. Barron

<u>Exploring the Earth</u> By: John Wesley Powell |
| 3.3.12.A1. Explain how parts are related to other parts in weather systems, solar systems, and earth systems, including how the output from one part can become an input to another part. Analyze the processes that cause the movement of material in the Earth's systems. Classify Earth's internal and external sources of energy such | <u>The Planets</u> : Dava Sobel
<u>30 Second Astronomy</u> : Francois Fressin
<u>Discovery: Astronomy</u>

<u>Physiographic Map of PA</u>
http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_016202.pdf

<u>Exploring the Earth</u> By: John Wesley Powell |

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| as radioactive decay, gravity, and solar energy. | |
| 3.3.12.A1. Analyze the processes that cause the movement of material in the Earth's systems. | <p><u>Let's Review: Earth Science- The Physical Setting</u> By: Edward J. Barron</p> <p>Physiographic Map of PA
 http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_016202.pdf</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> <p>Field Study to Crystal Cave</p> |
| 3.3.12.A1. Classify Earth's internal and external sources of energy such as radioactive decay, gravity, and solar energy. | <p><u>Chemistry: Matter and Change</u>. Chapter 20, 24</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| Earth's Resources/ Materials, | |
| 3.3.10.A2. Analyze the effects on the environment and the carbon cycle of using both renewable and nonrenewable sources of energy. | <p>Poconos Environmental Education Center Field Study</p> <p><u>Coal: A Human History</u> By: Barbara Freese</p> |
| 3.3.12.A2. Analyze the availability, location, and extraction of Earth's resources. | <p>Poconos Environmental Education Center Field Study</p> <p>Physiographic Map of PA
 http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_016202.pdf</p> <p><u>Coal: A Human History</u> By: Barbara Freese</p> |

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| 3.3.12.A2. Evaluate the impact of using renewable and nonrenewable energy resources on the Earth's system. | <p>Poconos Environmental Education Center Field Study</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> <p><u>Coal: A Human History</u> By: Barbara Freese</p> |
| Earth's History | |
| 3.3.10.A3. Explain how the evolution of Earth has been driven by interactions between the lithosphere, hydrosphere, atmosphere, and biosphere. | <p><u>Let's Review: Earth Science- The Physical Setting</u> By: Edward J. Barron</p> <p><u>Coal: A Human History</u> By: Barbara Freese</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| 3.3.12.A3. Describe the absolute and relative dating methods used to measure geologic time, such as index fossils, radioactive dating, law of superposition, and crosscutting relationships. | <p><u>Let's Review: Earth Science- The Physical Setting</u> By: Edward J. Barron</p> <p><u>Chemistry: Matter and Change</u>, Chapter 20, 24</p> |
| Sciences and Transfer of Energy | |
| 3.3.10.A4. Relate geochemical cycles to conservation of matter. | <p>The Practical Geologist: The Introductory Guide to the Basics of Geology and to Collecting and Identifying Rocks Paperback by Dougal Dixon</p> <p><u>Chemistry: Matter and Change</u>, Chapter 20, 24</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| 3.3.10.A4. Explain how the Earth's | <p><u>Chemistry: Matter and Change</u>, Chapter 20, 24</p> |

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| systems and its various cycles are driven by energy. | <u>Coal: A Human History</u> By: Barbara Freese
<u>Exploring the Earth</u> By: John Wesley Powell |
| 3.3.12.A4. Classify Earth's internal and external sources of energy such as radioactive decay, gravity, and solar energy. | <u>Chemistry: Matter and Change</u> , Chapter 20, 24
<u>Exploring the Earth</u> By: John Wesley Powell |
| 3.3.12.A4. Relate the transfer of energy through radiation, conduction, and convection to global atmospheric processes. | <u>Coal: A Human History</u> By: Barbara Freese
<u>Exploring the Earth</u> By: John Wesley Powell |
| Water | |
| 3.3.10.A5. Explain how there is only one ocean. | Picture study of the globe |
| 3.3.10.A5. Explain the processes of the hydrologic cycle. | Copywork of hydrologic cycle diagram
The Practical Geologist: The Introductory Guide to the Basics of Geology and to Collecting and Identifying Rocks Paperback by Dougal Dixon
<u>Exploring the Earth</u> By: John Wesley Powell |
| 3.3.10.A5. Explain the dynamics of oceanic currents and their relationship to global circulation within the marine environment. | Field Study to Aquarium |
| 3.3.12.A5. Explain how the ocean | Field Study to Aquarium |

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| dominates the Earth's carbon cycle. | <u>Exploring the Earth</u> By: John Wesley Powell |
| Weather and Climate | |
| 3.3.10.A6. Interpret meteorological data to describe and/or predict weather. | Meteorologist guest speaker

Philadelphia Phillies: Meteorology Day Field Study |
| 3.3.10.A6. Explain the phenomena that cause global atmospheric processes such as storms, currents, and wind patterns. | <u>Everyday Weather and How It Works</u> by Herman Schneider

<u>Fitzroy: The Remarkable Story of Darwin's Captain and the Invention of the Weather Forecast</u> by John Gribbin

<u>The Weather Identification Handbook: The Ultimate Guide for Weather Watchers</u> by Storm Dunlop |
| 3.3.12.A6. Explain how the unequal heating of the Earth's surface leads to atmospheric global circulation changes, climate, local short term changes, and weather. | <u>Everyday Weather and How It Works</u> by Herman Schneider

<u>Fitzroy: The Remarkable Story of Darwin's Captain and the Invention of the Weather Forecast</u> by John Gribbin

<u>The Weather Identification Handbook: The Ultimate Guide for Weather Watchers</u> by Storm Dunlop |
| 3.3.12.A6. Relate the transfer of energy through radiation, conduction, and convection to global atmospheric processes. | Study Jam: Heat
http://studyjams.scholastic.com/studyjams/jams/science/energy-light-sound/heat.htm

<u>Exploring the Earth</u> By: John Wesley Powell |
| Unifying Themes | |
| 3.3.10.A7. SCALE/MODELS Interpret and create | Physiographic Map of PA
http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_016202.pdf |

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| models of the Earth's physical features in various mapping representations. | Picture study and copywork of topographical map |
| 3.3.10.A7. CONSTANCY AND CHANGE Relate constancy and change to the hydrologic and geochemical cycles. | <p>The Practical Geologist: The Introductory Guide to the Basics of Geology and to Collecting and Identifying Rocks Paperback by Dougal Dixon</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| 3.3.10.A7. SCALE Apply an appropriate scale to illustrate major events throughout geologic time. | <p>Physiographic Map of PA
 http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_016202.pdf</p> <p>Classroom timelines</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| 3.3.10.A7.. CONSTANCY/CHANGE Describe factors that contribute to global climate change. | <p><u>Coal: A Human History</u> By: Barbara Freese</p> <p>Crash Course Video
 https://www.youtube.com/watch?v=5eTCZ9L834s</p> |
| 3.3.12.A7. MODELS Interpret and analyze a combination of ground-based observations, satellite data, and computer models to demonstrate Earth systems and their interconnections. | <p>Nature Study</p> <p>Physiographic Map of PA
 http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_016202.pdf</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| 3.3.12.A7. CONSTANCY/CHANGE Infer how human activities may impact the natural course of Earth's cycles. | <p>Poconos Environmental Education Center Field Study</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |

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| 3.3.12.A7. PATTERNS
Summarize the use of data in understanding seismic events, meteorology, and geologic time. | <p>Physiographic Map of PA
 http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_016202.pdf</p> <p>The Practical Geologist: The Introductory Guide to the Basics of Geology and to Collecting and Identifying Rocks Paperback by Dougal Dixon</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| Composition and Structure | |
| 3.3.10.B1. Explain how gravity is responsible for planetary orbits. | <u>For the Love of Physics</u> by Walter Lewin |
| 3.3.10.B1. Explain what caused the sun, Earth, and most of the other planets to form between 4 and 5 billion years ago. | <p>Crash Course video: The Sun and The Earth
 https://www.youtube.com/watch?v=By6CkTN4wkl</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| 3.3.10.B1. Provide evidence to suggest the Big Bang Theory.. | <p><u>30 Second Astronomy</u>: Francois Fressin
 Crash Course video https://www.youtube.com/watch?v=tq6be-CZl3w</p> |
| 3.3.10.B1. Describe the basic nuclear processes involved in energy production in a star. | <u>For the Love of Physics</u> by Walter Lewin |
| 3.3.12.B1. Describe the life cycle of stars based on their mass. | <u>For the Love of Physics</u> by Walter Lewin |
| 3.3.12.B1. Analyze the influence of gravity on the formation and life cycles of galaxies, including our own | <u>For the Love of Physics</u> by Walter Lewin |

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| Milky Way galaxy; stars; planetary systems; and residual material left from the creation of the solar system. | |
| 3.3.12.B1. Relate the nuclear processes involved in energy production in stars and supernovas to their life cycles. | <u>For the Love of Physics</u> by Walter Lewin |
| Unifying Themes | |
| 3.3.10.B2. SCALE AND MEASUREMENT
Explain how scientists obtain information about the universe by using technology to detect electromagnetic radiation that is emitted, reflected, or absorbed by stars and other objects. | <u>The Planets</u> : Dava Sobel
<u>30 Second Astronomy</u> : Francois Fressin
<u>Discovery: Astronomy</u> |
| 3.3.10.B2. CONSTANCY AND CHANGE Describe changes in the universe over billions of years. | <u>The Planets</u> : Dava Sobel
<u>30 Second Astronomy</u> : Francois Fressin
<u>Discovery: Astronomy</u> |
| 3.3.10.B2. SCALE AND MEASUREMENT
Explain the scale used to measure the sizes of stars and galaxies | <u>30 Second Astronomy</u> : Francois Fressin
<u>Discovery: Astronomy</u> |

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| and the distances between them | |
| 3.3.12.B2. MODELS AND SCALE Apply mathematical models and computer simulations to study evidence collected relating to the extent and composition of the universe. | IMP |
| 3.3.12.B2. PATTERNS AND CONSTANCY AND CHANGE Analyze the evidence supporting theories of the origin of the universe to predict its future. | <u>30 Second Astronomy</u> : Francois Fressin
<u>Discovery: Astronomy</u> |

**Pennsylvania [Common Core or State] Standards
CURRICULUM MAPPING**

Grade 7 & 8

Subject: Science (Chemistry)

3.2.7.A: Grade 7 _____.

| Standard | Books/Activities Used |
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| 3.2.A Chemistry | |
| <p>Standard - 3.2.7.A1: Differentiate between elements, compounds, and mixtures. Identify groups of elements that have similar properties. Explain how materials are characterized by having a specific amount of mass in each unit of volume (density).</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> • All About the Wonders of Chemistry <p>Activities</p> <ul style="list-style-type: none"> • FOSS Kit: Chemical Reactions • Dropping various objects to the floor to test the reaction of varying sizes, weights, and densities |
| <p>Standard - 3.2.7.A2: Identify atoms as the basic building blocks of matter and that elements are composed of one type of atom.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> • All About the Wonders of Chemistry <p>Activities</p> <ul style="list-style-type: none"> • FOSS Kit: Chemical Reactions |
| <p>Standard - 3.2.7.A3: Explain how energy transfer can affect the chemical and physical properties of matter.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> • All About the Wonders of Chemistry • Principles of Matter and Thermodynamics: Chapter 5 (The Second Law of Thermodynamics: Entropy) • Investigating Heat <p>Activities</p> <ul style="list-style-type: none"> • FOSS Kit: Chemical Reactions |

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| | <ul style="list-style-type: none"> ● Hammering a nail to demonstrate kinetic energy to heat ● Study Jams: Heat
 http://studyjams.scholastic.com/studyjams/jams/science/energy-light-sound/heat.htm |
| Standard - 3.2.7.A4: Describe how reactants change into products in simple chemical reactions. | Books/Chapters <ul style="list-style-type: none"> ● All About the Wonders of Chemistry Activities <ul style="list-style-type: none"> ● FOSS Kit: Chemical Reactions |
| Standard - 3.2.7.A5: Intentionally Blank | |
| Standard - 3.2.7.A6: Understand how theories are developed. Identify questions that can be answered through scientific investigations and evaluate the appropriateness of questions. Design and conduct a scientific investigation and understand that current scientific knowledge guides scientific investigations. Describe relationships using inference and prediction. Use appropriate tools and technologies to gather, analyze, and interpret data and understand that it enhances accuracy and allows scientists to analyze and quantify results of investigations. Develop descriptions, explanations, and models using evidence and understand that these emphasize evidence, have logically consistent arguments, and are based on scientific principles, models, and theories. Analyze alternative explanations and understanding that science advances through legitimate skepticism. Use mathematics in all aspects of scientific inquiry. Understand that scientific investigations may result in new ideas for study, new methods, or procedures for an investigation or new technologies to improve data collection. | Books/Chapters <ul style="list-style-type: none"> ● All About the Wonders of Chemistry ● Various biographies for independent reading (i.e. Robert Boyle: Founder of Modern Biology and Mendeleev and his Periodic Table) Activities <ul style="list-style-type: none"> ● FOSS Kit: Chemical Reactions |

3.2.8.A: Grade 8 _____.

| Standard | Books/Activities Used |
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| 3.2.A Chemistry | |
| Standard - 3.2.8.A1: Differentiate between mass and weight. | <p>Books/Chapters</p> <ul style="list-style-type: none"> • All About the Wonders of Chemistry • Dropping various objects to the floor to test the reaction of varying sizes, weights, and densities <p>Activities</p> <ul style="list-style-type: none"> • FOSS Kit: Chemical Reactions • Discussion of weight and mass on different planets |
| Standard - 3.2.8.A2: Identify characteristics of elements derived from the periodic table. | <p>Books/Chapters</p> <ul style="list-style-type: none"> • All About the Wonders of Chemistry <p>Activities</p> <ul style="list-style-type: none"> • FOSS Kit: Chemical Reactions • Copywork of Periodic Table • Grand conversation about the periodic table |
| Standard - 3.2.8.A3: Explain how changes in matter are accompanied by changes in energy. | <p>Books/Chapters</p> <ul style="list-style-type: none"> • All About the Wonders of Chemistry • Principles of Matter and Thermodynamics: Chapter 5 (The Second Law of Thermodynamics: Entropy) • Investigating Heat <p>Activities</p> <ul style="list-style-type: none"> • FOSS Kit: Chemical Reactions • Hammering a nail to demonstrate kinetic energy to heat |

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| | <ul style="list-style-type: none"> Study Jams: Heat
 http://studyjams.scholastic.com/studyjams/jams/science/energy-light-sound/heat.htm |
| Standard - 3.2.8.A4: Compare and contrast physical and chemical changes in terms of products. | Books/Chapters <ul style="list-style-type: none"> All About the Wonders of Chemistry Activities <ul style="list-style-type: none"> FOSS Kit: Chemical Reactions |
| Standard - 3.2.8.A5: Intentionally Blank | |
| Standard - 3.2.8.A6: Compare and contrast scientific theories. Know that both direct and indirect observations are used by scientists to study the natural world and universe. Identify questions and concepts that guide scientific investigations. Formulate and revise explanations and models using logic and evidence. Recognize and analyze alternative explanations and models. Explain the importance of accuracy and precision in making valid measurements. | Books/Chapters <ul style="list-style-type: none"> All About the Wonders of Chemistry Various biographies for independent reading (i.e. Robert Boyle: Founder of Modern Biology and Mendeleev and his Periodic Table) Activities <ul style="list-style-type: none"> FOSS Kit: Chemical Reactions |

**Pennsylvania [Common Core or State] Standards
CURRICULUM MAPPING**

Grade 7 & 8

Subject: Science (Earth and Space)

3.3.7.A: Grade 7 _____.

| Standard | Books/Activities Used |
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| 3.3.A Earth Structure, Processes, and Cycles | |
| Standard - 3.3.7.A1: Define basic features of the rock cycle. Describe the layers of the earth. Differentiate among the mechanisms by which heat is transferred through the Earth's system. | Books/Chapters <ul style="list-style-type: none"> ● Rocks, Rivers, and the Changing Earth ● Adventure with Rocks and Minerals: Geology Experiments for Young People ● The Planets: Dava Sobel Activities <ul style="list-style-type: none"> ● Scale model of the Solar System ● Solar system research project ● Study Jams: The Rock Cycle
 http://studyjams.scholastic.com/studyjams/jams/science/rocks-minerals-landforms/rock-cycle.htm |
| Standard - 3.3.7.A2: Explain land use in relation to soil type and topography. | Books/Chapters <ul style="list-style-type: none"> ● Rocks, Rivers, and the Changing Earth Activities <ul style="list-style-type: none"> ● |
| Standard - 3.3.7.A3: Explain and give examples of how physical evidence, such as fossils and surface features of glaciation support | Books/Chapters <ul style="list-style-type: none"> ● Rocks, Rivers, and the Changing Earth |

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| theories that the Earth has evolved over geologic time. Compare geologic processes over time. | <p>Activities</p> <ul style="list-style-type: none"> ● Picture study of Grand Canyon and Glaciers ● Activities on pages 66, 76, and 78 of Rocks, Rivers, and the Changing Earth |
| Standard - 3.3.7.A4: Differentiate among Earth's water systems. Describe the motions of tides and identify their causes. | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● Rocks, Rivers, and the Changing Earth ● The Planets: Dava Sobel <p>Activities</p> <ul style="list-style-type: none"> ● Study Jams: Tides
 http://studyjams.scholastic.com/studyjams/jams/science/weather-and-climate/tides.htm ● Study of the moon and how it affects tides |
| Standard - 3.3.7.A5: Describe basic elements of meteorology. Explain the relationship between the energy provided by the sun and the temperature differences among water, land and atmosphere. | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● Everyday Weather and How it Works <p>Activities</p> <ul style="list-style-type: none"> ● Meteorologist as a guest speaker* |
| Standard - 3.3.7.A6: MODELS/SCALES Describe the scales involved in characterizing Earth and its atmosphere. MODELS/SCALES Create models of Earth's common physical features. | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● Rocks, Rivers, and the Changing Earth ● Everyday Weather and How it Works <p>Activities</p> <ul style="list-style-type: none"> ● Meteorologist as a guest speaker* |
| Standard - 3.3.7.A7: Understand how theories are developed. Identify questions that can be answered through scientific investigations and evaluate the appropriateness of questions. Design and conduct a scientific investigation and understand that current scientific knowledge guides scientific investigations. Describe relationships using inference and prediction. Use appropriate tools and technologies to gather, analyze, and interpret data and | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● Rocks, Rivers, and the Changing Earth ● Everyday Weather and How it Works <p>Activities</p> <ul style="list-style-type: none"> ● Meteorologist as a guest speaker* |

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| <p>understand that it enhances accuracy and allows scientists to analyze and quantify results of investigations. Develop descriptions, explanations, and models using evidence and understand that these emphasize evidence, have logically consistent arguments, and are based on scientific principles, models, and theories. Analyze alternative explanations and understanding that science advances through legitimate skepticism. Use mathematics in all aspects of scientific inquiry. Understand that scientific investigations may result in new ideas for study, new methods, or procedures for an investigation or new technologies to improve data collection.</p> | |
| <p>3.3.B Origin and Evolution of the Universe</p> | |
| <p>Standard - 3.3.7.B1: Explain how gravity is the major force in the formation of the planets, stars, and the solar system. Describe gravity as a major force in determining the motions of planets, stars, and the solar system. Compare and contrast properties and conditions of objects in the solar system to those on Earth.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Planets: Dava Sobel ● Usborne Discovery: Astronomy ● 30-Second Astronomy ● 300 Astronomical Objects <p>Activities</p> <ul style="list-style-type: none"> ● Scale Model of the solar system ● Research project on objects in the solar system ● Inertia experiment |
| <p>Standard - 3.3.7.B2: SCALE AND MEASUREMENT Identify a variety of instruments used to gather evidence about the universe. PATTERNS Describe repeating patterns in the Sun-Earth-Moon system and the positions of stars. SCALE Relate planetary size and distance in our solar system using an appropriate scale model.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Planets: Dava Sobel ● Usborne Discovery: Astronomy ● 30-Second Astronomy ● 300 Astronomical Objects <p>Activities</p> <ul style="list-style-type: none"> ● Scale Model of the solar system ● Research project on objects in the solar system ● Inertia experiment |

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| | <ul style="list-style-type: none"> ● Listen to The Planets songs ● Sky maps copywork ● Create constellations |
| <p>Standard - 3.3.7.B3: Understand how theories are developed. Identify questions that can be answered through scientific investigations and evaluate the appropriateness of questions. Design and conduct a scientific investigation and understand that current scientific knowledge guides scientific investigations. Describe relationships using inference and prediction. Use appropriate tools and technologies to gather, analyze, and interpret data and understand that it enhances accuracy and allows scientists to analyze and quantify results of investigations. Develop descriptions, explanations, and models using evidence and understand that these emphasize evidence, have logically consistent arguments, and are based on scientific principles, models, and theories. Analyze alternative explanations and understanding that science advances through legitimate skepticism. Use mathematics in all aspects of scientific inquiry. Understand that scientific investigations may result in new ideas for study, new methods, or procedures for an investigation or new technologies to improve data collection.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● Everyday Weather and How it Works ● Rocks, Rivers, and the Changing Earth ● The Planets: Dava Sobel ● Usborne Discovery: Astronomy ● 30-Second Astronomy ● 300 Astronomical Objects <p>Activities</p> <ul style="list-style-type: none"> ● Scale Model of the solar system ● Research project on objects in the solar system |

3.3.8.A: Grade 8 _____.

| Standard | Books/Activities Used |
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| 3.3.A Earth Structure, Processes, and Cycles | |

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| <p>Standard - 3.3.8.A1: Distinguish between physical and chemical weathering. Compare and contrast the types of energy that drive Earth's systems.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> • Everyday Weather and How it Works • Rocks, Rivers, and the Changing Earth <p>Activities</p> <ul style="list-style-type: none"> • Field Study to Pocono Environmental Education Center (PEEC) • Activities on pages 32, 35, 38, and 39 of Rocks, Rivers, and the Changing Earth |
| <p>Standard - 3.3.8.A2: Describe renewable and nonrenewable energy resources.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> • Everyday Weather and How it Works • Rocks, Rivers, and the Changing Earth <p>Activities</p> <ul style="list-style-type: none"> • Field Study to Pocono Environmental Education Center (PEEC) |
| <p>Standard - 3.3.8.A3: Explain how matter on earth is conserved throughout the geological processes over time.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> • Everyday Weather and How it Works • Rocks, Rivers, and the Changing Earth <p>Activities</p> <ul style="list-style-type: none"> • Field Study to Pocono Environmental Education Center (PEEC) |
| <p>Standard - 3.3.8.A4: Explain how the oceans form one interconnected circulation system powered by wind, tides, the Earth's rotation, and water density differences.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> • Everyday Weather and How it Works • Rocks, Rivers, and the Changing Earth <p>Activities</p> <ul style="list-style-type: none"> • Field Study to Pocono Environmental Education Center (PEEC) |

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| <p>Standard - 3.3.8.A4: Explain how the oceans form one interconnected circulation system powered by wind, tides, the Earth's rotation, and water density differences.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> • Everyday Weather and How it Works • Rocks, Rivers, and the Changing Earth <p>Activities</p> <ul style="list-style-type: none"> • Field Study to Pocono Environmental Education Center (PEEC) |
| <p>Standard - 3.3.8.A6: CHANGES Explain changes in earth systems in terms of energy transformation and transport. MODELS Explain how satellite images, models, and maps are used to identify Earth's resources.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> • Everyday Weather and How it Works • Rocks, Rivers, and the Changing Earth <p>Activities</p> <ul style="list-style-type: none"> • Field Study to Pocono Environmental Education Center (PEEC) |
| <p>Standard - 3.3.8.A7: Compare and contrast scientific theories. Know that both direct and indirect observations are used by scientists to study the natural world and universe. Identify questions and concepts that guide scientific investigations. Formulate and revise explanations and models using logic and evidence. Recognize and analyze alternative explanations and models. Explain the importance of accuracy and precision in making valid measurements.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> • Everyday Weather and How it Works • Rocks, Rivers, and the Changing Earth <p>Activities</p> <ul style="list-style-type: none"> • Field Study to Pocono Environmental Education Center (PEEC) |
| <p>3.3.B: Origin and Evolution of the Universe</p> | |
| <p>Standard - 3.3.8.B1: Explain how light, measured remotely, can be used to classify objects in the universe.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> • The Planets: Dava Sobel • Usborne Discovery: Astronomy • 30-Second Astronomy • 300 Astronomical Objects <p>Activities</p> |

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| | <ul style="list-style-type: none"> ● Scale Model of the solar system ● Research project on objects in the solar system ● Draw moon phases and observe moon for a month ● Study of Hertzsprung-Russell Diagram |
| Standard - 3.3.8.B2: SCALE AND MEASUREMENT Explain measurements and evidence indicating the age of the universe. | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Planets: Dava Sobel ● Usborne Discovery: Astronomy ● 30-Second Astronomy ● 300 Astronomical Objects <p>Activities</p> <ul style="list-style-type: none"> ● Scale Model of the solar system ● Research project on objects in the solar system |
| Standard - 3.3.8.B3: Compare and contrast scientific theories. Know that both direct and indirect observations are used by scientists to study the natural world and universe. Identify questions and concepts that guide scientific investigations. Formulate and revise explanations and models using logic and evidence. Recognize and analyze alternative explanations and models. Explain the importance of accuracy and precision in making valid measurements. | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Planets: Dava Sobel ● Usborne Discovery: Astronomy ● 30-Second Astronomy ● 300 Astronomical Objects <p>Activities</p> <ul style="list-style-type: none"> ● Scale Model of the solar system ● Research project on objects in the solar system ● Inertia experiment |

Grade 7 & 8**Subject: Science (Earth and Space)****3.3.7.A: Grade 7**

| Standard | Books/Activities Used |
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| 3.3.A Earth Structure, Processes, and Cycles | |
| <p>Standard - 3.3.7.A1: Define basic features of the rock cycle.</p> <p>Describe the layers of the earth.</p> <p>Differentiate among the mechanisms by which heat is transferred through the Earth's system.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ●Rocks, Rivers, and the Changing Earth ●Adventure with Rocks and Minerals: Geology Experiments for Young People ●The Planets: Dava Sobel <p>Activities</p> |

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| | <ul style="list-style-type: none"> ●Scale model of the Solar System ●Solar system research project ●Study Jams: The Rock Cycle <p>http://studyjams.scholastic.com/studyjams/jams/science/rocks-minerals-land-forms/rock-cycle.htm</p> |
| Standard - 3.3.7.A2: Explain land use in relation to soil type and topography. | <p>Books/Chapters</p> <ul style="list-style-type: none"> ●Rocks, Rivers, and the Changing Earth <p>Activities</p> <ul style="list-style-type: none"> ● |
| Standard - 3.3.7.A3: Explain and give examples of how physical evidence, such as fossils and surface features of glaciation support | <p>Books/Chapters</p> <ul style="list-style-type: none"> ●Rocks, Rivers, and the Changing Earth |

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| <p>theories that the Earth has evolved over geologic time. Compare geologic processes over time.</p> | <p>Activities</p> <ul style="list-style-type: none"> ●Picture study of Grand Canyon and Glaciers ●Activities on pages 66, 76, and 78 of Rocks, Rivers, and the Changing Earth |
| <p>Standard - 3.3.7.A4: Differentiate among Earth's water systems.</p> <p>Describe the motions of tides and identify their causes.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ●Rocks, Rivers, and the Changing Earth ●The Planets: Dava Sobel <p>Activities</p> <ul style="list-style-type: none"> ●Study Jams: Tides
 http://studyjams.scholastic.com/studyjams/jams/science/weather-and-climate/tides.htm ●Study of the moon and how it affects tides |

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| <p>Standard - 3.3.7.A5: Describe basic elements of meteorology.</p> <p>Explain the relationship between the energy provided by the sun and the temperature differences among water, land and atmosphere.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ●Everyday Weather and How it Works <p>Activities</p> <ul style="list-style-type: none"> ●Meteorologist as a guest speaker* |
| <p>Standard - 3.3.7.A6: MODELS/SCALES Describe the scales involved in characterizing Earth and its atmosphere.</p> <p>MODELS/SCALES Create models of Earth's common physical features.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ●Rocks, Rivers, and the Changing Earth ●Everyday Weather and How it Works <p>Activities</p> <ul style="list-style-type: none"> ●Meteorologist as a guest speaker* |
| <p>Standard - 3.3.7.A7: Understand how theories are developed.</p> <p>Identify questions that can be answered through scientific investigations and evaluate the appropriateness of questions.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ●Rocks, Rivers, and the Changing Earth ●Everyday Weather and How it Works <p>Activities</p> |

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| <p>Design and conduct a scientific investigation and understand that current scientific knowledge guides scientific investigations.</p> <p>Describe relationships using inference and prediction. Use appropriate tools and technologies to gather, analyze, and interpret</p> | <p>●Meteorologist as a guest speaker*</p> |
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| <p>data and understand that it enhances accuracy and allows scientists to analyze and quantify results of investigations. Develop descriptions, explanations, and models using evidence and understand that these emphasize evidence, have logically consistent arguments, and are based on scientific principles, models, and theories. Analyze alternative explanations and</p> | |
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| <p>understanding that science advances through legitimate skepticism.</p> <p>Use mathematics in all aspects of scientific inquiry. Understand that scientific investigations may result in new ideas for study, new methods, or procedures for an investigation or new technologies to improve data collection.</p> | |
| <p>3.3.B Origin and Evolution of the Universe</p> | |
| <p>Standard - 3.3.7.B1: Explain how gravity is the major force in the formation of the planets, stars, and the solar system. Describe gravity as a major force in determining the motions of planets, stars, and the solar system. Compare and contrast properties and conditions of objects in the solar system to those on Earth.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ●The Planets: Dava Sobel ●Usborne Discovery: Astronomy ●30-Second Astronomy ●300 Astronomical Objects <p>Activities</p> <ul style="list-style-type: none"> ●Scale Model of the solar system |

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| | <ul style="list-style-type: none"> ● Research project on objects in the solar system ● Inertia experiment |
| <p>Standard - 3.3.7.B2: SCALE AND MEASUREMENT Identify a variety of instruments used to gather evidence about the universe.</p> <p>PATTERNS Describe repeating patterns in the Sun-Earth-Moon system and the positions of stars.</p> <p>SCALE Relate planetary size and distance in our solar system using an appropriate scale model.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Planets: Dava Sobel ● Usborne Discovery: Astronomy ● 30-Second Astronomy ● 300 Astronomical Objects <p>Activities</p> <ul style="list-style-type: none"> ● Scale Model of the solar system ● Research project on objects in the solar system |

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| | <ul style="list-style-type: none"> ● Inertia experiment ● Listen to The Planets songs ● Sky maps copywork |
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| | <ul style="list-style-type: none"> ● Create constellations |
| <p>Standard - 3.3.7.B3: Understand how theories are developed.</p> <p>Identify questions that can be answered through scientific investigations and evaluate the appropriateness of questions.</p> <p>Design and conduct a scientific investigation and understand that current scientific knowledge guides scientific investigations.</p> <p>Describe relationships using inference and prediction. Use appropriate tools and technologies to gather, analyze, and interpret data and understand that it enhances accuracy and allows scientists to analyze and quantify results of investigations. Develop descriptions, explanations, and models using evidence and</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● Everyday Weather and How it Works ● Rocks, Rivers, and the Changing Earth ● The Planets: Dava Sobel ● Usborne Discovery: Astronomy ● 30-Second Astronomy ● 300 Astronomical Objects <p>Activities</p> <ul style="list-style-type: none"> ● Scale Model of the solar system ● Research project on objects in the solar system |

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| <p>understand that these emphasize evidence, have logically consistent arguments, and are based on scientific principles, models, and theories. Analyze alternative explanations and understanding that science advances through legitimate skepticism.</p> <p>Use mathematics in all aspects of scientific inquiry. Understand that scientific investigations may result in new ideas for study, new methods, or procedures for an investigation or new technologies to improve data collection.</p> | |
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3.3.8.A: Grade**8**

| Standard | Books/Activities Used |
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| 3.3.A Earth Structure, Processes, and Cycles | |

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| <p>Standard - 3.3.8.A1: Distinguish between physical and chemical weathering. Compare and contrast the types of energy that drive Earth's systems.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● Everyday Weather and How it Works ● Rocks, Rivers, and the Changing Earth <p>Activities</p> <ul style="list-style-type: none"> ● Field Study to Pocono Environmental Education Center (PEEC) ● Activities on pages 32, 35, 38, and 39 of Rocks, Rivers, and the Changing Earth |
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| <p>Standard - 3.3.8.A2: Describe renewable and nonrenewable energy resources.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● Everyday Weather and How it Works ● Rocks, Rivers, and the Changing Earth <p>Activities</p> <ul style="list-style-type: none"> ● Field Study to Pocono Environmental Education Center (PEEC) |
| <p>Standard - 3.3.8.A3: Explain how matter on earth is conserved throughout the geological processes over time.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● Everyday Weather and How it Works ● Rocks, Rivers, and the Changing Earth <p>Activities</p> <ul style="list-style-type: none"> ● Field Study to Pocono Environmental Education Center (PEEC) |

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| <p>Standard - 3.3.8.A4: Explain how the oceans form one interconnected circulation system powered by wind, tides, the Earth's rotation, and water density differences.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● Everyday Weather and How it Works ● Rocks, Rivers, and the Changing Earth <p>Activities</p> <ul style="list-style-type: none"> ● Field Study to Pocono Environmental Education Center (PEEC) |
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| <p>Standard - 3.3.8.A4: Explain how the oceans form one interconnected circulation system powered by wind, tides, the Earth's rotation, and water density differences.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● Everyday Weather and How it Works ● Rocks, Rivers, and the Changing Earth <p>Activities</p> <ul style="list-style-type: none"> ● Field Study to Pocono Environmental Education Center (PEEC) |
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| <p>Standard - 3.3.8.A6: CHANGES</p> <p>Explain changes in earth systems in terms of energy transformation and transport. MODELS Explain how satellite images, models, and maps are used to identify Earth's resources.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ●Everyday Weather and How it Works ●Rocks, Rivers, and the Changing Earth <p>Activities</p> <ul style="list-style-type: none"> ●Field Study to Pocono Environmental Education Center (PEEC) |
| <p>Standard - 3.3.8.A7: Compare and contrast scientific theories.</p> <p>Know that both direct and indirect observations are used by scientists to study the natural world and universe. Identify questions and concepts that guide scientific investigations.</p> <p>Formulate and revise explanations and models using logic and evidence. Recognize and analyze alternative explanations and</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ●Everyday Weather and How it Works ●Rocks, Rivers, and the Changing Earth <p>Activities</p> <ul style="list-style-type: none"> ●Field Study to Pocono Environmental Education Center (PEEC) |

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| models. Explain the importance of accuracy and precision in making valid measurements. | |
| 3.3.B: Origin and Evolution of the Universe | |
| Standard - 3.3.8.B1: Explain how light, measured remotely, can be used to classify objects in the universe. | <p>Books/Chapters</p> <ul style="list-style-type: none"> ●The Planets: Dava Sobel ●Usborne Discovery: Astronomy ●30-Second Astronomy ●300 Astronomical Objects <p>Activities</p> |
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| | <ul style="list-style-type: none"> ●Scale Model of the solar system ●Research project on objects in the solar system |

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| | <ul style="list-style-type: none"> ● Draw moon phases and observe moon for a month ● Study of Hertzsprung-Russell Diagram |
| <p>Standard - 3.3.8.B2: SCALE AND MEASUREMENT Explain measurements and evidence indicating the age of the universe.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Planets: Dava Sobel ● Usborne Discovery: Astronomy ● 30-Second Astronomy ● 300 Astronomical Objects <p>Activities</p> <ul style="list-style-type: none"> ● Scale Model of the solar system ● Research project on objects in the solar system |

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| <p>Standard - 3.3.8.B3: Compare and contrast scientific theories.</p> <p>Know that both direct and indirect observations are used by scientists to study the natural world and universe. Identify questions and concepts that guide scientific investigations.</p> <p>Formulate and revise explanations and models using logic and evidence. Recognize and analyze alternative explanations and models. Explain the importance of accuracy and precision in making valid measurements.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none">●The Planets: Dava Sobel●Usborne Discovery: Astronomy●30-Second Astronomy●300 Astronomical Objects <p>Activities</p> <ul style="list-style-type: none">●Scale Model of the solar system●Research project on objects in the solar system●Inertia experiment |
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**Pennsylvania [Common Core or State] Standards
CURRICULUM MAPPING**

Grade 7 & 8

Subject: Science (Physics)

3.2.7.B: Grade 7 _____.

| Standard | Books/Activities Used |
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| <p>3.2.7.B1: Describe how unbalanced forces acting on an object change its velocity. Analyze how observations of displacement, velocity, and acceleration provide necessary and sufficient evidence for the existence of forces.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● Classical Mechanics: Chapter 3 (Newton's 3 Laws of Motion) ● Classical Mechanics: Chapter 5 (Conservation of Momentum) <p>Activities</p> <ul style="list-style-type: none"> ● Card and penny over glass ● Voyager Probe Video to demonstrate Law 1
http://content.time.com/time/video/player/0,32068,1292288635001_2100329,00.html ● Study Jams: Newton's First Law
http://studyjams.scholastic.com/studyjams/jams/science/forces-and-motion/inertia.htm ● Hardboiled vs. Raw Egg experiment (inertia) ● Dropping rocks, marbles, and paper into flour (force and acceleration) ● Study Jams: Newton's Second Law
http://studyjams.scholastic.com/studyjams/jams/science/forces-and-motion/acceleration.htm ● Balloon experiment from text (force) |

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| | <ul style="list-style-type: none"> • Space Shuttle Launch
https://www.youtube.com/watch?v=OnoNITE-CLc • Study Jams: Newton's Third Law
http://studyjams.scholastic.com/studyjams/jams/science/forces-and-motion/action-and-reaction.htm • Newton's Cradle
https://www.youtube.com/watch?v=0LnbyjOyEQ8 • Dominoes vs. Ping Pong Ball and Golf Ball (mass and momentum) |
| 3.2.7.B2: Describe how energy can be changed from one form to another (transformed) as it moves through a system or transferred from one system to another system. | <p>Books/Chapters</p> <ul style="list-style-type: none"> • Principles of Matter and Thermodynamics: Chapter 4 (The First Law of Thermodynamics: Conservation of Energy) <p>Activities</p> <ul style="list-style-type: none"> • Hammering a nail to demonstrate kinetic energy to heat • Marble Roll to demonstrate potential and kinetic energy • Chocolate Experiment: movement of our mouths melts chocolate faster than just our body temperature |
| 3.2.7.B3: Differentiate among convection, conduction, and radiation. Explain why heat energy consists of the random motion and vibrations of the particles of matter. | <p>Books/Chapters</p> <ul style="list-style-type: none"> • Principles of Matter and Thermodynamics: Chapter 5 (The Second Law of Thermodynamics: Entropy) • Investigating Heat <p>Activities</p> <ul style="list-style-type: none"> • Convection: Stirring ice cubes into warm water • Convection: Observing heat waves over a hot plate • Conduction: Paper cup on Bunsen burner to boil water |

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| | <ul style="list-style-type: none"> ● Radiation: Studying temperature difference between water in a shiny white/silver container vs. a black container ● Study Jams: Heat
 http://studyjams.scholastic.com/studyjams/jams/science/energy-light-sound/heat.htm |
| 3.2.7.B4: Explain how electrical current is produced by the flow of electrons. Explain and demonstrate how electric current produces magnetic forces and how moving magnets produce electric current. | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● Principles of Light, Electricity, and Magnetism: Chapter 2 (Laws of Electromagnetism) ● The Romance of Physics: Chapter 7 ● The Boy Who Harnessed the Wind ● Principles of Light, Electricity, and Magnetism: Chapter 3 (Electric Current) <p>Activities</p> <ul style="list-style-type: none"> ● Balloon and static electricity ● Study Jams: Magnetism Slide Show
 http://studyjams.scholastic.com/studyjams/jams/science/energy-light-sound/magnetism.htm ● Study of Benjamin West's Benjamin Franklin Drawing Electricity from the Sky painting ● Electric Current: Studying Moving Charges ● Janice VanCleave's Electricity Lesson 1: Wanderer |
| 3.2.7.B5: Demonstrate that visible light is a mixture of many different colors. Explain the construct of the electromagnetic spectrum. Describe how sound and light energy are transmitted by waves. | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● Principles of Light, Electricity, and Magnetism: Chapter 1 (Optics) ● Sound: More Than What You Hear: Chapter 1 <p>Activities</p> <ul style="list-style-type: none"> ● Making a water prism ● Mirror Writing |

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| | <ul style="list-style-type: none"> ● Study Jams: Light Absorption, Reflection, and Refraction
http://studyjams.scholastic.com/studyjams/jams/science/energy-light-sound/light-absorb-reflect-refract.htm ● Study Jams: The Senses: Seeing
http://studyjams.scholastic.com/studyjams/jams/science/human-body/seeing.htm ● Slinky Wave experiment ● Study Jams: Sound
http://studyjams.scholastic.com/studyjams/jams/science/energy-light-sound/sound.htm ● Study Jams: The Senses: Hearing
http://studyjams.scholastic.com/studyjams/jams/science/human-body/hearing.htm ● Blindfold activity using sight rather than sound |
| 3.2.7.B6: ENERGY Demonstrate that heat is often produced as energy is transformed through a system. ENERGY Demonstrate how the transfer of heat energy causes temperature changes. | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● Principles of Matter and Thermodynamics: Chapter 4 (The First Law of Thermodynamics: Conservation of Energy) <p>Activities</p> <ul style="list-style-type: none"> ● Hammering a nail to create heat from kinetic energy |
| 3.2.7.B7: Understand how theories are developed. Identify questions that can be answered through scientific investigations and evaluate the appropriateness of questions. Design and conduct a scientific investigation and understand that current scientific knowledge guides scientific investigations. Describe relationships using inference and prediction. Use appropriate tools and technologies to gather, analyze, and interpret data and understand that it enhances accuracy and allows scientists to analyze and quantify results of investigations. Develop descriptions, | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● See books from previous standards <p>Activities</p> <ul style="list-style-type: none"> ● Students thoroughly discuss and share questions regarding specific reading passages and activities. Questions may be answered through activities, reading, research, and other students' prior knowledge ● Students learn how to use the tools provided to them in a safe and appropriate way so they can gather, analyze, |

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| <p>explanations, and models using evidence and understand that these emphasize evidence, have logically consistent arguments, and are based on scientific principles, models, and theories. Analyze alternative explanations and understanding that science advances through legitimate skepticism. Use mathematics in all aspects of scientific inquiry. Understand that scientific investigations may result in new ideas for study, new methods, or procedures for an investigation or new technologies to improve data collection.</p> | <p>and interpret data and understand what they have done and why it was successful or unsuccessful</p> <ul style="list-style-type: none"> Students use mathematical concepts in many areas of science, including, but not limited to, writing and using formulas and measuring with rulers. |
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3.2.8.B: Grade 8

| Standard | Books/Activities Used |
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| <p>Standard - 3.2.8.B1: Explain how inertia is a measure of an object's mass. Explain how momentum is related to the forces acting on an object.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> Classical Mechanics: Chapter 4 (The Law of Universal Gravitation) <p>Activities</p> <ul style="list-style-type: none"> Dropping various objects to the floor to test the reaction of varying sizes, weights, and densities Building a parachute Study Jams: Gravity and Inertia
 http://studyjams.scholastic.com/studyjams/jams/science/forces-and-motion/fgravity-and-inertia.htm Egg Drop experiment to test parachutes |
| <p>Standard - 3.2.8.B2: Identify situations where kinetic energy is transformed into potential energy, and vice versa.</p> | <p>Books/Chapters</p> |

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| | <ul style="list-style-type: none"> Principles of Matter and Thermodynamics: Chapter 4 (The First Law of Thermodynamics: Conservation of Energy) <p>Activities</p> <ul style="list-style-type: none"> Rubber Band Targets demonstrates kinetic energy to potential energy back to kinetic energy |
| Standard - 3.2.8.B3: Explain how changes in temperature are accompanied by changes in kinetic energy. | <p>Books/Chapters</p> <ul style="list-style-type: none"> Principles of Matter and Thermodynamics: Chapter 4 (The First Law of Thermodynamics: Conservation of Energy) <p>Activities</p> <ul style="list-style-type: none"> Rubber Band Targets demonstrates kinetic energy to potential energy back to kinetic energy |
| Standard - 3.2.8.B4: Compare and contrast atomic properties of conductors and insulators. | <p>Books/Chapters</p> <ul style="list-style-type: none"> Janice VanCleave's Electricity <p>Activities</p> <ul style="list-style-type: none"> Janice VanCleave's Electricity Lesson 9: Pathway Study Jams: Electricity
http://studyjams.scholastic.com/studyjams/jams/science/energy-light-sound/electricity.htm |
| Standard - 3.2.8.B6: PATTERNS Explain how physics principles underlie everyday phenomena and important technologies. | <p>Books/Chapters</p> <ul style="list-style-type: none"> Seesaws, Nutcrackers, and Brooms: Simple Machines That Are Really Levers by Christopher Lampton Bathtubs, Slides, Roller Coaster: Simple Machines That Are Really Inclined Planes by Christopher Lampton Sailboats, Flagpoles, Cranes: Using Pulleys as Simple Machines by Christopher Lampton |

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| | <ul style="list-style-type: none"> ● Marbles, Roller Skates, Doorknob: Simple Machines That Are Really Wheels by Christopher Lampton <p>Activities</p> <ul style="list-style-type: none"> ● Activities from Christopher Lampton's books (student selection) ● Student presentations on the history, current uses, and function of a specific simple machine |
| <p>Standard - 3.2.8.B7: Compare and contrast scientific theories. Know that both direct and indirect observations are used by scientists to study the natural world and universe. Identify questions and concepts that guide scientific investigations. Formulate and revise explanations and models using logic and evidence. Recognize and analyze alternative explanations and models. Explain the importance of accuracy and precision in making valid measurements.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● See books from previous standards <p>Activities</p> <ul style="list-style-type: none"> ● Students thoroughly discuss and share questions regarding specific reading passages and activities. Questions may be answered through activities, reading, research, and other students' prior knowledge. Some questions that are asked may prompt multiple explanations ● Students learn how to use their observations in a productive way so they can gather, analyze, and interpret data and understand what they have done and why it was successful or unsuccessful |

**Pennsylvania [Common Core or State] Standards
CURRICULUM MAPPING**

Grade 7 & 8

Subject: Science (Technology and Engineering)

3.4.7.A: Grade 7 _____.

| Standard | Books/Activities Used |
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| 3.4.A Technology and Engineering Education | |
| Standard - 3.4.7.A1: Explain how technology is closely linked to creativity, which has resulted in innovation and invention. | Books/Chapters <ul style="list-style-type: none"> ● The Story of Inventions Activities <ul style="list-style-type: none"> ● Odyssey of the Mind: Balsa Wood Project ● Building telescopes with PVC and lenses |
| Standard - 3.4.7.A2: Explain how different technologies involve different sets of processes. | Books/Chapters <ul style="list-style-type: none"> ● The Story of Inventions Activities <ul style="list-style-type: none"> ● Odyssey of the Mind: Balsa Wood Project |
| Standard - 3.4.7.A3: Explain how knowledge gained from other fields of study has a direct effect on the development of technological products and systems. | Books/Chapters <ul style="list-style-type: none"> ● The Story of Inventions Activities <ul style="list-style-type: none"> ● Odyssey of the Mind: Balsa Wood Project ● Field study to the Pocono Environmental Education Center (PEEC) ● Building telescopes with PVC and lenses |

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| 3.4 B: Technology and Society | |
| Standard - 3.4.7.B1: Explain how the use of technology can have consequences that affect humans in many ways. | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Story of Inventions <p>Activities</p> <ul style="list-style-type: none"> ● Odyssey of the Mind: Balsa Wood Project ● Field study to the Pocono Environmental Education Center (PEEC) ● Building telescopes with PVC and lenses ● The Johnstown Flood by David McCullough in grade 8 ● The Johnstown Flood Museum
http://www.jaha.org/edu/index.html |
| Standard - 3.4.7.B2: Explain how decisions to develop and use technologies may be influenced by environmental and economic concerns. | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Story of Inventions <p>Activities</p> <ul style="list-style-type: none"> ● Odyssey of the Mind: Balsa Wood Project ● Field study to the Pocono Environmental Education Center (PEEC) ● The Johnstown Flood by David McCullough ● The Johnstown Flood Museum
http://www.jaha.org/edu/index.html |
| Standard - 3.4.7.B3: Describe how invention and innovation lead to changes in society and the creation of new needs and wants. | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Story of Inventions <p>Activities</p> <ul style="list-style-type: none"> ● Odyssey of the Mind: Balsa Wood Project ● Field study to the Pocono Environmental Education Center (PEEC) ● Building telescopes with PVC and lenses ● The Johnstown Flood by David McCullough |

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| | <ul style="list-style-type: none"> • The Johnstown Flood Museum
http://www.jaha.org/edu/index.html |
| Standard - 3.4.7.B4: Explain how many inventions and innovations have evolved by using deliberate and methodical processes of tests and refinements. | Books/Chapters <ul style="list-style-type: none"> • The Story of Inventions Activities <ul style="list-style-type: none"> • Odyssey of the Mind: Balsa Wood Project • Building telescopes with PVC and lenses |
| 3.4.C: Technology and Engineering Design | |
| Standard - 3.4.7.C1: Describe how design, as a creative planning process, leads to useful products and systems. | Books/Chapters <ul style="list-style-type: none"> • The Story of Inventions Activities <ul style="list-style-type: none"> • Odyssey of the Mind: Balsa Wood Project • Field study to the Pocono Environmental Education Center (PEEC) • Building Big • Building telescopes with PVC and lenses |
| Standard - 3.4.7.C2: Explain how modeling, testing, evaluating, and modifying are used to transform ideas into practical solutions. | Books/Chapters <ul style="list-style-type: none"> • The Story of Inventions Activities <ul style="list-style-type: none"> • Odyssey of the Mind: Balsa Wood Project • Field study to the Pocono Environmental Education Center (PEEC) • Building Big • Building telescopes with PVC and lenses |
| Standard - 3.4.7.C3: Describe how troubleshooting as a problem-solving method may identify the cause of a malfunction in a technological system. | Books/Chapters <ul style="list-style-type: none"> • The Story of Inventions Activities <ul style="list-style-type: none"> • Odyssey of the Mind: Balsa Wood Project |

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| | <ul style="list-style-type: none"> ● Field study to the Pocono Environmental Education Center (PEEC) ● Building Big |
| 3.4.D: Abilities for a Technological World | |
| Standard - 3.4.7.D1: Identify and collect information about everyday problems that can be solved by technology and generate ideas and requirements for solving a problem. | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Story of Inventions <p>Activities</p> <ul style="list-style-type: none"> ● Odyssey of the Mind: Balsa Wood Project ● Field study to the Pocono Environmental Education Center (PEEC) ● Building Big |
| Standard - 3.4.7.D2: Select and safely use appropriate tools, products and systems for specific tasks. | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Story of Inventions ● CMP3 Grade 8: Building Bridges lesson <p>Activities</p> <ul style="list-style-type: none"> ● Odyssey of the Mind: Balsa Wood Project ● Building Big ● Building telescopes with PVC and lenses |
| Standard - 3.4.7.D3: Use data collected to analyze and interpret trends in order to identify the positive or negative effects of a technology. | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Story of Inventions ● CMP3: Building Bridges lesson <p>Activities</p> <ul style="list-style-type: none"> ● Odyssey of the Mind: Balsa Wood Project ● Field study to the Pocono Environmental Education Center (PEEC) ● Building Big |
| 3.4.E: The Designed World | |

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| <p>Standard - 3.4.7.E1: Investigate recent advancements in medical technologies and their impact on quality of life.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● Louis Pasteur: Disease Fighter ● To Heal the Heart of a Child ● Girl Doctor (Elizabeth Blackwell) ● Clara Barton: Founder of the American Red Cross |
| <p>Standard - 3.4.7.E2: Examine specialized equipment and practices used to improve the production of food, fiber, fuel, and other useful products and in the care of animals.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Story of Inventions <p>Activities</p> <ul style="list-style-type: none"> ● Field study to the Pocono Environmental Education Center (PEEC) ● The Johnstown Flood by David McCullough ● The Johnstown Flood Museum
http://www.jaha.org/edu/index.html |
| <p>Standard - 3.4.7.E3: Examine the efficiency of energy use in our environment</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Story of Inventions <p>Activities</p> <ul style="list-style-type: none"> ● Field study to the Pocono Environmental Education Center (PEEC) |
| <p>Standard - 3.4.7.E4: Illustrate how information can be acquired and sent through a variety of technological sources, including print and electronic media.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Story of Inventions ● Alexander Graham Bell: An Inventive Life ● Always Inventing (Alexander Graham Bell) ● Ahoy! Ahoy! Are You There? A Story of Alexander Graham Bell <p>Activities</p> <ul style="list-style-type: none"> ● Field study to the Pocono Environmental Education Center (PEEC) ● Science research projects: Solar system and simple machines |

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| Standard - 3.4.7.E5: Explain how processes, such as receiving, holding, storing, loading, moving, unloading, delivering, evaluating, marketing, managing and communicating are necessary for the entire system to operate efficiently. | Books/Chapters <ul style="list-style-type: none"> • The Story of Inventions • Charles Babbage and the Engines of Perfection Activities <ul style="list-style-type: none"> • Odyssey of the Mind: Balsa Wood Project |
| Standard - 3.4.7.E6: Examine the processes involved in extracting (e.g., harvesting, drilling, mining) raw materials from the earth for use in manufacturing processes. | Books/Chapters <ul style="list-style-type: none"> • The Story of Inventions • The Johnstown Flood by David McCullough • The Johnstown Flood Museum
http://www.jaha.org/edu/index.html |
| Standard - 3.4.7.E7: Examine subsystems found in the construction of a building. | Books/Chapters <ul style="list-style-type: none"> • The Story of Inventions Activities <ul style="list-style-type: none"> • Building Big |

3.4.8.A: Grade 8 _____.

| Standard | Books/Activities Used |
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| 3.4.A Technology and Engineering Education | |
| Standard - 3.4.8.A1: Analyze the development of technology based on affordability or urgency. | Books/Chapters <ul style="list-style-type: none"> • The Story of Inventions • The Johnstown Flood by David McCullough • The Johnstown Flood Museum
http://www.jaha.org/edu/index.html • The Johnstown Flood by David McCullough |

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| | <ul style="list-style-type: none"> • The Johnstown Flood Museum
http://www.jaha.org/edu/index.html |
| Standard - 3.4.8.A2: Explain how controls are steps that people perform using information about the system that causes systems to change. | Books/Chapters <ul style="list-style-type: none"> • The Story of Inventions Activities <ul style="list-style-type: none"> • Physics experiments: simple machines and egg drop • Odyssey of the Mind: Balsa Wood Projects |
| Standard - 3.4.8.A3: Compare how a product, system, or environment developed for one setting may be applied to another setting. | Books/Chapters <ul style="list-style-type: none"> • The Story of Inventions Activities <ul style="list-style-type: none"> • Physics experiments: simple machines and egg drop • Odyssey of the Mind: Balsa Wood Projects • Building telescopes with PVC and lenses |
| 3.4.B: Technology and Society | |
| Standard - 3.4.8.B1: Evaluate the societal implications of the management of waste produced by technology. | Books/Chapters <ul style="list-style-type: none"> • The Story of Inventions Activities <ul style="list-style-type: none"> • Field Study to Pocono Environmental Education Center (PEEC) |
| Standard - 3.4.8.B2: Compare and contrast decisions to develop and use technologies as related to environmental and economic concerns. | Books/Chapters <ul style="list-style-type: none"> • The Story of Inventions Activities <ul style="list-style-type: none"> • Field Study to Pocono Environmental Education Center (PEEC) • The Johnstown Flood by David McCullough • The Johnstown Flood Museum
http://www.jaha.org/edu/index.html |

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| <p>Standard - 3.4.8.B3: Explain how throughout history, new technologies have resulted from the demands, values, and interests of individuals, businesses, industries, and societies.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Story of Inventions ● Louis Pasteur: Disease Fighter ● Charles Babbage and the Engines of Perfection ● Alexander Graham Bell: An Inventive Life ● The Wright Brothers: Pioneers of American Aviation <p>Activities</p> <ul style="list-style-type: none"> ● Field Study to Pocono Environmental Education Center (PEEC) ● Building telescopes with PVC and lenses ● The Johnstown Flood by David McCullough ● The Johnstown Flood Museum
http://www.jaha.org/edu/index.html |
| <p>Standard - 3.4.8.B4: Explain how societal and cultural priorities and values are reflected in technological devices.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Story of Inventions ● Louis Pasteur: Disease Fighter ● Charles Babbage and the Engines of Perfection ● Alexander Graham Bell: An Inventive Life ● The Wright Brothers: Pioneers of American Aviation <p>Activities</p> <ul style="list-style-type: none"> ● Field Study to Pocono Environmental Education Center (PEEC) ● Building telescopes with PVC and lenses |
| <p>3.4.C Technology and Engineering Design</p> | |
| <p>Standard - 3.4.8.C1: Evaluate the criteria and constraints of a design.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Story of Inventions <p>Activities</p> <ul style="list-style-type: none"> ● Physics experiments: simple machines and egg drop ● CMP3 Grade 8: Building Bridges lesson |

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| | <ul style="list-style-type: none"> ● Odyssey of the Mind: Balsa Wood Projects ● Building telescopes with PVC and lenses |
| Standard - 3.4.8.C2: Explore the design process as a collaborative endeavor in which each person in the group presents his or her ideas in an open forum. | Books/Chapters <ul style="list-style-type: none"> ● The Story of Inventions Activities <ul style="list-style-type: none"> ● Physics experiments: simple machines and egg drop ● Odyssey of the Mind: Balsa Wood Projects ● Building telescopes with PVC and lenses |
| Standard - 3.4.8.C3: Analyze how a multi-disciplinary (STEM) approach to problem solving will yield greater results. | Books/Chapters <ul style="list-style-type: none"> ● The Story of Inventions Activities <ul style="list-style-type: none"> ● Physics experiments: simple machines and egg drop ● CMP3 Grade 8 book ● Odyssey of the Mind: Balsa Wood Projects |
| 3.4.D: Abilities for a Technological World | |
| Standard - 3.4.8.D1: Test and evaluate the solutions for a design problem. | Books/Chapters <ul style="list-style-type: none"> ● The Story of Inventions Activities <ul style="list-style-type: none"> ● Physics experiments: simple machines and egg drop ● Odyssey of the Mind: Balsa Wood Projects ● Building telescopes with PVC and lenses |
| Standard - 3.4.8.D2: Operate and maintain systems in order to achieve a given purpose. | Books/Chapters <ul style="list-style-type: none"> ● The Story of Inventions Activities <ul style="list-style-type: none"> ● Physics experiments: simple machines and egg drop ● Odyssey of the Mind: Balsa Wood Projects |

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| Standard - 3.4.8.D3: Interpret and evaluate the accuracy of the information obtained and determine its usefulness. | Books/Chapters <ul style="list-style-type: none"> • The Story of Inventions Activities <ul style="list-style-type: none"> • Physics experiments: simple machines and egg drop • Odyssey of the Mind: Balsa Wood Projects |
| 3.4.E: The Designed World | |
| Standard - 3.4.8.E1: Analyze what technologies are used in genetic engineering and predict how it may change the future of medicine. | Books/Chapters <ul style="list-style-type: none"> • The Story of Inventions • Dogs that Changed the World
http://www.pbs.org/wnet/nature/dogs-that-changed-the-world-selective-breeding-problems/1281/ Activities <ul style="list-style-type: none"> • |
| Standard - 3.4.8.E2: Describe how biotechnology applies the principles of biology to create commercial products or processes. | Books/Chapters <ul style="list-style-type: none"> • The Story of Inventions • Dogs that Changed the World
http://www.pbs.org/wnet/nature/dogs-that-changed-the-world-selective-breeding-problems/1281/ Activities <ul style="list-style-type: none"> • |
| Standard - 3.4.8.E3: Examine power systems are used to drive and provide propulsion to other technological products or systems. | Books/Chapters <ul style="list-style-type: none"> • The Story of Inventions Activities <ul style="list-style-type: none"> • Physics experiments: simple machines and egg drop • Odyssey of the Mind: Balsa Wood Projects |

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| <p>Standard - 3.4.8.E4: Describe how the design of the message is influenced by such factors as the intended audience, medium, purpose, and nature of the message.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Story of Inventions <p>Activities</p> <ul style="list-style-type: none"> ● Physics experiments: simple machines and egg drop ● Odyssey of the Mind: Balsa Wood Projects |
| <p>Standard - 3.4.8.E5: Describe how governmental regulations influence the design, operation and efficiency of transportation systems.</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Story of Inventions ● Team Moon <p>Activities</p> <ul style="list-style-type: none"> ● |
| <p>Standard - 3.4.8.E6: Analyze the steps involved in the manufacturing process (e.g., design, development, production, marketing and servicing of products and systems).</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Story of Inventions <p>Activities</p> <ul style="list-style-type: none"> ● |
| <p>Standard - 3.4.8.E7: Analyze factors that determine structural design (e.g., building laws and codes, style, convenience, cost, climate, and function).</p> | <p>Books/Chapters</p> <ul style="list-style-type: none"> ● The Story of Inventions <p>Activities</p> <ul style="list-style-type: none"> ● Physics experiments: simple machines and egg drop ● Odyssey of the Mind: Balsa Wood Projects |

| Biological Sciences Secondary Standards | |
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| Common Characteristics of Life | |
| 3.1.10.A1. Explain the characteristics of life common to all organisms. | Life Itself by Boyce Rensberger
Chapter 1

Lab: Natural Observations |
| 3.1.B.A1. Describe the common characteristics of life. | Life Itself by Boyce Rensberger
Chapter 1 |
| 3.1.B.A1. Compare and contrast the cellular structures and degrees of complexity of prokaryotic and eukaryotic organisms. | POGIL: Activities for High School Biology , Laura Trout
-Organelles in Eukaryotic Cells

Lab: Analyzing Cell Structures |
| 3.1.B.A1. Explain that some structures in eukaryotic cells developed from early prokaryotic cells (e.g., mitochondria, chloroplasts) | POGIL: Activities for High School Biology Laura Trout
-Prokaryotic and Eukaryotic Cells
-Organelles in Eukaryotic Cells

Lab: Analyzing Cell Structures |
| 3.1.C.A1. Explain the chemistry of metabolism. | Life Itself by Boyce Rensberger |
| 3.1.12.A1. Relate changes in the environment to various organisms' ability to compensate using homeostatic mechanisms. | Life Itself by Boyce Rensberger

Poconos Environmental Education Center Field Study Lab: River Analysis |
| Energy Flow | |
| 3.1.10.A2. Explain cell processes in terms of chemical reactions and energy changes. | POGIL: Activities for High School Biology , Laura Trout
-Cellular Respiration
-Photosynthesis: What's in a Leaf?

Lab: Fermentation in Yeast |
| 3.1.B.A2. Identify the initial reactants, final products, and general purposes of photosynthesis and cellular respiration. | POGIL: Activities for High School Biology , Laura Trout
-Cellular Respiration
-Photosynthesis: What's in a Leaf? |
| 3.1.B.A2. Explain the important role of ATP in cell metabolism. | POGIL: Activities for High School Biology , Laura Trout
-Cellular Respiration
-Photosynthesis: What's in a Leaf? |

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| 3.1.B.A2. Describe the relationship between photosynthesis and cellular respiration in photosynthetic organisms. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Cellular Respiration
-Photosynthesis: What's in a Leaf? |
| 3.1.B.A2. Explain why many biological macromolecules such as ATP and lipids contain high energy bonds. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Biological Molecules

Lab: Where's the Fat? |
| 3.1.B.A2. Explain the importance of enzymes as catalysts in cell reactions. | <u>Life Itself</u> by Boyce Rensberger

Pearson Online Lab: Enzyme Analysis |
| 3.1.B.A2. Identify how factors such as pH and temperature may affect enzyme function. | <u>Chemistry: Matter and Change</u> , Chapter 23

Poconos Environmental Education Center Field Study Lab: River Analysis |
| 3.1.C.A2. Describe how changes in energy affect the rate of chemical reactions. | <u>Chemistry: Matter and Change</u> , Chapter 23 |
| 3.1.12.A2. Evaluate how organisms must derive energy from their environment or their food in order to survive. | <u>Life Itself</u> by Boyce Rensberger

Poconos Environmental Education Center Field Study Lab: River Analysis |
| Life Cycles | |
| 3.1.10.A3. Compare and contrast the life cycles of different organisms. | <u>Life Itself</u> by Boyce Rensberger |
| 3.1.B.A3. Explain how all organisms begin their life cycles as a single cell and that in multicellular organisms, successive generations of embryonic cells form by cell division. | <u>Life Itself</u> by Boyce Rensberger

Lab: Fermentation of Yeast |
| Cell Cycles | |
| 3.1.10.A4. Describe the cell cycle and the process and significance of mitosis | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Mitosis

Cancer and Genetic Disease Research Project |
| 3.1.B.A4. Summarize the stages of the cell cycle. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Mitosis |
| 3.1.B.A4. Examine how interactions among the different molecules in the cell cause the distinct | <u>POGIL: Activities for High School Biology</u> , Laura Trout |

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| stages of the cell cycle which can also be influenced by other signaling molecules | -Mitosis |
| 3.1.B.A4. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction. | <u>Life Itself</u> by Boyce Rensberger

Yarn Mitosis Activity |
| 3.1.B.A4. Compare and contrast a virus and a cell. Relate the stages of viral cycles to the cell cycle. | <u>Life Itself</u> by Boyce Rensberger

<u>Science Matters: Achieving Scientific Literacy</u> by Robert M. Hazen |
| 3.1.C.A4. Relate mitosis and meiosis at the molecular level. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Mitosis
-Meiosis

Lab: Mitosis Slides |
| 3.1.12.A4. Explain how the cell cycle is regulated | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Mitosis

<u>Life Itself</u> by Boyce Rensberger |
| Form and Function | |
| 3.1.10.A5. Relate life processes to sub-cellular and cellular structures to their functions. | <u>Life Itself</u> by Boyce Rensberger |
| 3.1.B.A5. Relate the structure of cell organelles to their function (energy capture and release, transport, waste removal, protein synthesis, movement, etc). | <u>POGIL: Activities for High School Biology</u> Laura Trout
-Prokaryotic and Eukaryotic Cells
-Organelles in Eukaryotic Cells

Lab: Analyzing Cell Structures |
| 3.1.B.A5. Explain the role of water in cell metabolism. | <u>POGIL: Activities for High School Biology</u> Laura Trout
-Properties of Water |
| 3.1.B.A5. Explain how the cell membrane functions as a regulatory structure and protective barrier for the cell. | <u>POGIL: Activities for High School Biology</u> Laura Trout
-Transport in Cells

Lab: Osmosis Egg |
| 3.1.B.A5. Describe transport mechanisms across the plasma membrane. | <u>POGIL: Activities for High School Biology</u> Laura Trout
-Transport in Cells |

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| | Lab: Osmosis Egg |
| 3.1.12.A5. Analyze how structure is related to function at all levels of biological organization from molecules to organisms. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Biological Molecules |
| Organization | |
| 3.1.10.A6. Identify the advantages of multi-cellularity in organisms. | <u>Life Itself</u> by Boyce Rensberger

Lab: Frog Dissection |
| 3.1.B.A6. Explain how cells differentiate in multicellular organisms. | <u>Life Itself</u> by Boyce Rensberger

Lab: Frog Dissection |
| 3.1.12.A6. Analyze how cells in different tissues/organs are specialized to perform specific functions. | <u>Life Itself</u> by Boyce Rensberger

Lab: Frog Dissection |
| Molecular Basis of Life | |
| 3.1.10.A7. Describe the relationship between the structure of organic molecules and the function they serve in living organisms. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Biological Molecules

Lab: Testing Candy for Glucose |
| 3.1.10.A7. Explain how cells store and use information to guide their functions. | <u>Life Itself</u> by Boyce Rensberger

Human Cell Activity |
| 3.1.B.A7. Analyze the importance of carbon to the structure of biological macromolecules. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Biological Molecules

Lab: Testing Candy for Glucose |
| 3.1.B.A7. Compare and contrast the functions and structures of proteins, lipids, carbohydrates, and nucleic acids. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Biological Molecules

Lab: Testing Candy for Glucose
Lab: Where's the Fat? |
| 3.1.B.A7. Explain the consequences of extreme changes in pH and temperature on cell proteins. | <u>Chemistry: Matter and Change</u> , Chapter 23

Poconos Environmental Education Center Field Study Lab: River Analysis |
| 3.1.C.A7. Illustrate the formation of carbohydrates, lipids, proteins, and nucleic acids. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Biological Molecules |

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| | Picture Studies of each molecule |
| 3.1.12.A7. Evaluate metabolic activities using experimental knowledge of enzymes. | <u>Chemistry: Matter and Change</u> , Chapter 23
Pearson Online Lab: Enzyme Analysis |
| 3.1.12.A7. Describe the potential impact of stem cell research on the biochemistry and physiology of life. | Cancer and Genetic Disease Research Project |
| Unifying Themes | |
| 3.1.10.A8. Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer programs. | Lab: Frog Dissection |
| 3.1.B.A8. CHANGE AND CONSTANCY Recognize that systems within cells and multicellular organisms interact to maintain homeostasis. | Lab: Homeostasis |
| 3.1.B.A8. PATTERNS Demonstrate the repeating patterns that occur in biological polymers. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Biological Molecules

Picture Study of Biological Molecules |
| 3.1.B.A8. SYSTEMS Describe how the unique properties of water support life. | <u>POGIL: Activities for High School Biology</u> Laura Trout
-Properties of Water |
| 3.1.12.A8. CHANGE AND CONSTANCY Describe and interpret dynamic changes in stable systems. | Nature Study |
| Hereditary | |
| 3.1.10.B1. Describe how genetic information is inherited and expressed. | <u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u>

<u>Life Itself</u> By: Boyce Rensberger

Cancer and Genetic Disease Research Project |
| 3.1.B.B1. Explain that the information passed from parents to offspring is transmitted by means of genes which are coded in DNA molecules. | <u>Life Itself</u> By: Boyce Rensberger

<u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u> |
| 3.1.B.B1. Explain the basic process of DNA replication. | <u>Life Itself</u> By: Boyce Rensberger

<u>POGIL: Activities for High School Biology</u> , Laura Trout |

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| | -DNA Structure and Replication |
| 3.1.B.B1. Describe the basic processes of transcription and translation. | <u>Life Itself</u> By: Boyce Rensberger
<u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u>
<u>POGIL: Activities for High School Biology</u> , Laura Trout
-DNA Structure and Replication |
| 3.1.B.B1. Explain how crossing over, jumping genes, and deletion and duplication of genes results in genetic variation. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-DNA Structure and Replication |
| 3.1.B.B1. Explain how mutations can alter genetic information and the possible consequences on resultant cells. | <u>Life Itself</u> By: Boyce Rensberger
<u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u>
<u>POGIL: Activities for High School Biology</u> , Laura Trout
-DNA Structure and Replication |
| 3.1.12.B1. Explain gene inheritance and expression at the molecular level. | <u>Life Itself</u> By: Boyce Rensberger
<u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u>
<u>POGIL: Activities for High School Biology</u> , Laura Trout
-DNA Structure and Replication |
| Reproduction | |
| 3.1.10.B2. Explain the process of meiosis resulting in the formation of gametes. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Meiosis |
| 3.1.10.B2. Compare and contrast the function of mitosis and meiosis. | <u>Life Itself</u> By: Boyce Rensberger
<u>POGIL: Activities for High School Biology</u> , Laura Trout
-Meiosis
-Mitosis |
| 3.1.B.B2. Describe how the process of meiosis results in the formation of haploid gametes and analyze the importance of meiosis in sexual reproduction. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Meiosis |
| 3.1.B.B2. Compare and contrast the function of mitosis and meiosis. | <u>POGIL: Activities for High School Biology</u> , Laura Trout |

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| | <p>-Meiosis
- Mitosis</p> <p>Lab: Pearson Online Lab Bench: Mitosis and Meiosis</p> <p>Lab: Meiosis</p> |
| 3.1.B.B2. Illustrate that the sorting and recombining of genes in sexual reproduction results in a great variety of possible gene combinations in offspring. | <p><u>Life Itself</u> By: Boyce Rensberger</p> <p><u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u></p> |
| 3.1.12.B2. Evaluate the process of sexual reproduction in influencing genetic variability in a population. | <p><u>Life Itself</u> By: Boyce Rensberger</p> <p><u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u></p> |
| Molecular Basis of Life | |
| 3.1.10.B3. Describe the basic structure of DNA and its function in genetic inheritance. | <p><u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u></p> <p><u>POGIL: Activities for High School Biology</u>, Laura Trout
-DNA Structure and Replication</p> |
| 3.1.10.B3. Describe the role of DNA in protein synthesis as it relates to gene expression. | <p><u>Life Itself</u> By: Boyce Rensberger</p> <p><u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u></p> <p><u>POGIL: Activities for High School Biology</u>, Laura Trout
-DNA Structure and Replication</p> |
| 3.1.B.B3. Describe the basic structure of DNA, including the role of hydrogen bonding. | <p><u>POGIL: Activities for High School Biology</u>, Laura Trout
-DNA Structure and Replication</p> <p>Picture Study of Double Helix</p> |
| 3.1.B.B3. Explain how the process of DNA replication results in the transmission and conservation of the genetic code. | <p><u>Life Itself</u> By: Boyce Rensberger</p> <p><u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u></p> <p><u>POGIL: Activities for High School Biology</u>, Laura Trout
-DNA Structure and Replication</p> |

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| 3.1.B.B3. Describe how transcription and translation result in gene expression. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-DNA Structure and Replication |
| 3.1.B.B3. Differentiate among the end products of replication, transcription, and translation. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-DNA Structure and Replication |
| 3.1.B.B3. Cite evidence to support that the genetic code is universal. | Research various genetic codes online. Each group chooses something different then compare and contrast during a grand conversation |
| 3.1.C.B3. Describe the structure of the DNA and RNA molecules. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-DNA Structure and Replication

<u>Life Itself</u> By: Boyce Rensberger |
| 3.1.12.B3. Analyze gene expression at the molecular level. | <u>Life Itself</u> By: Boyce Rensberger

<u>Science Matters: Achieving Scientific Literacy</u> by Robert M. Hazen

Lab: Pearson Online Lab Bench: Genetics of Organisms |
| 3.1.12.B3. Explain the impact of environmental factors on gene expression. | <u>Life Itself</u> By: Boyce Rensberger

<u>Science Matters: Achieving Scientific Literacy</u> by Robert M. Hazen |
| Biotechnology | |
| 3.1.10.B4. Explain how genetic technologies have impacted the fields of medicine, forensics, and agriculture. | <u>Science Matters: Achieving Scientific Literacy</u> by Robert M. Hazen

Field Study to a farm- section of <u>Omnivore's Dilemma</u> By: Michael Pollan |
| 3.1.12.B4. Evaluate the societal impact of genetic engineering techniques and applications. | <u>Science Matters: Achieving Scientific Literacy</u> by Robert M. Hazen |
| Unifying Themes | |
| 3.1.10 B5. PATTERNS Use models to demonstrate patterns in biomacromolecules. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Biological Molecules

Lab: Building Molecules |

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| 3.1.10 B5. PATTERNS Compare and contrast Mendelian and non-Mendelian patterns of inheritance. | <u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u>

Lab: Natural Observations |
| 3.1.B.B5. PATTERNS Describe how Mendel's laws of segregation and independent assortment can be observed through patterns of inheritance. | <u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u>

Lab: Natural Observations |
| 3.1.B.B5. PATTERNS Distinguish among observed inheritance patterns caused by several types of genetic traits (dominant, recessive, codominant, sex-linked, polygenic, incomplete dominance, multiple alleles). | <u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u> |
| 3.1.B.B5. CONSTANCY AND CHANGE Explain how the processes of replication, transcription, and translation are similar in all organisms. | <u>Life Itself</u> By: Boyce Rensberger

<u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u> |
| 3.1.B.B5. CONSTANCY AND CHANGE Explain how gene actions, patterns of heredity, and reproduction of cells and organisms account for the continuity of life. | <u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u> |
| 3.1.B.B5. SCALE Demonstrate how inherited characteristics can be observed at the molecular, cellular, and organism levels. | Lab: Analysis of Human Self |
| 3.1.C.B5. PATTERNS Use models to demonstrate patterns in biomacromolecules. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Biological Molecules

Lab: Building Molecules |
| 3.1.12 B5. PATTERNS Relate the monomer structure of biomacromolecules to their functional roles. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Biological Molecules

Lab: Building Molecules |
| Natural Selection | |
| 3.1.10.C1. Explain the mechanisms of biological evolution. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Evidence for Evolution
-Evolution and Selection |
| 3.1.B.C1. Describe species as reproductively distinct groups of organisms. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Biological Classification |

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| 3.1.B.C1. Analyze the role that geographic isolation can play in speciation. | Lab: Natural Observations |
| 3.1.B.C1. Explain how evolution through natural selection can result in changes in biodiversity through the increase or decrease of genetic diversity within a population. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Evidence for Evolution
-Evolution and Selection |
| 3.1.B.C1. Describe how the degree of kinship between species can be inferred from the similarity in their DNA sequences. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Biological Classification |
| 3.1.12.C1. Analyze how natural selection leads to speciation. | <u>POGIL: Activities for High School Biology</u> , Laura Trout
-Evidence for Evolution
-Evolution and Selection
-Ecological Relationships |
| Adaptation | |
| 3.1.10.C2. Explain the role of mutations and gene recombination in changing a population of organisms. | <u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u>

Lab: Pearson Online Lab Bench: Population Genetics and Evolution |
| 3.1.B.C2. Describe the theory suggesting that life on Earth arose as a single, primitive prokaryote about 4 billion years ago and that for the next 2 billion years, a huge diversity of single celled organisms evolved. | <u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u> |
| 3.1.B.C2. Analyze how increasingly complex, multicellular organisms evolved once cells with nuclei developed. | <u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u> |
| 3.1.B.C2. Describe how mutations in sex cells may be passed on to successive generations and that the resulting phenotype may help, harm, or have little or no effect on the offspring's success in its environment. | <u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u>

Lab: Pearson Online Lab Bench: Population Genetics and Evolution |
| 3.1.B.C2. Describe the relationship between environmental changes and changes in the gene pool of a population. | <u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u>

Lab: Pearson Online Lab Bench: Population Genetics and Evolution |

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| 3.1.C.C2. Use molecular models to demonstrate gene mutation and recombination at the molecular level. | Lab: Pearson Online Lab Bench: Population Genetics and Evolution |
| 3.1.12.C2. Analyze how genotypic and phenotypic variation can result in adaptations that influence an organism's success in an environment. | <u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u> |
| Unifying Themes | |
| 3.1.10.C3. CONSTANCY AND CHANGE Interpret data from fossil records, anatomy and physiology, and DNA studies relevant to the theory of evolution. | Lab: Interpretation and Investigation of Model Fossils |
| 3.1.B.C3. CONSTANCY AND CHANGE Compare and contrast various theories of evolution. | <u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u> |
| 3.1.B.C3. CONSTANCY AND CHANGE Interpret data from fossil records, anatomy and physiology, and DNA studies relevant to the theory of evolution. | Lab: Interpretation and Investigation of Model Fossils |
| 3.1.B.C3. PATTERNS Discuss the implications of a universal genetic code for evolution. | <u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u> |
| 3.1.12.C3. CONSTANCY AND CHANGE Analyze the evidence to support various theories of evolution (gradualism, punctuated equilibrium). | <u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u> |
| 3.1.12.C3. CONSTANCY AND CHANGE Evaluate survival of the fittest in terms of species that have remained unchanged over long periods of time. | Lab: Survival of the Fittest- Battling Bees |

| Earth and Space Sciences Secondary Standards | |
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| Earth Features and Processes that Change It | |
| 3.3.10.A1. Relate plate tectonics to both slow and rapid changes in the earth's surface. | <p>Phet Interactive: Plate Tectonics</p> <p><u>Let's Review: Earth Science- The Physical Setting</u>
By: Edward J. Barron</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| 3.3.10.A1. Describe the rock cycle and the processes that are responsible for the formation of igneous, sedimentary, and metamorphic rocks. | <p><u>The Practical Geologist: The Introductory Guide to the Basics of Geology and to Collecting and Identifying Rocks Paperback</u> by Dougal Dixon</p> <p><u>Beneath Our Feet : The Rocks of Planet Earth</u> by R. H. Vernon</p> <p><u>Let's Review: Earth Science- The Physical Setting</u>
By: Edward J. Barron</p> |
| 3.3.10.A1. Relate geochemical cycles to the conservation of matter. | <p><u>Let's Review: Earth Science- The Physical Setting</u>
By: Edward J. Barron</p> <p><u>The Practical Geologist: The Introductory Guide to the Basics of Geology and to Collecting and Identifying Rocks Paperback</u> by Dougal Dixon</p> |
| 3.3.10.A1. Explain how the Earth is composed of a number of dynamic, interacting systems exchanging energy or matter. | <p><u>Coal: A Human History</u> By: Barbara Freese</p> <p><u>Let's Review: Earth Science- The Physical Setting</u>
By: Edward J. Barron</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| 3.3.12.A1. Explain how parts are related to other parts in weather systems, solar systems, and earth systems, including how the output from one part can become an input to another part. Analyze the processes that cause the movement of material in the Earth's systems. Classify Earth's internal and external sources of energy such as radioactive decay, gravity, and solar energy. | <p><u>The Planets</u>: Dava Sobel
 <u>30 Second Astronomy</u>: Francois Fressin
 <u>Discovery: Astronomy</u></p> <p><u>Physiographic Map of PA</u>
 http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_016202.pdf</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| 3.3.12.A1. Analyze the processes that cause the movement of material in the Earth's systems. | <p><u>Let's Review: Earth Science- The Physical Setting</u>
By: Edward J. Barron</p> <p>Physiographic Map of PA</p> |

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| | http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_016202.pdf

<u>Exploring the Earth</u> By: John Wesley Powell

Field Study to Crystal Cave |
| 3.3.12.A1. Classify Earth's internal and external sources of energy such as radioactive decay, gravity, and solar energy. | <u>Chemistry: Matter and Change</u> , Chapter 20, 24

<u>Exploring the Earth</u> By: John Wesley Powell |
| Earth's Resources/ Materials, | |
| 3.3.10.A2. Analyze the effects on the environment and the carbon cycle of using both renewable and nonrenewable sources of energy. | Poconos Environmental Education Center Field Study

<u>Coal: A Human History</u> By: Barbara Freese |
| 3.3.12.A2. Analyze the availability, location, and extraction of Earth's resources. | Poconos Environmental Education Center Field Study

Physiographic Map of PA
http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_016202.pdf

<u>Coal: A Human History</u> By: Barbara Freese |
| 3.3.12.A2. Evaluate the impact of using renewable and nonrenewable energy resources on the Earth's system. | Poconos Environmental Education Center Field Study

<u>Exploring the Earth</u> By: John Wesley Powell

<u>Coal: A Human History</u> By: Barbara Freese |
| Earth's History | |
| 3.3.10.A3. Explain how the evolution of Earth has been driven by interactions between the lithosphere, hydrosphere, atmosphere, and biosphere. | <u>Let's Review: Earth Science- The Physical Setting</u>
By: Edward J. Barron

<u>Coal: A Human History</u> By: Barbara Freese

<u>Exploring the Earth</u> By: John Wesley Powell |
| 3.3.12.A3. Describe the absolute and relative dating methods used to measure geologic time, such as index fossils, radioactive dating, law of superposition, and crosscutting relationships. | <u>Let's Review: Earth Science- The Physical Setting</u>
By: Edward J. Barron

<u>Chemistry: Matter and Change</u> , Chapter 20, 24 |
| Sciences and Transfer of Energy | |
| 3.3.10.A4. Relate geochemical cycles to conservation of matter. | The Practical Geologist: The Introductory Guide to the Basics of Geology and to Collecting and |

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| | <p>Identifying Rocks Paperback by Dougal Dixon</p> <p><u>Chemistry: Matter and Change</u>, Chapter 20, 24</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| 3.3.10.A4. Explain how the Earth's systems and its various cycles are driven by energy. | <p><u>Chemistry: Matter and Change</u>, Chapter 20, 24</p> <p><u>Coal: A Human History</u> By: Barbara Freese</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| 3.3.12.A4. Classify Earth's internal and external sources of energy such as radioactive decay, gravity, and solar energy. | <p><u>Chemistry: Matter and Change</u>, Chapter 20, 24</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| 3.3.12.A4. Relate the transfer of energy through radiation, conduction, and convection to global atmospheric processes. | <p><u>Coal: A Human History</u> By: Barbara Freese</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| Water | |
| 3.3.10.A5. Explain how there is only one ocean. | Picture study of the globe |
| 3.3.10.A5. Explain the processes of the hydrologic cycle. | <p>Copywork of hydrologic cycle diagram</p> <p>The Practical Geologist: The Introductory Guide to the Basics of Geology and to Collecting and Identifying Rocks Paperback by Dougal Dixon</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| 3.3.10.A5. Explain the dynamics of oceanic currents and their relationship to global circulation within the marine environment. | Field Study to Aquarium |
| 3.3.12.A5. Explain how the ocean dominates the Earth's carbon cycle. | <p>Field Study to Aquarium</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| Weather and Climate | |
| 3.3.10.A6. Interpret meteorological data to describe and/or predict weather. | <p>Meteorologist guest speaker</p> <p>Philadelphia Phillies: Meteorology Day Field Study</p> |
| 3.3.10.A6. Explain the phenomena that cause global atmospheric processes such as storms, currents, and wind patterns. | <p><u>Everyday Weather and How It Works</u> by Herman Schneider</p> <p><u>Fitzroy: The Remarkable Story of Darwin's Captain and the Invention of the Weather Forecast</u> by John</p> |

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| | <p>Gribbin</p> <p><u>The Weather Identification Handbook: The Ultimate Guide for Weather Watchers</u> by Storm Dunlop</p> |
| 3.3.12.A6. Explain how the unequal heating of the Earth's surface leads to atmospheric global circulation changes, climate, local short term changes, and weather. | <p><u>Everyday Weather and How It Works</u> by Herman Schneider</p> <p><u>Fitzroy: The Remarkable Story of Darwin's Captain and the Invention of the Weather Forecast</u> by John Gribbin</p> <p><u>The Weather Identification Handbook: The Ultimate Guide for Weather Watchers</u> by Storm Dunlop</p> |
| 3.3.12.A6. Relate the transfer of energy through radiation, conduction, and convection to global atmospheric processes. | <p>Study Jam: Heat
 http://studyjams.scholastic.com/studyjams/jams/science/energy-light-sound/heat.htm</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| Unifying Themes | |
| 3.3.10.A7. SCALE/MODELS Interpret and create models of the Earth's physical features in various mapping representations. | <p>Physiographic Map of PA
 http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_016202.pdf</p> <p>Picture study and copywork of topographical map</p> |
| 3.3.10.A7. CONSTANCY AND CHANGE Relate constancy and change to the hydrologic and geochemical cycles. | <p>The Practical Geologist: The Introductory Guide to the Basics of Geology and to Collecting and Identifying Rocks Paperback by Dougal Dixon</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| 3.3.10.A7. SCALE Apply an appropriate scale to illustrate major events throughout geologic time. | <p>Physiographic Map of PA
 http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_016202.pdf</p> <p>Classroom timelines</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| 3.3.10.A7.. CONSTANCY/CHANGE Describe factors that contribute to global climate change. | <p><u>Coal: A Human History</u> By: Barbara Freese</p> <p>Crash Course Video
 https://www.youtube.com/watch?v=5eTCZ9L834s</p> |

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| 3.3.12.A7. MODELS Interpret and analyze a combination of ground-based observations, satellite data, and computer models to demonstrate Earth systems and their interconnections. | <p>Nature Study</p> <p>Physiographic Map of PA
 http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_016202.pdf</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| 3.3.12.A7. CONSTANCY/CHANGE Infer how human activities may impact the natural course of Earth's cycles. | <p>Poconos Environmental Education Center Field Study</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| 3.3.12.A7. PATTERNS Summarize the use of data in understanding seismic events, meteorology, and geologic time. | <p>Physiographic Map of PA
 http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_016202.pdf</p> <p>The Practical Geologist: The Introductory Guide to the Basics of Geology and to Collecting and Identifying Rocks Paperback by Dougal Dixon</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| Composition and Structure | |
| 3.3.10.B1. Explain how gravity is responsible for planetary orbits. | <p><u>For the Love of Physics</u> by Walter Lewin</p> |
| 3.3.10.B1. Explain what caused the sun, Earth, and most of the other planets to form between 4 and 5 billion years ago. | <p>Crash Course video: The Sun and The Earth
 https://www.youtube.com/watch?v=By6CkTN4wkl</p> <p><u>Exploring the Earth</u> By: John Wesley Powell</p> |
| 3.3.10.B1. Provide evidence to suggest the Big Bang Theory.. | <p>30 Second Astronomy: Francois Fressin
 Crash Course video
 https://www.youtube.com/watch?v=tq6be-CZJ3w</p> |
| 3.3.10.B1. Describe the basic nuclear processes involved in energy production in a star. | <p><u>For the Love of Physics</u> by Walter Lewin</p> |
| 3.3.12.B1. Describe the life cycle of stars based on their mass. | <p><u>For the Love of Physics</u> by Walter Lewin</p> |
| 3.3.12.B1. Analyze the influence of gravity on the formation and life cycles of galaxies, including our own Milky Way galaxy; stars; planetary systems; and residual material left from the creation of the solar system. | <p><u>For the Love of Physics</u> by Walter Lewin</p> |

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| 3.3.12.B1. Relate the nuclear processes involved in energy production in stars and supernovas to their life cycles. | <u>For the Love of Physics</u> by Walter Lewin |
| Unifying Themes | |
| 3.3.10.B2. SCALE AND MEASUREMENT Explain how scientists obtain information about the universe by using technology to detect electromagnetic radiation that is emitted, reflected, or absorbed by stars and other objects. | <u>The Planets</u> : Dava Sobel
<u>30 Second Astronomy</u> : Francois Fressin
<u>Discovery: Astronomy</u> |
| 3.3.10.B2. CONSTANCY AND CHANGE Describe changes in the universe over billions of years. | <u>The Planets</u> : Dava Sobel
<u>30 Second Astronomy</u> : Francois Fressin
<u>Discovery: Astronomy</u> |
| 3.3.10.B2. SCALE AND MEASUREMENT Explain the scale used to measure the sizes of stars and galaxies and the distances between them | <u>30 Second Astronomy</u> : Francois Fressin
<u>Discovery: Astronomy</u> |
| 3.3.12.B2. MODELS AND SCALE Apply mathematical models and computer simulations to study evidence collected relating to the extent and composition of the universe. | IMP |
| 3.3.12.B2. PATTERNS AND CONSTANCY AND CHANGE Analyze the evidence supporting theories of the origin of the universe to predict its future. | <u>30 Second Astronomy</u> : Francois Fressin
<u>Discovery: Astronomy</u> |

| Physical Sciences: Chemistry Standards | |
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| Properties of Matter | |
| 3.2.10.A1. Predict properties of elements using trends of the periodic table. | <u>The Periodic Kingdom</u> By: P.W. Atkins, all |
| 3.2.10.A1. Identify properties of matter that depend on sample size. | <u>The Periodic Kingdom</u> By: P.W. Atkins, all

<u>POGIL: Activities for High School Chemistry</u>
Laura Trout
-Characteristics of Matter |
| 3.2.10.A1. Explain the unique properties of water (polarity, high boiling point, forms hydrogen bonds, high specific heat) that support life on Earth. | <u>What is Chemistry?</u> By: P.W. Atkins, pages 25-27

<u>POGIL: Activities for High School Chemistry</u>
Laura Trout
-Properties of Water |
| 3.2.C.A1. Differentiate between physical properties and chemical properties. | Lab: Chemical and Physical Properties and Changes |
| 3.2.C.A1. Differentiate between pure substances and mixtures | Lab: Gold Penny |
| 3.2.C.A1. Differentiate between heterogeneous and homogeneous mixtures. | Lab: Gold Penny
<u>Chemistry: Matter and Change</u> , page 81 |
| 3.2.C.A1. Explain the relationship of an element's position on the periodic table to its atomic number, ionization energy, electro-negativity, atomic size, and classification of elements. | <u>The Periodic Kingdom</u> By: P.W. Atkins, all

<u>POGIL: Activities for High School Chemistry</u>
Laura Trout
-Periodic Trends |
| 3.2.C.A1. Use electronegativity to explain the difference between polar and non-polar covalent bonds. | <u>Chemistry: Matter and Change</u> , page 266

<u>What is Chemistry?</u> By: P.W. Atkins, Chapter 2 |
| 3.2.12.A1. Compare and contrast colligative properties of mixtures. | <u>Chemistry: Matter and Change</u> , page 489 |
| 3.2.12.A1. Compare and contrast the unique properties of water to other liquids. | <u>POGIL: Activities for High School Chemistry</u>
Laura Trout
-Properties of Water
Lab: Stacking Liquids |
| Structure of Matter | |

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| 3.2.10.A2. Compare and contrast different bond types that result in the formation of molecules and compounds. | <u>What is Chemistry?</u> By: P.W. Atkins, pages 20-28 |
| 3.2.10.A2. Explain why compounds are composed of integer ratios of elements. | Lab: Building Molecules (model kits)

<u>POGIL: Activities for High School Chemistry</u>
Laura Trout
-Relative Mass and Mole Ratios |
| 3.2.C.A2. Compare the electron configuration for the first twenty elements of the periodic table. | <u>What is Chemistry?</u> By: P.W. Atkins, pages 20-22

<u>POGIL: Activities for High School Chemistry</u>
Laura Trout
-Electron Configurations |
| 3.2.C.A2. Relate the position of an element on the periodic table to its electron configuration and compare its reactivity of other elements in the table. | <u>What is Chemistry?</u> By: P.W. Atkins, pages 20-22

<u>POGIL: Activities for High School Chemistry</u>
Laura Trout
-Electron Configurations |
| 3.2.C.A2. Explain how atoms combine to form compounds through both ionic and covalent bonding. | <u>What is Chemistry?</u> By: P.W. Atkins, pages 20-28

Lab: Building Molecules (model kits) |
| 3.2.C.A2. Predict chemical formulas based on the number of valence electrons. | <u>What is Chemistry?</u> By: P.W. Atkins, pages 20-28

<u>POGIL: Activities for High School Chemistry</u>
Laura Trout
-Electron Configurations |
| 3.2.C.A2. Draw Lewis dot structures for simple molecules and ionic compounds. | <u>Chemistry: Matter and Change</u> , page 242-243

Lewis Dot Structure Stations |
| 3.2.C.A2. Predict the chemical formulas for simple ionic and molecular compounds. | <u>POGIL: Activities for High School Chemistry</u>
Laura Trout
-Naming Ionic Compounds
-Naming Molecular Compounds

Lab: Compound Stations |
| 3.2.C.A2. Use the mole concept to determine number of particles and molar mass for elements and compounds. | <u>POGIL: Activities for High School Chemistry</u>
Laura Trout
-Mole Ratios

Lab: PCU (popcorn counting unit), mole
Lab: Making Chalk |

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| 3.2.C.A2. Determine percent compositions, empirical formulas, and molecular formulas. | Lab: Making Chalk |
| 3.2.12.A2. Distinguish among the isotopic forms of elements. | <u>What is Chemistry?</u> By: P.W. Atkins
Lab: M&M Isotopes |
| 3.2.12.A2. Explain the probabilistic nature radioactive decay based on sub-atomic rearrangement in the atomic nucleus. | <u>Chemistry: Matter and Change</u> , page 122-124 |
| 3.2.12.A2. Explain how light absorbed or emitted by electron orbital transitions. | <u>POGIL: Activities for High School Chemistry</u>
Laura Trout
-Electron, Energy, and Light

Lab: Flame Tests |
| Matter and Energy | |
| 3.2.C.A3. Describe the three normal states of matter in terms of energy, particle motion, and phase transitions | <u>Chemistry: Matter and Change</u> , Chapter 12 |
| 3.2.C.A3. Identify the three main types of radioactive decay and compare their properties. | <u>Chemistry: Matter and Change</u> , page 122-124
<u>The Crucibles</u> By: Bernard Jaffe |
| 3.2.C.A3. Describe the process of radioactive decay by using nuclear equations and explain the concept of half-life for an isotope. | <u>Chemistry: Matter and Change</u> , page 122-124 |
| 3.2.C.A3. Compare and contrast nuclear fission and nuclear fusion. | <u>The Crucibles</u> By: Bernard Jaffe

Field Study: Franklin and Marshall, Physics Department/ Discussion with Professor |
| 3.2.10.A3. Describe phases of matter according to the kinetic molecular theory. | <u>Chemistry: Matter and Change</u> , Chapter 12
<u>The Crucibles</u> By: Bernard Jaffe |
| 3.12.A3. Explain how matter is transformed into energy in nuclear reactions according to the equation $E=mc^2$. | <u>The Crucibles</u> By: Bernard Jaffe

Field Study: Franklin and Marshall, Physics Department/ Discussion with Professor |
| Reactions | |
| 3.2.10.A4. Describe chemical reactions in terms of atomic rearrangement and/or electron transfer. | <u>What is Chemistry?</u> By: P.W. Atkins, Chapter 4 |

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| 3.2.10.A4. Predict the amounts of products and reactants in a chemical reaction using mole relationships. | Lab: PCU (popcorn counting unit), mole

Lab: Making Chalk |
| 3.2.10.A4. Explain the difference between endothermic and exothermic reactions. | <u>What is Chemistry?</u> By: P.W. Atkins, Chapter 4

<u>POGIL: Activities for High School Chemistry</u>
Laura Trout
-Types of Reactions |
| 3.2.10.A4. Identify the factors that affect the rates of reactions. | <u>What is Chemistry?</u> By: P.W. Atkins, Chapter 4 |
| 3.2.C.A4. Predict how combinations of substances can result in physical and/or chemical changes. | <u>What is Chemistry?</u> By: P.W. Atkins, Chapter 4 |
| 3.2.C.A4. Interpret and apply the laws of conservation of mass, constant composition (definite proportions), and multiple proportions. | Lab: Conservation of Mass |
| 3.2.C.A4. Balance chemical equations by applying the laws of conservation of mass. | Lab: Conservation of Mass

<u>POGIL: Activities for High School Chemistry</u>
Laura Trout
-Relative Mass and the Mole |
| 3.2.C.A4. Classify chemical reactions as synthesis (combination), decomposition, single displacement (replacement, double displacement, and combustion. | <u>What is Chemistry?</u> By: P.W. Atkins, Chapter 4

<u>POGIL: Activities for High School Chemistry</u>
Laura Trout
-Types of Reactions |
| 3.2.C.A4. Use stoichiometry to predict quantitative relationships in a chemical reaction. | Lab: Chemical Reaction Stations |
| 3.2.12.A4. Apply oxidation/reduction principles to electrochemical reactions. | <u>What is Chemistry?</u> By: P.W. Atkins, Chapter 4

<u>Chemistry: Matter and Change</u> , page 713-714 |
| 3.2.12.A4. Describe the interactions between acids and bases. | <u>Chemistry: Matter and Change</u> , Chapter 18 |
| Unifying Themes | |
| 3.2.10.A5. Describe the historical development of models of the atom and how they contributed to modern atomic theory. | <u>The Crucibles</u> By: Bernard Jaffe |

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| 3.2.10.A5. Apply the mole concept to determine number of particles and molar mass for elements and compounds. | <u>POGIL: Activities for High School Chemistry</u>
Laura Trout
-Relative Mass and the Mole |
| 3.2.C.A5. Recognize discoveries from Dalton (atomic theory), Thomson (the electron), Rutherford (the nucleus), and Bohr (planetary model of atom), and understand how each discovery leads to modern theory. | <u>The Crucibles</u> By: Bernard Jaffe |
| 3.2.C.A5. Describe Rutherford's "gold foil" experiment that led to the discovery of the nuclear atom. | <u>The Crucibles</u> By: Bernard Jaffe |
| 3.2.C.A5. Identify the major components (protons, neutrons, and electrons) of the nuclear atom and explain how they interact. | <u>What is Chemistry?</u> By: P.W. Atkins, Chapter 2

Acting out "the human atom" |
| 3.2.12.A5. Use VSEPR theory to predict the molecular geometry of simple molecules. | <u>POGIL: Activities for High School Chemistry</u>
Laura Trout
-Molecular Geometry |
| 3.2.12.A5. Predict the shift in equilibrium when a system. | Lab: Formation of Salt |

| Physical Sciences: Physics Standards | |
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| Force and Motion of Particles and Rigid Bodies | |
| 3.2.10.B1. Analyze the relationships among the net forces acting on a body, the mass of the body, and the resulting acceleration using Newton's Second Law of Motion. | <p><u>For the Love of Physics</u> by Walter Lewin</p> <p><u>Five Equations that Changed the World</u> by Michael Gullen</p> <p>Lab: Newton's Skateboard</p> |
| 3.2.10.B1. Apply Newton's Law of Universal Gravitation to the forces between two objects. | <p><u>For the Love of Physics</u> by Walter Lewin</p> <p><u>Five Equations that Changed the World</u> by Michael Gullen</p> <p>Video: Work, Energy, and Universal Gravitation, Walter Lewin</p> |
| 3.2.10.B1. Use Newton's Third Law to explain forces as interactions between bodies. | <p><u>For the Love of Physics</u> by Walter Lewin</p> <p><u>Five Equations that Changed the World</u> by Michael Gullen</p> <p>Lab: Balloon Race</p> |
| 3.2.10.B1. Describe how interactions between objects conserve momentum. | <p><u>For the Love of Physics</u> by Walter Lewin</p> <p>Lab: Newton's Skateboard</p> <p>Phet Interactive- Energy Forms and Changes
Physicsclassroom.com- Momentum and Collisions</p> |
| 3.2.P.B1. Differentiate among translational motion, simple harmonic motion, and rotational motion in terms of position, velocity, and acceleration. | <p><u>For the Love of Physics</u> by Walter Lewin</p> <p>Video: Simple Harmonic Motion, Walter Lewin</p> <p>Lab: Foot-race</p> |

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| | Lab: Acceleration
Lab: Reaction Time
Lab: |
| 3.2.10.B1. Use force and mass to explain translational motion or simple harmonic motion of objects. | <u>For the Love of Physics</u> by Walter Lewin

Video: Simple Harmonic Motion,, Walter Lewin

<u>Five Equations that Changed the World</u> by Michael Gullen

Lab: Pendulums |
| 3.2.10.B1. Relate torque and rotational inertia to explain rotational motion. | <u>For the Love of Physics</u> by Walter Lewin

Phet Interactive- Torque |
| 3.2.12.B1. Analyze the principles of rotational motion to solve problems relating to angular momentum and torque. | Lab: Centripetal Force
Lab: Washer Lasso

Phet Interactive- Torque |
| Energy Storage and Conservations: Conservation Laws | |
| 3.2.10.B2. Explain how the overall energy flowing through a system remains constant. | <u>For the Love of Physics</u> by Walter Lewin

<u>Five Equations that Changed the World</u> by Michael Gullen |
| 3.2.10.B2. Describe the work-energy theorem. | <u>For the Love of Physics</u> by Walter Lewin

Video: Work, Energy, and Universal Gravitation, Walter Lewin

Phet Interactive- Energy Forms and Changes
Phet Interactive- Energy Skate Park Basics |

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| 3.2.10.B2. Explain the relationships between work and power. | <p><u>For the Love of Physics</u> by Walter Lewin</p> <p>Video: Work, Energy, and Universal Gravitation, Walter Lewin</p> <p>Phet Interactive- Energy Forms and Changes</p> <p>Phet Interactive- Energy Skate park Basics</p> |
| 3.2.P.B2. Explain the translation and simple harmonic motion of objects using conservation of energy and conservation of momentum. | <p><u>For the Love of Physics</u> by Walter Lewin</p> <p>Lab: Pendulums</p> <p>Phet Interactive- Energy Forms and Changes</p> <p>Phet Interactive- Energy Skate park Basics</p> |
| 3.2.10.B2. Describe the rotational motion of objects using the conservation of energy and conservation of angular momentum. | <p><u>For the Love of Physics</u> by Walter Lewin</p> <p>Phet Interactive- Lady Bug Revolution</p> <p>Lab: Washer Lassos</p> |
| 3.2.10.B2. Explain how gravitational, electrical, and magnetic forces and torques give rise to rotational motion. | <p><u>For the Love of Physics</u> by Walter Lewin</p> <p>Phet Interactive- Lady Bug Revolution</p> <p>Phet Interactive- Generator</p> |
| 3.2.12.B2. Explain how energy flowing through an open system can be lost. | <p><u>For the Love of Physics</u> by Walter Lewin</p> <p>Phet Interactive- Energy Forms and Changes</p> <p>Phet Interactive- Energy Skate park Basics</p> |
| 3.2.10.B2. Demonstrate how the law of conservation of momentum and conservation of energy provide alternate approaches to predict and describe the motion of objects. | <p>Through independent research they will explore other areas where they see this occurring and present to their peers, followed by a grand conversation.</p> <p>Phet Interactive- Energy Forms and Changes</p> <p>Phet Interactive- Energy Skate park Basics</p> |

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| 3.2.C.B2.Explore the natural tendency for systems to move in a direction of disorder or randomness (entropy). | <u>For the Love of Physics</u> by Walter Lewin
<u>What is Chemistry?</u> By: P.W. Atkins, Chapter 3 |
| 3.2.C.B3.Describe the law of conservation of energy. | <u>For the Love of Physics</u> by Walter Lewin
<u>What is Chemistry?</u> By: P.W. Atkins, Chapter 3 |
| 3.2.C.B3.Explain the difference between an endothermic process and an exothermic process | <u>For the Love of Physics</u> by Walter Lewin
<u>What is Chemistry?</u> By: P.W. Atkins, Chapter 3

Lab: Analysis of Exothermic Reaction |
| Heat/Heat Transfer | |
| 3.2.10.B3. Explain how heat energy will move from a higher temperature to a lower temperature until equilibrium is reached. | <u>For the Love of Physics</u> by Walter Lewin

Lab: Heat Transfer by Convection |
| 3.2.10.B3. Analyze the processes of convection, conduction, and radiation between objects or regions that are at different temperatures. | <u>For the Love of Physics</u> by Walter Lewin

Lab: Heat Transfer by Convection |
| 3.2.P.B3. Analyze the factors that influence convection, conduction, and radiation between objects or regions that are at different temperatures. | <u>For the Love of Physics</u> by Walter Lewin

Lab: Heat Transfer by Convection

Phet Interactive- Microwaves |
| 3.2.12.B3. Describe the relationship between the average kinetic molecular energy, temperature, and phase changes. | <u>For the Love of Physics</u> by Walter Lewin

Phet Interactive- Energy Forms and Changes
Phet Interactive: States of Matter, basics

Phet Interactive- Microwaves |
| Electrical and Magnetic Energy | |

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| <p>3.2.10.B4. Describe quantitatively the relationships between voltage, current, and resistance to electrical energy and power.</p> | <p><u>Five Equations that Changed the World</u> by Michael Gullen</p> <p><u>For the Love of Physics</u> by Walter Lewin</p> <p>Phet Interactive- Circuit Construction Kit
 Phet Interactive- John Travoltage
 Phet Interactive- Ohm's Law
 Phet Interactive- Battery Voltage</p> <p>Lab: Exploration of Circuits</p> |
| <p>3.2.10.B4. Describe the relationship between electricity and magnetism as two aspects of a single electromagnetic force.</p> | <p><u>Five Equations that Changed the World</u> by Michael Gullen</p> <p><u>For the Love of Physics</u> by Walter Lewin</p> <p>Phet Interactive- Radiowaves and Electromagnetic Fields
 Phet Interactive- Charges and Fields
 Phet Interactive- Faraday's Electromagnetic Law
 Phet Interactive- Electric Field Hockey
 Phet Interactive- Magnets and Electromagnets</p> |
| <p>3.2.P.B4. Explain how stationary and moving particles result in electricity and magnetism.</p> | <p><u>Five Equations that Changed the World</u> by Michael Gullen</p> <p><u>For the Love of Physics</u> by Walter Lewin</p> <p>Phet Interactive- Charges and Fields
 Phet Interactive- Faraday's Electromagnetic Law
 Phet Interactive- Electric Field Hockey</p> |
| <p>3.2.P.B4. Develop qualitative and quantitative understanding of current, voltage, resistance, and the connections among them.</p> | <p><u>Five Equations that Changed the World</u> by Michael Gullen</p> <p><u>For the Love of Physics</u> by Walter Lewin</p> <p>Phet Interactive- Circuit Construction Kit
 Phet Interactive- John Travoltage
 Phet Interactive- Ohm's Law
 Phet Interactive- Battery Voltage
 Phet Interactive-Resistance in a Wire</p> |

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| | Lab: Exploration of Circuits |
| 3.2.P.B4. Explain how electrical induction is applied in technology. | Independent research of Faraday's Law. The students will present their findings to the class. |
| 3.2.12.B4. Describe conceptually the attractive and repulsive forces between objects relative to their charges and the distance between them. | <u>Five Equations that Changed the World</u> by Michael Gullen

<u>For the Love of Physics</u> by Walter Lewin

Lab: Static Electricity |
| Nature of Waves | |
| 3.2.10.B5. Understand that waves transfer energy without transferring matter. | <u>For the Love of Physics</u> by Walter Lewin Chapters 5 and 6

Lab: Boomwhackers and Soundwaves |
| 3.2.10.B5. Compare and contrast the wave nature of light and sound. | <u>For the Love of Physics</u> by Walter Lewin Chapters 5 and 6

Lab: Boomwhackers and Soundwaves
Lab: Instrument Wave Exploration
Lab: Polarization and Sunglasses |
| 3.2.10.B5. Describe the components of the electromagnetic spectrum. | <u>For the Love of Physics</u> by Walter Lewin Chapters 5 and 6

Electromagnetic Spectrum Picture Study

Lab: Rainbow Exploration |
| 3.2.10.B5. Describe the difference between sound and light waves. | <u>For the Love of Physics</u> by Walter Lewin Chapters 5 and 6

Lab: Boomwhackers and Soundwaves
Lab: Instrument Wave Exploration
Lab: Polarization and Sunglasses

Physicsclassroom.com- Simple Wave Simulator |
| 3.2.P.B5. Explain how waves transfer energy without transferring matter. | <u>For the Love of Physics</u> by Walter Lewin Chapters 5 and 6 |

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| | Lab: Boomwhackers and Soundwaves |
| 3.2.P.B5. Explain how waves carry information from remote sources that can be detected and interpreted. | <p><u>For the Love of Physics</u> by Walter Lewin
Chapters 5 and 6</p> <p>Physicsclassroom.com- Simple Wave Simulator</p> |
| 3.2.P.B5. Describe the causes of wave frequency, speed, and wavelength. | <p><u>For the Love of Physics</u> by Walter Lewin
Chapters 5 and 6</p> <p>Lab: Boomwhackers and Soundwaves
Lab: Instrument Wave Exploration</p> |
| 3.2.12.B5.Research how principles of wave transmissions are used in a wide range of technologies. | <p>Sloan Digital Sky Survey Research Exploration</p> <p>Independent Internet Exploration and Class Presentation</p> |
| 3.2.P.B5. Research technologies that incorporate principles of wave transmission. | <p>Sloan Digital Sky Survey Research Exploration</p> <p>Independent Internet Exploration and Class Presentation</p> |
| Unifying Themes | |
| 3.2.10.B6. Explain how the behavior of matter and energy follow predictable patterns that are defined by laws. | <p><u>For the Love of Physics</u> by Walter Lewin</p> <p><u>Five Equations that Changed the World</u> by Michael Gullen</p> <p>Lab: Boomwhackers and Soundwaves
Lab: Newton's Skateboard
Lab:Foot Race
Lab:Balloon Race
Lab:Inertia-A Body in Motion</p> |
| 3.2.P.B6. Use Newton's laws of motion and gravitation to describe and predict the motion of objects ranging from atoms to the galaxies. | <p><u>For the Love of Physics</u> by Walter Lewin</p> <p><u>Five Equations that Changed the World</u> by Michael Gullen</p> <p>Physicsclassroom.com- Newton's Laws of Motion</p> |

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| | <p>Lab: Newton's Skateboard
 Lab: Balloon Race
 Lab: Inertia-A Body in Motion</p> <p>Phet Interactive- My Solar System
 Phet Interactive- Molecules and Light
 Phet Interactive- The Greenhouse Effect</p> |
| 3.2.12.B6. Compare and contrast motions of objects using forces and conservation laws. | <p><u>For the Love of Physics</u> by Walter Lewin</p> <p><u>Five Equations that Changed the World</u> by Michael Gullen</p> <p>Physicsclassroom.com- Newton's Laws of Motion</p> <p>Phet Interactive- My Solar System</p> <p>Lab: Boomwhackers and Soundwaves
 Lab: Newton's Skateboard
 Lab: Foot Race
 Lab: Balloon Race
 Lab: Inertia-A Body in Motion</p> |

Arts and Humanities

The following charts come from the original PA standards. Dogwood Charter School's art curriculum, taken from the various Fine Arts scopes and sequences, has been poured into the document to show how each standard is being met.

| 9.1. Production, Performance and Exhibition of Dance, Music, Theatre and Visual Arts | | | |
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| 9.1.3. GRADE 3 | 9.1.5. GRADE 5 | 9.1.8. GRADE 8 | 9.1.12. GRADE 12 |
| <i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</i> | | | |
| A. Know and use the elements and principles of each art form to create works in the arts and humanities.
• Elements

<input type="checkbox"/> Dance: • energy/force • space • time

Energy/Force:
. Coordination
accurately demonstrate non locomotor/ axial movements as they relate to dance
identify and perform locomotor movements as they relate to dance
move various parts of the body simultaneously
demonstrate the ability to move various parts of the body independently
Space
demonstrate a sense of balance
engage in flexibility exercises
demonstrate a sense of proper body alignment
Balance and Control
demonstrate the following partner skills: copying, leading and following, mirroring
develop through dance activities major muscle groups
Time
Rhythm
use time and rhythm while moving
respond to changes in tempo
demonstrate accuracy in moving to a musical beat and maintaining it

- Programs
Dancing Classrooms, Pierre Dulaine
National Ballet School of Canada Community and Dance Partnership in Development
-Texts:
<i>Step It Down: Games, Plays, Songs and Stories from the Afro-American Heritage; Sally Go Round the Sun</i>
-PE Instruction
-Resources:
- Deer Valley District Dance - Arizona State University - ARTS Council for Monterey County
- The Action Council of Monterey County | | | |

Arts and Humanities

□ **Music: • duration • intensity • pitch • timbre**

- Program: The Organization of American Kodaly Educators
- See CLUSA Composer Study List of Composers and Compositions to be listened to and discussed.
- Instrument Instruction K-12th grades
- Music texts:
Sound Thinking: Developing Musical Literacy; American Folk Songs for Children; Birds, Beasts, Bugs and Fishes Little and Big: Animal Folk Songs; American Folk Songs for Children; Arroz con Leche; Cuentos Y Canciones; 80 Comptines a Mmer et Jeux de Doight, De colores and Other Latin American Folksongs for Children; Step It Down: Games, Plays, Songs and Stories from the Afro-American Heritage; Sally Go Round the Sun; Bio in Satie, 3 Gymnopedies & 3 Gnossiennes for Piano edited by Murray Baylor (publisher Alfred)
- Music Class Instruction:

K-3rd

Singing

- Perform all songs with good intonation, good tempo, tone quality, articulation, appropriate dynamics, phrasing, and expression.
- Establish a homogeneous sound in group singing.
- Develop individual singing.
- Perform all songs with accurate intonation, clear diction, clear head tone, musical phrasing/breathing, appropriate dynamics and tempi.

Listening

1. Listen to a musical performance of a known or unknown song performed by the teacher or a fellow student.
2. Listen to a short musical excerpt on a recording.
1. Recognize tempos (fast, slow).
2. Recognize dynamics (loud, soft).
1. Recognize a variety of instruments, voices, dynamic levels.
2. Recognize pentatonic scale and tone sets in the context of listening examples and familiar songs.

4th-5th

Repertoire (Singing)

1. Add to the repertoire 20-25 new songs, games, canons, two-part arrangements and folk songs from other countries.
2. Perform 10-15 songs with solfa.
3. Learn 10-15 songs by sight-reading.
4. Learn 5-7 two-part songs.
1. Learn 20-25 new songs, canons, two- and three-part song arrangements.
2. Sing 10-15 songs with solmization.
3. Learn 10-15 songs by sight-reading.
4. Learn 5 two- and three-part songs.

Listening

1. Recognize major and minor triads in root positions.

Arts and Humanities

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| | <p>1. Recognize pentatonic scales.</p> <hr/> <p>6th-8th: Below is the 6th grade scope and sequence. Build and Expand upon if for 7th-8th.</p> <p>Repertoire</p> <p>1. Learn 20-25 new songs, canons, two- and three-part song arrangements. 2.</p> <p>Sing 10-15 songs with solmization.</p> <p>3. Learn 10-15 songs by sight reading.</p> <p>4. Sing 5 two- and three-part songs.</p> <p>Listening</p> <p>1. Recognize intervals.</p> <p>2. Recognize the minor scale in all of its forms.</p> <p>3. Recognize the modes.</p> <p>4. Recognize tonic, dominant and subdominant functions.</p> <p>5. Recognize performing groups: orchestra, string quartet, band.</p> <hr/> <p>9th-12th Build and Expand Upon:</p> <p>Repertoire</p> <p>1. Learn 20-25 new songs, canons, two- and three-part song arrangements. 2.</p> <p>Sing 10-15 songs with solmization.</p> <p>3. Learn 10-15 songs by sight reading.</p> <p>4. Sing 5 two- and three-part songs.</p> <p>Listening</p> <p>1. Recognize intervals.</p> <p>2. Recognize the minor scale in all of its forms.</p> <p>3. Recognize the modes.</p> <p>4. Recognize tonic, dominant and subdominant functions.</p> <p>5. Recognize performing groups: orchestra, string quartet, band.</p> | |
| <p>□ Theatre: • scenario • script/text • set design (for grades k-4)</p> <p>Scenario</p> <p>-Puppeteering</p> <p>. Finger-plays</p> <p>. Dramatic Narration of any story that's read</p> <p>· Identifies main events in a scene/play/story</p> <p>· Applies arts concepts, vocabulary, skills, and techniques through a creative/performance/responding process</p> <p>Identifies and describes main and minor characters</p> <p>· Describes time and place of setting</p> <p>Identifies differences between real and fantasy settings</p> <p>Works with a partner(s) to solve a dramatic problem(s)</p> <p>Script/Text</p> <p>Identifies main character(s)</p> <p>· Identifies general setting</p> | | |

Arts and Humanities

- Identifies general action in a scene/play/story
- Identifies main events in a scene/ play/story
- Identifies the conflict and resolution in a scene/play/story
- Uses articulation, pronunciation and enunciation
- Demonstrates a range of movements to create character
- Uses appropriate feelings to create character

Set Design

- Identifies simple costumes and props in scene/ play/story
- Describes time and place of setting
- Identifies sounds used to communicate setting and character in a scene/
- Demonstrates audience response skills

Texts:

Step It Down: Games, Plays; Songs and stories from the Afro-American Heritage; Clues to acting Shakespeare By Wesley Van Tassel; *No Fear Shakespeare, Starting with Shakespeare for Children* By Pauline Nelson & Todd Daubert; *Drama Games and Improves* By Justine Jones and Mary Ann Kell; *Introduction to Stage Lighting* by Charles I. Swift; *Others are Scene Design, How to use Make-up for Stage; Prop Master; Acting for Life; On Stage for Kids; Kids Take the Stage; Dramatizing Classic Poetry; Monologues; Scene and Character Study*

Dramatic narrations in various content areas.

- Dramatic Narrations
- Shakespeare:
(K-3rd) Watch annual Shakespeare practices and productions.

Identifies character traits of the main character(s)

- Identifies differences between real and fantasy settings
- Identifies the sequence of actions within a scene/play/story
- Puppeteering
- Finger-plays
- Dramatic Narration of any story that's read

(4th-12th) Read and Produce Shakespeare Plays:

Macbeth; Twelfth Night; Midsummer Night's Dream; Julius Caesar; Coriolanus; King John; Richard II, Henry V; Henry VIII; King Lear; Merchant of Venice; As You Like It; Much Ado about Nothing; Hamlet; The Tempest; Richard III; Loves' Labour Lost; Henry IV; Romeo and Juliet; All's Well that Ends Well; Pericles; Othello; Taming of the Shrew; Winter's Tale; Anthony and Cleopatra; Cymbeline; Troilus and Cressida

☐ **Visual Arts: • color • form/shape • line • space • texture • value**

Arts and Humanities

- Weekly Nature Journal Dry Brush Watercolor Painting
- See CLUSA Picture Study Artist List and Pieces to Study
- Art texts:
Georgia's Bones; In the Woods; A Blue Butterfly; What Makes a Monet A Monet?; A Weekend with Matisse; A Child's History of Art; What Makes a Cassatt a Cassatt; A First Book of Architecture; What Makes a Rembrandt a Rembrandts; A Weekend with Renoir; Castle; Cathedral; A Weekend with Velazquez; A Weekend with Degas; Degas Drawings; ; A Weekend with Homer; A Weekend with da Vinci What Makes a Leonardo da Vinci a Leonardo? Leonardo Paintings and Cards; A Weekend with van Gogh, What Makes a van Gogh a van Gogh; Benjamin West and His Cat Grimalkin; Young People's Story of Architecture; What Makes a Bruegel a Bruegel; "American Progress" Gast; The Group of Seven: Art for a Nation 1995; A First Book of Architecture; Michelangelo Life Drawings; First Impressions: Michelangelo; Norman Rockwell: Pictures for the American People; A History of Architecture: Settings and Rituals; First Impressions: James McNeill Whistler; Anna Richards Brewster: American Impressionist; Italic Letters: Calligraphy and Handwriting; Rueben's Drawings

- CLUSA Art Scope and Sequence:

"The Elements and Principles of Design are the language of the visual arts. They are the tools an artist uses to communicate ideas and feelings visually. The "threads" are the components of the piece (the subject, the materials used, etc.)."

| | |
|--------------------|------------------------------------------------|
| Elements of Design | line, color, shape form, texture, space, value |
|--------------------|------------------------------------------------|

Kindergarten-3rd :

4th-5th:

| | |
|--------------------|------------------------------------------------|
| Elements of Design | line, color, shape form, texture, space, value |
|--------------------|------------------------------------------------|

6th – 12th :

| | |
|--------------------|------------------------------------------------|
| Elements of Design | line, color, shape form, texture, space, value |
|--------------------|------------------------------------------------|

• Principles

Arts and Humanities

□ **Dance: • choreography • form • genre • improvisation • style • technique**

Choreography

Students will demonstrate an understanding of accent by performing a movement sequence using a given accent. Ex. clap, jump, hop, etc.

Students will walk to the beat of live or recorded music.

May be observed using any locomotor or non-locomotor movements that are performed by others.

Form

Movement Technique

Coordination

Accurately demonstrate non-locomotor axial movements as they relate to dance.

Identify and perform locomotor movements as they relate to dance

Genre

Ballet, Jazz, Modern, Tap, Terminology, folk dances, hip-hop

Improvisation

Students will clap to a given beat while listening to a hand jive tape by Greg and Steve.

Students will vary the speed of their walking to coincide with changes in the tempo.

May be observed using any locomotor or non-locomotor movement.

Demonstrate the differences between slow and fast and long and short duration through movement.

Work with a music teacher for students to create sounds they can move to.

Style

demonstrate a sense of proper body alignment

Technique

Demonstrate the differences between slow and fast and long and short duration through movement.

demonstrate the following partner skills: copying, leading and following, mirroring

Texts:

Step It Down: Games, Plays, Songs and stories from the Afro-American Heritage; Sally Go Round the Sun

□ **Music: • composition • form • genre • harmony • rhythm • texture**

- The Organization of American Kodaly Educators
- See CLUSA Composer Study List of Composers and their Compositions
- Music Texts:

Sound Thinking: Developing Musical Literacy; American Folk Songs for Children; Birds, Beasts, Bugs and Fishes Little and Big; Animal Folk Songs; American Folk Songs for Children; Arroz con Leche; Cuentos Y Canciones; 80 Comptines a Mmer et Jeux de Doight, De colores and Other Latin American Folksongs for Children; Step It

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Down: Games, Plays, Songs and Stories from the Afro-American Heritage; Sally Go Round the Sun; Bio in Satie, 3 Gymnopedies & 3 Gnossiennes for Piano edited by Murray Baylor (publisher Alfred)

Music Class

K-3rd:

Rhythm

- Sing songs with different motions expressing the heartbeat using clapping, walking, etc.
- Sing songs using different tempos: slow and fast.
- Use simple ostinatos to accompany a song.
- Know names and written symbols for *ta*, *ti-ti*, *rest*, accented beat and bar lines. Conduct in 2/4 meter.
- Perform ostinatos using *ta*, *ti-ti*, and *rest* consciously.
- Perform two-part rhythmic exercises and canons.
- Improvise short motives with *ta*, *ti-ti* and *rest*.
- Recognize tunes from clapped rhythm patterns.
- Conduct in 4/4 meter.
- Recognize and perform half note, whole note, half note rest, whole note rest.
- Perform two-part rhythmic exercises and canons.
- Perform the sixteenth note in all combinations.
- Perform beginning and inner upbeats in all known meters.
- Perform syncopation.
- Know the standard musical terminology for quarter, half, eighth, and whole notes.

Melody

- Discriminate between higher and lower sounds.
- Recognize ascending and descending phrases.
- Perform easy melodic echoes from song repertoire and unknown songs using four to eight beats.
- Perform melodic improvisation with text.
- Recognize familiar melodies when hummed or played.
- Practice dynamics using voices and instruments.
- Be able to perform solfa and hand signs for patterns using *s*, *m*, *l* and intervals formed by them (*s-m m-s s-l l-s m-l l-m*).
- Learn to recognize *s - m - l* from staff notation.
- Review *s - m - l*.
- Learn solfa and hand signs and written symbols for *d - r*.
- Review *d - r - m - s - l* and add *l*, and *s*.
- Begin learning absolute letter names.

Arts and Humanities

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| | <p>Inner Hearing</p> <p>-Sing the phrases of songs “inside your head” with inner hearing while keeping the beat.</p> <p>-Silently sing “inside” from the teacher’s hand signs.</p> <p>-Silently sing known songs with melodic syllables.</p> <p>-Silently read either full or partial melodies in stick notation.</p> <p>-Sing back short melodic or rhythmic motives from memory.</p> | |
| | <p>Memory</p> <ol style="list-style-type: none">1. Memorize rhythmic exercises from notation up to 32 beats in length.2. Write simple rhythms and melodies from memory up to 16 beats in length.3. Apply absolute letter names to a rhythmic exercise.4. Improvise movements appropriate to some aspect of the music, for example form, melody, text, or rhythm.5. Memorize rhythmic or melodic themes from music literature. | |
| | <p>Improvisation</p> <ol style="list-style-type: none">1. Move to known songs to express the beat.2. Improvise question and answer phrases.3. Improvise a motion to accompany a song.4. Improvise new words to a familiar song.5. Improvise a melody to a rhyme. <p>Improvisation</p> <ol style="list-style-type: none">1. Improvise rhythm patterns using 4 or 8 beats either by clapping or using instruments.2. Improvise short musical motives (<i>la – so – mi</i>) using hand signs, hand staff, or body signs.3. Improvise so – mi- la melodies to simple given rhythms 4 to 8 beats long, using the voice or a melodic instrument with known melodic syllables.4. Improvise a new rhythm and melody to one measure or more of a well-known song.5. Improvise question and answer motives using known rhythm or melody patterns or both. <p>Improvisation</p> <ol style="list-style-type: none">1. Improvise rhythms in a chain around the classroom.2. Improvise rhythms to the form of a simple folk song. | |

Arts and Humanities

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| | <p>3. Improvise rhythmic accompaniments to familiar songs.</p> <p>Improvisation</p> <p>1. Improvise short melodies for poems and rhymes using known musical elements. 2. Improvise melodies using known melodic syllables in simple song form (ABA AAAB ABAB). 3. Improvise movements that reflect the form of the song.</p> | |
| | <p>Part Work</p> <p>1. Sing a song and accompany it with the heartbeat.
3. Accompany a song with a rhythmic ostinato using <i>ta, ti-ti</i> or <i>rest</i>).
4. Accompany a song with a melodic ostinato using <i>l, s, or m</i>.</p> | |

Arts and Humanities

5. Sing simple rhythmic or melodic canons derived from familiar songs.
6. Perform two-part rhythmic exercises based on rhythms of known songs.
 1. Sing a well-known song and clap its rhythm in canon.
5. Switch parts when given a signal:
 - a. from beat to rhythm
 - b. from melody to rhythm to beat
 - c. from ostinato to melody to beat to rhythm
1. Sing a song with a combined rhythmic and melodic ostinato.
2. Conduct and cue entrances in a two-part work.

Form

1. Perform songs with correct phrasing.
2. Perform songs and change motions for each new phrase.
3. Do relay singing.
4. Alternate singing aloud and inside.
5. Recognize same, similar, and different phrases.

Form

1. Recognize same, similar or different phrases in a song either aurally or through music reading.
2. Use letters to describe a form: A B A.
3. Use repeat signs.

Form

1. Learn to read music with first and second endings.
2. Recognize rhythmic and melodic variation.
3. Create simple forms showing phrase variants (for example: A B A AAAA ABAC, etc.).

Form

1. Recognize simple song forms such as : ABAC AABC AABC

Reading and Writing

1. Read and write well-known rhythmic or melodic patterns from hand signs, stick notation or staff notation.
2. Write rhythmic patterns from memory or dictation.
3. Write melodic patterns from memory or dictation using stick or staff notation.

Reading and Writing

1. Expand reading and writing of rhythmic and melodic patterns from four to eight to sixteen beats.
2. Sight-sing melodic phrases and songs with solfa syllables.

Musical Reading and Writing

1. Sight-read in two parts.
2. Write a simple melody and compose a rhythmic accompaniment or an ostinato.
3. Apply absolute letter names to simple melodic exercises.

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4th-5th:

Rhythm

1. Practice sixteenth and eighth-note patterns.
1. Recognize all rhythms appearing in the song repertoire.
2. Recognize and perform the single eighth note as it is used in American folk songs.
3. $\frac{3}{4}$ $\frac{6}{8}$ meters.

Melody

1. Review *d - r - m - s l l, s, - d'*.
1. Recognize pentatonic scales.
2. Learn *fa* and *ti*.

Inner Hearing

1. Continue previous exercises.
1. Continue memory work involving melodic and rhythmic phrases.

Memory

1. Memorize two-part exercises and songs.
 2. Write simple two-part melodies from memory.
- Continue memory work involving melodic and rhythmic phrases.

Improvisation

1. Improvise to complete a missing section of a song in a given form.
 2. Improvise using two-part hand signs.
 3. Improvise short rhythmic canons.
1. Improvise several phrases of music using given forms.
 2. Improvise a melodic chain; begin each phrases with the last syllable of previous student.
 3. Sing simple major melodies in minor.

Part Work

1. Sing two-part songs.
 2. Switch parts upon signal.
1. Sing and read two- and three-part songs.
 2. Switch parts in two-part songs upon a signal.

Musical Reading and Writing

1. Write songs and exercises in known *do* placements.
2. Given four random phrases of a familiar folk song in stick notation, arrange the phrases in the correct order for the song.

Transpose songs from one key to another.

Form

1. Continue recognition of phrase forms.
1. Continue recognition of phrase forms.

6th-8th: Below is the 6th grade scope and sequence. Build and Expand upon if for 7th-8th .

Rhythm

1. Recognize all rhythms appearing in the song repertoire.
2. Learn more meters, including $\frac{2}{8}$, $\frac{3}{8}$, $\frac{4}{8}$ $\frac{1}{16}$, $\frac{3}{16}$, $\frac{2}{2}$, $\frac{3}{2}$ $\frac{4}{2}$, and compound meters: $\frac{6}{8}$, $\frac{9}{8}$.
3. Read rhythmic patterns with changing meter and asymmetric meter.
4. Learn to perform duplets and triplets.

Melody

1. Sing major and minor triads in root position.
2. Sing and identify intervals.

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3. Recognize all forms of the minor scale: natural, harmonic, melodic.
4. Learn *fi* and *si*.
5. Learn the names of the modes and be able to sing them.

Inner Hearing

1. Continue memory work involving melodic and rhythmic phrases.
2. Silently memorize and notate patterns before reproducing sounds aloud.
3. Sing a melody while performing a second part from memory, using hand signs or the piano.

Memory

1. Continue one- and two-part memory exercises involving melodic and rhythmic phrases.

Improvisation

1. Improvise several phrases of music in given forms.
2. Improvise a melodic chain: begin phrases with the last syllable of previous student.
3. Improvise a rhythmic accompaniment to a known song.
4. Given a sequence of specified musical elements, improvise a song in a given meter and style.
5. Given a rhythmic or melodic skeleton, change to more complex rhythms or melodic patterns without changing the length of the phrase.
6. Sing simple major melodies in minor.

Part Work

1. Sing and read two- and three-part songs.
2. Switch parts in two-part songs upon a signal.
3. Identify two-part intervals.
4. Identify and sing major and minor chords in root position.
5. Identify and sing simple chord progressions: I – IV – V – I.
6. Sing triads in first and second inversions.
7. Recognize intervals played both harmonically and melodically.

Musical Reading and Writing

1. Transpose songs from one key to another.
2. Given basic song material, improvise simple chordal accompaniments using tonic, dominant and subdominant chords.
3. Use both treble and bass clefs for reading and writing.

Form

1. Recognize period structure, including cadences.
2. Recognize binary and ternary forms.
3. Recognize theme and variation.
4. Recognize common art music forms: symphony, concerto, suite.
5. Recognize and perform simple art songs.
6. Follow simple scores while listening to music.

9th-12th: Build and Expand Upon:

Rhythm

1. Recognize all rhythms appearing in the song repertoire.
2. Learn more meters, including 2/8, 3/8, 4/8 1/16, 3/16, 2/2, 3/2 4/2, and compound meters: 6/8, 9/8.
3. Read rhythmic patterns with changing meter and asymmetric meter.
4. Learn to perform duplets and triplets.

Melody

1. Sing major and minor triads in root position.
2. Sing and identify intervals.
3. Recognize all forms of the minor scale: natural, harmonic, melodic.
4. Learn *fi* and *si*.

Arts and Humanities

5. Learn the names of the modes and be able to sing them.

Inner Hearing

1. Continue memory work involving melodic and rhythmic phrases.
2. Silently memorize and notate patterns before reproducing sounds aloud.
3. Sing a melody while performing a second part from memory, using hand signs or the piano.

Memory

1. Continue one- and two-part memory exercises involving melodic and rhythmic phrases.

Improvisation

1. Improvise several phrases of music in given forms.
2. Improvise a melodic chain: begin phrases with the last syllable of previous student.
3. Improvise a rhythmic accompaniment to a known song.
4. Given a sequence of specified musical elements, improvise a song in a given meter and style.
5. Given a rhythmic or melodic skeleton, change to more complex rhythms or melodic patterns without changing the length of the phrase.
6. Sing simple major melodies in minor.

Part Work

1. Sing and read two- and three-part songs.
2. Switch parts in two-part songs upon a signal.
3. Identify two-part intervals.
4. Identify and sing major and minor chords in root position.
5. Identify and sing simple chord progressions: I – IV – V- I.
6. Sing triads in first and second inversions.
7. Recognize intervals played both harmonically and melodically.

Musical Reading and Writing

1. Transpose songs from one key to another.
2. Given basic song material, improvise simple chordal accompaniments using tonic, dominant and subdominant chords.
3. Use both treble and bass clefs for reading and writing.

Form

1. Recognize period structure, including cadences.
2. Recognize binary and ternary forms.
 3. Recognize theme and variation.
4. Recognize common art music forms: symphony, concerto, suite.
5. Recognize and perform simple art songs.
6. Follow simple scores while listening to music.

□ **Theatre: • balance • collaboration • discipline • emphasis • focus • intention • movement • rhythm • style • voice (For Grades 5-12)**

Balance

· Identifies and describes the use of mood within the setting of a scene/play

Collaboration

Articulates how audience conventions and responsibilities differ according to

Arts and Humanities

style and culture Using Artistic Process

Refine and extend appropriate ensemble skills

Discipline

Analyzes and interprets character development in scripted works

- Analyzes and interprets setting in scripted works
- Analyzes and interprets dialogue in scripted works
- Analyzes and interprets actions in scripted works

Emphasis

Identifies multiple conflict resolutions within a plot in a scene/play

Focus

- Compares and contrasts main ideas in multiple scenes/plays

Uses appropriate focus techniques/Styles

- Identify the attributes of artworks
- Demonstrates audience conventions using Artistic Process

Identifies and describes the sequence of actions that make up the beginning, middle, and end of a scene/play

Refine and extend focus techniques

Intention

- Identifies and uses voice and movement to create character
- Uses emotional and sensory recall to create character
- Identifies and uses ensemble skills

Movement

- Identify how the audience and artist/performer interact

Make connections across the arts, to other disciplines, life, cultures and work.

Arts and Humanities

Rhythm

Expresses ideas and feelings through drama, synthesizing forms and styles

- Supports and defends the artistic elements chosen to communicate for a specific purpose

Style

- Develops work using a creative process
- Applies arts concepts, vocabulary, skills, and techniques through a creative/performance/responding process

Communicating through Drama· Identify how the audience and artist/performer interact

Using Artistic Process

Voice

- Practices/rehearses

Integrates voice and movement into character developmen

Texts:

Step It Down: Games, Plays, Songs and stories from the Afro-American Heritage;

Dramatic narrations in various content areas.

Shakespeare:(K-3rd)Watch annual Shakespeare practices and productions.

(4th-12th) Read and Produce Shakespeare Plays:

Macbeth; Twelfth Night; Midsummer Night's Dream; Julius Caesar; Coriolanus; King John; Richard II, Henry V; Henry VIII; King Lear; Merchant of Venice; As You Like It; Much Ado about Nothing; Hamlet; The Tempest; Richard III; Loves' Labour Lost; Henry IV; Romeo and Juliet; All's Well that Ends Well; Pericles; Othello; Taming of the Shrew; Winter's Tale; Anthony and Cleopatra; Cymbeline; Troilus and Cressida

☐ **Visual Arts: • balance • contrast • emphasis/focal point • movement/rhythm • proportion/scale • repetition • unity/harmony**

- Weekly Nature Journal Dry Brush Watercolor Painting;
- See CLUSA Picture Study Artist List and Pieces to Study for K-3rd
- Art Texts:

Georgia's Bones; In the Woods; A Blue Butterfly; What Makes a Monet A Monet?; A Weekend with Matisse; A Child's History of Art; What Makes a Cassatt a Cassatt; A

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First Book of Architecture; A Weekend with Renoir; Castle; Pyramid; Mosque; Cathedral; A Weekend with Velazquez; A Weekend with Degas; Degas Drawings; ; A Weekend with Homer; A Weekend with da Vinci What Makes a Leonardo da Vinci a Leonardo? Leonardo Paintings and Cards; A Weekend with van Gogh, What Makes a van Gogh a van Gogh; Benjamin West and His Cat Grimalkin; Young People's Story of Architecture; What Makes a Bruegel a Bruegel; "American Progress" Gast; The Group of Seven: Art for a Nation 1995; A First Book of Architecture; Michelangelo Life Drawings; First Impressions: Michelangelo; Monastery; Norman Rockwell: Pictures for the American People; A History of Architecture: Settings and Rituals; First Impressions: James McNeill Whistler; Anna Richards Brewster: American Impressionist; Italic Letters: Calligraphy and Handwriting; Rueben's Drawings

CLUSA Art Scope and Sequence:

"The Elements and Principles of Design are the language of the visual arts. They are the tools an artist uses to communicate ideas and feelings visually. The "threads" are the components of the piece (the subject, the materials used, etc.)."

Kindergarten-3rd :

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| Principles of Design | pattern, rhythm |
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4th-5th:

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| Principles of Design | pattern, rhythm, movement, contrast, balance, emphasis |
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6th – 12th :

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|----------------------|---------------------------------------------------------------|
| Principles of Design | pattern, rhythm, movement, contrast, balance, emphasis, unity |
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Arts and Humanities

B. Recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts.

• Dance: • move • perform • read and notate dance • create and choreograph • improvise

Move

Coordination

move various parts of the body simultaneously

identify and perform locomoter movements as they relate to dance

accurately demonstrate nonlocomoter/ axial movements as they relate to dance

demonstrate the ability to move various parts of the body independently

Perform

perform locomoter movements as they relate to dance

demonstrate sensitivity to beat when performing patterned movements in folk dance or improvisations

demonstrate a sense of proper body alignment

maintain proper body alignment while performing strength and flexibility exercises

demonstrate a sense of balance

demonstrate the following partner skills: copying, leading and following, mirroring

Arts and Humanities

Read and Notate Dance

History, Culture, Labanotation, Dance Careers

Create & Coreograph

Choreography, Improvisation, Critical Evaluation

Ballet, Jazz, Modern, Tap, Terminology, folk dances, hip-hop

Improvise

respond to changes in music

demonstrate movements that reflect rhythmic patterns

demonstrate sensitivity to beat when performing patterned movements in folk dance or improvisations

Body Awareness

Students will demonstrate an understanding of accent by performing a movement sequence using a given accent.

Demonstrate the differences between slow and fast and long and short duration through movement.

• Music: • sing • play an instrument • read and notate music • compose and arrange • improvise

- Program: The Organization of American Kodaly Educators

- Music texts:

Sound Thinking: Developing Musical Literacy; American Folk Songs for Children; Birds, Beasts, Bugs and Fishes Little and Big: Animal Folk Songs; American Folk Songs for Children; Arroz con Leche; Cuentos Y Canciones; 80 Comptines a Mmer et Jeux de Doight, De colores and Other Latin American Folksongs for Children; Step It Down: Games, Plays, Songs and Stories from the Afro-American Heritage; Sally Go Round the Sun; Bio in Satie, 3 Gymnopedies & 3 Gnossiennes for Piano edited by Murray Baylor (publisher Alfred)

- Instrument Instruction K-12th Scope and Sequence:

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| Kindergarten
– Year 3 | INSTRUMENT: Piano
INSTRUCTION: weekly lesson; practice 4x a week; field studies: Gabriel Chamber Ensemble, Bach Festival, Local Concerts, Third Brigade, Special Visits by Local Bands and Masters
ASSESSMENT: Recitals, Assembly Performances |
| Years Four
- Five | INSTRUMENT: Piano, Second Instrument (orchestral instruments including strings)
INSTRUCTION: weekly lesson; practice 4x a week; rehearsals; field studies: Schuylkill County Children's Symphony, The Breaker Boys, Allentown Philharmonic, Special Visits by Local Bands and Masters, Local Concerts
ASSESSMENT: Recitals, Assembly Performances, Concerts |
| Years Six
-Eight | INSTRUMENT Second Instrument, Small Group Bands and Orchestra
INSTRUCTION: weekly lesson; practice 4x a week; rehearsals; field studies: Schuylkill County Symphony, Philadelphia Philharmonic, Special Visits by Local Bands and Masters, Local Concerts
ASSESSMENT: Recitals, Assembly Performances, Concerts |
| Years Nine
-Twelve | INSTRUMENT Second and/or Third Instrument, Small Group Bands, Orchestra
INSTRUCTION: weekly lesson; practice 4x a week; rehearsals; field studies: New York City Philharmonic, Kennedy Center, Special Visits by Local Bands and Masters, Local Concerts
ASSESSMENT: Recitals, Assembly Performances, Concerts |

Music Class Scope and Sequence

K-3rd:**Singing**

- Perform all songs with good intonation, good tempo, tone quality, articulation, appropriate dynamics, phrasing, and expression.
- Establish a homogeneous sound in group singing.
- Develop individual singing.
- Be familiar with a repertoire of 30-35 folk songs and singing games annually.
- Know by memory 10-20 songs and be able to sing these with solfa and rhythm names, and eventually melodic solmization.
- Perform all songs with accurate intonation, clear diction, clear head tone, musical phrasing/breathing, appropriate dynamics and tempi.
- Learn 10-15 songs by sight reading.
- Know and perform 5-7 canons, partner songs or easy two-part song arrangements.

Musical Memory

1. Learn all songs, games and chants by rote.
2. Perform melodic echoes.

Musical Memory

1. Respond to echo clapping.
2. Memorize short melodies through hand signs.
3. Memorize phrases of 4-8 beats from songs using stick or staff notation.

Memory

Arts and Humanities

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| | <p>1. Memorize simple two-part exercises.</p> <p>Memory</p> <ol style="list-style-type: none"> 1. Memorize rhythmic exercises from notation up to 32 beats in length. 2. Write simple rhythms and melodies from memory up to 16 beats in length. 3. Apply absolute letter names to a rhythmic exercise. 4. Improvise movements appropriate to some aspect of the music, for example form, melody, text, or rhythm. 5. Memorize rhythmic or melodic themes from music literature. <p>Part Work</p> <ol style="list-style-type: none"> 1. Sing a song and accompany it with the heartbeat. 2. Participate in echo games. 3. Do alternate singing. <p>Part Work</p> <ol style="list-style-type: none"> 1. Sing antiphonally. 2. Practice intervals simultaneously with hand signs (<i>m – s</i> or <i>m – l</i>). 3. Accompany a song with a rhythmic ostinato using <i>ta</i>, <i>ti-ti</i> or <i>rest</i>). 4. Accompany a song with a melodic ostinato using <i>l</i>, <i>s</i>, or <i>m</i>. 5. Sing simple rhythmic or melodic canons derived from familiar songs. 6. Perform two-part rhythmic exercises based on rhythms of known songs. <p>Part Work</p> <ol style="list-style-type: none"> 1. Sing a well-known song and clap its rhythm in canon. 2. Perform a simple two-part exercise individually. 3. Sing in two parts from: <ol style="list-style-type: none"> a. staff notation b. stick notation c. hand signs with one part moving at a time 4. Sing simple two-part song arrangements. 5. Switch parts when given a signal: <ol style="list-style-type: none"> a. from beat to rhythm b. from melody to rhythm to beat c. from ostinato to melody to beat to rhythm <p>Part Work</p> <ol style="list-style-type: none"> 1. Sing a song with a combined rhythmic and melodic ostinato. 2. Conduct and cue entrances in a two-part work. <p>Form</p> <ol style="list-style-type: none"> 1. Perform songs with correct phrasing. 2. Perform songs and change motions for each new phrase. 3. Do relay singing. 4. Alternate singing aloud and inside. 5. Recognize same, similar, and different phrases. <p>Form</p> <ol style="list-style-type: none"> 1. Recognize same, similar or different phrases in a song either aurally or through music reading. 2. Use letters to describe a form: A A B A. 3. Use repeat signs. | |
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| | <p>Form</p> <ol style="list-style-type: none"> 1. Learn to read music with first and second endings. 2. Recognize rhythmic and melodic variation. 3. Create simple forms showing phrase variants (for example: A A B A AAAA ABAC, etc.). <p>Form</p> <ol style="list-style-type: none"> 1. Recognize simple song forms such as : ABAC AABC AABC <p>Reading and Writing</p> <ol style="list-style-type: none"> 1. Read and write well-known rhythmic or melodic patterns from hand signs, stick notation or staff notation. 2. Write rhythmic patterns from memory or dictation. 3. Write melodic patterns from memory or dictation using stick or staff notation. <p>Reading and Writing</p> <ol style="list-style-type: none"> 1. Expand reading and writing of rhythmic and melodic patterns from four to eight to sixteen beats. 2. Sight-sing melodic phrases and songs with solfa syllables. <p>Musical Reading and Writing</p> <ol style="list-style-type: none"> 1. Sight-read in two parts. 2. Write a simple melody and compose a rhythmic accompaniment or an ostinato. 3. Apply absolute letter names to simple melodic exercises. | |
| | <p>4th-5th:</p> <p>Repertoire (Singing)</p> <ol style="list-style-type: none"> 1. Add to the repertoire 20-25 new songs, games, canons, two-part arrangements and folk songs from other countries. 2. Perform 10-15 songs with solfa. 3. Learn 10-15 songs by sight-reading. 4. Learn 5-7 two-part songs. <ol style="list-style-type: none"> 1. Learn 20-25 new songs, canons, two- and three-part song arrangements. 2. Sing 10-15 songs with solmization. 3. Learn 10-15 songs by sight-reading. 4. Learn 5 two- and three-part songs. <p>Rhythm</p> <ol style="list-style-type: none"> 1. Practice sixteenth and eighth-note patterns. <ol style="list-style-type: none"> 1. Recognize all rhythms appearing in the song repertoire. 2. Recognize and perform the single eighth note as it is used in American folk songs. 3. $\frac{3}{4}$ $\frac{6}{8}$ meters. <p>Melody</p> <ol style="list-style-type: none"> 1. Review <i>d - r - m - s l l, s, - d'</i>. <ol style="list-style-type: none"> 1. Recognize pentatonic scales. 2. Learn <i>fa</i> and <i>ti</i>. <p>Inner Hearing</p> <ol style="list-style-type: none"> 1. Continue previous exercises. 1. Continue memory work involving melodic and rhythmic phrases. <p>Memory</p> <ol style="list-style-type: none"> 1. Memorize two-part exercises and songs. 2. Write simple two-part melodies from memory. <p>Continue memory work involving melodic and rhythmic phrases.</p> | |

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Improvisation

1. Improvise to complete a missing section of a song in a given form.
 2. Improvise using two-part hand signs.
 3. Improvise short rhythmic canons.
1. Improvise several phrases of music using given forms.
 2. Improvise a melodic chain; begin each phrases with the last syllable of previous student.
 3. Sing simple major melodies in minor.

Part Work

1. Sing two-part songs.
 2. Switch parts upon signal.
1. Sing and read two- and three-part songs.
 2. Switch parts in two-part songs upon a signal.

Musical Reading and Writing

1. Write songs and exercises in known *do* placements.
 2. Given four random phrases of a familiar folk song in stick notation, arrange the phrases in the correct order for the song.

Transpose songs from one key to another.

Form

1. Continue recognition of phrase forms.
1. Continue recognition of phrase forms.

Listening

1. Recognize major and minor triads in root positions.
1. Recognize pentatonic scales.

6th-8th: Below is the 6th grade scope and sequence. Build and Expand upon if for 7th-8th .

Rhythm

1. Recognize all rhythms appearing in the song repertoire.
2. Learn more meters, including 2/8, 3/8, 4/8 1/16, 3/16, 2/2, 3/2 4/2, and compound meters: 6/8, 9/8.
3. Read rhythmic patterns with changing meter and asymmetric meter.
4. Learn to perform duplets and triplets.

Melody

1. Sing major and minor triads in root position.
2. Sing and identify intervals.
3. Recognize all forms of the minor scale: natural, harmonic, melodic.
4. Learn *fi* and *si*.
5. Learn the names of the modes and be able to sing them.

Inner Hearing

1. Continue memory work involving melodic and rhythmic phrases.
2. Silently memorize and notate patterns before reproducing sounds aloud.
3. Sing a melody while performing a second part from memory, using hand signs or the piano.

Memory

1. Continue one- and two-part memory exercises involving melodic and rhythmic phrases.

Improvisation

1. Improvise several phrases of music in given forms.
2. Improvise a melodic chain: begin phrases with the last syllable of previous student.
3. Improvise a rhythmic accompaniment to a known song.
4. Given a sequence of specified musical elements, improvise a song in a given meter and style.
5. Given a rhythmic or melodic skeleton, change to more complex rhythms or melodic patterns without changing the length of the phrase.
6. Sing simple major melodies in minor.

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Part Work

1. Sing and read two- and three-part songs.
2. Switch parts in two-part songs upon a signal.
3. Identify two-part intervals.
4. Identify and sing major and minor chords in root position.
5. Identify and sing simple chord progressions: I –IV – V- I.
6. Sing triads in first and second inversions.
7. Recognize intervals played both harmonically and melodically.

Musical Reading and Writing

1. Transpose songs from one key to another.
2. Given basic song material, improvise simple chordal accompaniments using tonic, dominant and subdominant chords.
3. Use both treble and bass clefs for reading and writing.

Form

1. Recognize period structure, including cadences.
2. Recognize binary and ternary forms.
3. Recognize theme and variation.
4. Recognize common art music forms: symphony, concerto, suite.
5. Recognize and perform simple art songs.
6. Follow simple scores while listening to music.

9th-12th Build and Expand Upon:

Rhythm

1. Recognize all rhythms appearing in the song repertoire.
2. Learn more meters, including 2/8, 3/8, 4/8 1/16, 3/16, 2/2, 3/2 4/2, and compound meters: 6/8, 9/8.
3. Read rhythmic patterns with changing meter and asymmetric meter.
4. Learn to perform duplets and triplets.

Melody

1. Sing major and minor triads in root position.
2. Sing and identify intervals.
3. Recognize all forms of the minor scale: natural, harmonic, melodic.
4. Learn *fi* and *si*.
5. Learn the names of the modes and be able to sing them.

Inner Hearing

1. Continue memory work involving melodic and rhythmic phrases.
2. Silently memorize and notate patterns before reproducing sounds aloud.
3. Sing a melody while performing a second part from memory, using hand signs or the piano.

Memory

1. Continue one- and two-part memory exercises involving melodic and rhythmic phrases.

Improvisation

1. Improvise several phrases of music in given forms.
2. Improvise a melodic chain: begin phrases with the last syllable of previous student.
3. Improvise a rhythmic accompaniment to a known song.
4. Given a sequence of specified musical elements, improvise a song in a given meter and style.
5. Given a rhythmic or melodic skeleton, change to more complex rhythms or melodic patterns without changing the length of the phrase.
6. Sing simple major melodies in minor.

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Part Work

1. Sing and read two- and three-part songs.
2. Switch parts in two-part songs upon a signal.
3. Identify two-part intervals.
4. Identify and sing major and minor chords in root position.
5. Identify and sing simple chord progressions: I –IV – V- I.
6. Sing triads in first and second inversions.
7. Recognize intervals played both harmonically and melodically.

Musical Reading and Writing

1. Transpose songs from one key to another.
2. Given basic song material, improvise simple chordal accompaniments using tonic, dominant and subdominant chords.
3. Use both treble and bass clefs for reading and writing.

Form

1. Recognize period structure, including cadences.
2. Recognize binary and ternary forms.
3. Recognize theme and variation.
4. Recognize common art music forms: symphony, concerto, suite.
5. Recognize and perform simple art songs.
6. Follow simple scores while listening to music.

• Theatre: • stage productions • read and write scripts • improvise • interpret a role • design sets • direct (For Grades 5-12)

Annual Shakespeare productions

Dramatic Narrations in various content areas

Stage Productions

· Identifies and describes costumes, set, props, sound as elements of design in a scene/play

Create and perform with instructor direction

Make connections across the arts, to other disciplines, life, cultures and work.

Practices/rehearses

Read & Write Scripts

Compares and contrasts main ideas in multiple scenes/plays

Identify the attributes of artworks

Shakespeare Studies

. Develops work using a creative process

Analyzes and interprets character development in scripted works

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- Analyzes and interprets setting in scripted works
- Analyzes and interprets dialogue in scripted works
- Analyzes and interprets actions in scripted works

Dramatic narration of any story read

Improvise

- Refines and extends emotional and sensory recall to create character
- Refine and extend appropriate ensemble skills
- Refine and extend focus techniques

Styles:

- Transfers understandings from one artistic style to a larger group of artworks

Interpret a Role

Develops work using a creative process independently

- Applies arts concepts, vocabulary, skills, and techniques through a creative/performance/responding process independently

Communicating through Drama

- Expresses ideas and feelings through drama, synthesizing forms and styles
- Supports and defends the artistic elements chosen to communicate for a specific purpose

Design Sets

- Identifies and describes costumes, set, props, sound as elements of design in a scene/play

Direct

Integrates and adapts skills within the arts and other content areas (creative

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writing, and scientific processes)

- Analyzes how the arts impact economic choices
- Identifies specific attributes of theatre that reflect culture and history
- Describe work habits and skills for careers in theatre choices
- Applies knowledge of how drama shapes and reflects culture and history throughout time
- Researches theatre careers

• Visual Arts: • paint • draw • craft • sculpt • print • design for environment, communication, multi-media

- Weekly Nature Journal Dry Brush Watercolor Painting
- Handwork Projects
- See CLUSA Picture Study Artist List and Pieces to Study for K-3rd Reproductions and Sketches
- Handwork:
- CLUSA Art Scope and Sequence:

“The Elements and Principles of Design are the language of the visual arts. They are the tools an artist uses to communicate ideas and feelings visually. The “threads” are the components of the piece (the subject, the materials used, etc.).”

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| K- Year Five Threads | <p>drawing, painting, printing, clay (ceramics), sculpture, weaving/fibers, art history</p> <p>HANDWORK:
 Beading, Weaving, Wet Felting, Wood: Bird Feeders
 Paper Making, Whittling & Wood Carving
 Crocheting, Pottery, Knitting , Sewing
 Kite Making & Flying, Butterfly Houses, cross stitch,
 polymer clay, stained glass/mosaics</p> |
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Dogwood Charter School's Curriculum and the PA Standards

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| Years Six – Twelve
Threads | <p>drawing, painting, printing, clay (ceramics), sculpture, weaving/fibers, art history</p> <p>HANDWORK:</p> <p>Design a Class Quilt, Videography, Pottery, Wood Working, Origami, Scroll Work, Landscaping, Calligraphy, Photography, Wood Relief Carving, Welding, Flower Gardening and Design (flower arranging), Jewelry and Fine Metal Work, Iron Sculptures , Loom Weaving</p> | |
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Dogwood Charter School's Curriculum and the PA Standards

Arts and Humanities

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| <p>C. Recognize and use fundamental vocabulary within each of the arts forms.</p> <p>Narration Journals, Exams- essays; The Organization of American Kodaly Educators</p> <p><i>Georgia's Bones; In the Woods; A Blue Butterfly; What Makes a Monet A Monet?; A Bird or 2: A Story about Henri Matisse; A Weekend with History of Art; Sound Thinking: Developing Musical Literacy; American Folk Songs for Children; Birds, Beasts, Bugs and Fishes Little and Big: Animal Folk Songs; American Folk Songs for Children; Arroz con Leche; Cuentos Y Canciones; 80 Comptines a Mmer et Jeux de Doight, De colores and Other Latin American Folksongs for Children; Step It Down: Games, Plays, Songs and stories from the Afro-American Heritage; Mary Cassett: Impressionist Painter; What Makes a Cassatt a Cassatt; A First Book of Architecture; A Weekend</i></p> | <p>C. Know and use fundamental vocabulary within each of the arts forms.</p> <p>Narration Journals, Exams- essays; The Organization of American Kodaly Educators</p> <p><i>A Child's History of Art; Shakespeare Plays: Macbeth; Twelfth Night; Midsummer Night's Dream; Julius Caesar; Coriolanus; King John; A Weekend with Velazquez; A Weekend with Degas; Degas Drawings; ; A Weekend with Homer; Cuentos Y Canciones; 80 Comptines a Mmer et Jeux de Doight; American Folk Songs for Children A First Book in Architecture; A Weekend with da Vinci What Makes a Leonardo da Vinci a Leonardo? Leonardo Paintings and Cards; A Weekend with van Gogh, What Makes a van Gogh a van Gogh? Sound Thinking: Developing Musical Literacy; Benjamin West and His Cat, Grimalkin</i></p> <p>D. Describe and use knowledge of a specific style within each art form through a</p> | <p>C. Identify and use comprehensive vocabulary within each of the arts forms.</p> <p>Narration Journals, Exams- essays; The Organization of American Kodaly Educators</p> <p><i>Bio in Satie, 3 Gymnopedies & 3 Gnossiennes for Piano</i> edited by Murray Baylor (publisher Alfred); Shakespeare Plays: <u>Richard II, Henry V; Henry VIII; King Lear; Merchant of Venice; As You Like It; Much Ado about Nothing; Hamlet; The Tempest;</u> <i>A Child's History of Art; Young People's Story of Architecture; What Makes a Bruegel a Bruegel; "American Progress" Gast; The Group of Seven: Art for a Nation 1995; A First Book of Architecture; Michelangelo Life Drawings; First Impressions: Michelangelo; Castle; Cathedral;</i></p> | <p>C. Integrate and apply advanced vocabulary to the arts forms.</p> <p>Narration Journals, Exams- essays; The Organization of American Kodaly Educators</p> <p>LIST BOOKS HERE: Shakespeare Plays: <u>Richard III; Loves' Labour Lost; Henry IV; Romeo and Juliet; All's Well that Ends Well; Pericles; Othello; Taming of the Shrew; Winter's Tale; Anthony and Cleopatra; Cymbeline; Troilus and Cressida; Norman Rockwell: Pictures for the American People; The Story of Architecture; A History of Architecture: settings and Rituals; First Impressions: James McNeill Whistler; Anna Richards Brewster: American Impressionist; Italic Letters: Calligraphy and Handwriting; Rueben's Drawings;</u></p> |
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| <p><i>with Renoir; Castle and Cathedral</i></p> <p>D. Use knowledge of varied styles within each art form through a performance or exhibition of unique work.</p> <p>The Organization of American Kodaly Educators;
Block of Art (Pottsville); Schuylkill County Arts Council Exhibition;
Many Worlds Gallery; Watch Shakespeare Productions; Recitals; Choral and Band performances</p> <p>E. Demonstrate the ability to define objects, express emotions, illustrate an action or relate an experience through creation of works in the arts.</p> <p><u>THEATER:</u>
Dramatic Narrations in various content areas; weekly recitations;</p> <p><u>DANCE:</u>
-Free Dance to music during Composer Study</p> <p>In upper grades, all students are participating all of the time, either as dancers, active watchers, teaching artist assistants</p> | <p>performance or exhibition of a unique work. The Organization of American Kodaly Educators;
Block of Art (Pottsville); Schuylkill County Arts Council Exhibition;
Many Worlds Gallery; Shakespeare Production; Recitals; Choral and Band performances</p> <p>E. Know and demonstrate how arts can communicate experiences, stories or emotions through the production of works in the arts.</p> <p><u>THEATER:</u>
Dramatic Narrations in various content areas; weekly recitations; Shakespeare readings and performances;</p> <p><u>DANCE:</u>
--Texts: <i>Step It Down: Games, Plays, Songs and Stories from the Afro-American Heritage</i>; <i>Sally Go Round the Sun</i>
<i>Dancing Classrooms</i></p> <p>-PE lessons: -PE: Daily drill, dancing, or games
-National Ballet School of Canada Community and Dancing Classrooms
; Pierre Dulaine</p> <p><u>ART:</u></p> | | <p>Dance
Stage Terminology, Theater Etiquette, Costuming, Auditioning, Dance Production Jobs.</p> <ul style="list-style-type: none"> • Dance Art • Bookmaking • Dance In Art Latin, with Merengue and Rumba, and Ballroom which includes Foxtrot, Waltz, and Tango, plus Swing and Toe-Heel Polka, and the fun "Line" dances <p>Students learn steps, rhythm, body posture and style as well as the history and background.</p> <p>Understanding the basics and performing them in a correct form while working cooperatively with a partner leads directly into recreational dancing, for sheer pleasure or for competition, where couples can exhibit their accomplishments before judges.</p> <ul style="list-style-type: none"> • <p>-PE: Daily drill, dancing, or games</p> |
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| <p>or deejay's, creating a community of learners</p> <p>-Texts: <i>Step It Down: Games, Plays, Songs and Stories from the Afro-American Heritage; Sally Go Round the Sun</i></p> <p>-PE lessons: Rhythmic Musical/Singing Games; marches;</p> <p>Dancing Classrooms provides An organized, disciplined syllabus of Ballroom and Latin dances, stressing comportment as "ladies and gentlemen" partner work and a knowledge of specific steps to each form of music.</p> <p>-National Ballet School of Canada Community and Dance</p> <p><u>ART:</u></p> <p>-Illustrated Narrations in various content areas;</p> <p>-Copywork in various content areas</p> <p>- Weekly Nature Journal</p> <p>Dry Brush Watercolor Painting</p> <p>-Handwork Projects</p> <p>-See CLUSA Picture Study Artist List and Pieces to Study for K-3rd (produce reproductions)</p> | <p>-Illustrated Narrations in various content areas;</p> <p>-Copywork in various content areas</p> <p>- Weekly Nature Journal</p> <p>Dry Brush Watercolor Painting</p> <p>-Handwork Projects</p> <p>-See CLUSA Picture Study Artist List and Pieces to Study for K-3rd (produce reproductions)</p> <p>-CLUSA Art Scope and Sequence: drawing, painting, printing, clay (ceramics), sculpture, weaving/fibers, art history</p> <p><u>MUSIC:</u></p> <p>-The Organization of American Kodaly Educators;</p> <p>-Weekly Instrument Instruction</p> <p>-Composer Study Lessons (see CS scope and sequence)</p> <p><u>Kodaly Music Class:</u></p> <p><u>Singing</u></p> <ol style="list-style-type: none"> 1. Add to the repertoire 20-25 new songs, games, canons, two-part arrangements and folk songs from other countries. 2. Perform 10-15 songs with solfa. 3. Learn 10-15 songs by sight-reading. 4. Learn 5-7 two-part songs. <ol style="list-style-type: none"> 1. Learn 20-25 new songs, canons, two- and three-part song arrangements. 2. Sing 10-15 songs with solmization. 3. Learn 10-15 songs by sight-reading. 4. Learn 5 two- and three-part songs. | | <ul style="list-style-type: none"> • <i>Dancing Classrooms:</i> <p>Prior to the program being implemented at a school, the <i>Dancing Classrooms</i> Monterey Bay School Liaison will meet with the school principal, fifth grade classroom teachers, PE and/or Art teachers to explain how the <i>Dancing Classrooms</i> process will unfold.</p> <ul style="list-style-type: none"> • Body Awareness • Nutrition • Sportsmanship • Health & Wellness • cardiovascular activity |
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| <p>-CLUSA Art Scope and Sequence:
drawing, painting, printing, clay (ceramics), sculpture, weaving/fibers, art history</p> <p>MUSIC:</p> <p>-The Organization of American Kodaly Educators;</p> <p>-CLUSA Instrument Instruction scope and sequence:</p> <p>INSTRUMENT: Piano</p> <p>INSTRUCTION: weekly lesson; practice 4x a week; field studies: Gabriel Chamber Ensemble, Bach Festival, Local Concerts, Third Brigade, Special Visits by Local Bands and Masters</p> <p>ASSESSMENT: Recitals, Assembly Performances</p> <p>-Composer Study Lessons (see CS scope and sequence)</p> <p>-Kodaly Music Class: Singing</p> <ul style="list-style-type: none"> - Perform all songs with good intonation, good tempo, tone quality, articulation, appropriate dynamics, phrasing, and expression. - Establish a homogeneous sound in group singing. - Develop individual singing. - Perform all songs with accurate intonation, clear diction, clear head tone, musical phrasing/breathing, appropriate dynamics and tempi. <p>Listening</p> | <p>Listening</p> <ol style="list-style-type: none"> 1. Recognize major and minor triads in root positions. 1. Recognize pentatonic scales. <p>Improvisation</p> <ol style="list-style-type: none"> 1. Improvise to complete a missing section of a song in a given form. 2. Improvise using two-part hand signs. 3. Improvise short rhythmic canons. 1. Improvise several phrases of music using given forms. 2. Improvise a melodic chain; begin each phrases with the last syllable of previous student. 3. Sing simple major melodies in minor. <p>F. Describe works of others through performance or exhibition in two art forms. The Organization of American Kodaly Educators; Picture Study List or Artists, Composer Study List of Artists, Displayed Copywork and Original work; trimester exams- essays; Recitals; Band and Choral Performances</p> <p>G. Identify the function and benefits of rehearsal and practice sessions. The Organization of American Kodaly Educators; Shakespeare Productions; annual</p> | | |
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| <p>1. Listen to a musical performance of a known or unknown song performed by the teacher or a fellow student.</p> <p>2. Listen to a short musical excerpt on a recording.</p> <p>1. Recognize tempos (fast, slow).</p> <p>2. Recognize dynamics (loud, soft).</p> <p>1. Recognize a variety of instruments, voices, dynamic levels.</p> <p>2. Recognize pentatonic scale and tone sets in the context of listening examples and familiar songs</p> <p>Improvisation</p> <p>1. Move to known songs to express the beat.</p> <p>2. Improvise question and answer phrases.</p> <p>3. Improvise a motion to accompany a song.</p> <p>4. Improvise new words to a familiar song.</p> <p>5. Improvise a melody to a rhyme.</p> <p>1. Improvise rhythm patterns using 4 or 8 beats either by clapping or using instruments.</p> <p>2. Improvise short musical motives (<i>la – so – mi</i>) using hand signs, hand staff, or body signs.</p> <p>3. Improvise <i>so – mi- la</i> melodies to simple given rhythms 4 to 8 beats long, using the voice or a melodic instrument with known melodic syllables.</p> <p>4. Improvise a new rhythm and melody to one measure or more of a well-known song.</p> <p>5. Improvise question and answer motives using known rhythm or melody patterns or both.</p> | <p>Choral, Dance and Band performances, Recitals</p> <p>H. Use and maintain materials, equipment and tools safely at work and performance spaces.</p> <p>• Describe some materials used. Exams, narration journals, performances, producing Shakespeare; Handwork Projects</p> <p>• Describe issues of cleanliness related to the arts. Art class and Handwork clean up, Chore Time; narrations and exams; Handwork Projects and clean up</p> <p>• Describe types of mechanical/electrical equipment usage. Keyboards, amplifiers, microphones; narrations, exams; tools for handwork projects: stained glass/mosaics, cooking, baking, woodworking</p> <p>• Know how to work in selected physical space/environments. Dance room, Art room, Music room, Handwork space; performances</p> | | <p>D. Demonstrate specific styles in combination through the production or performance of a unique work of art (e.g., a dance composition that combines jazz dance and African dance). The Organization of American Kodaly Educators; Block of Art (Pottsville); Schuylkill County Arts Council Exhibition; Many Worlds Gallery; Shakespeare Production; Recitals; Choral and Band performances
<i>Dancing Classrooms</i></p> <p>E. Delineate a unifying theme through the production of a work of art that reflects skills in media processes and techniques. The Organization of American Kodaly Educators; Weekly Instrument Instruction, Weekly art class, Copywork, Illustrated and Dramatic Narrations in all content areas;</p> |
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| <p>1. Improvise rhythms in a chain around the classroom.
2. Improvise rhythms to the form of a simple folk song.
3. Improvise rhythmic accompaniments to familiar songs. 1. Improvise short melodies for poems and rhymes using known musical elements. 2. Improvise melodies using known melodic syllables in simple song form (ABA AAAB ABAB).
3. Improvise movements that reflect the form of the song.</p> <p>F. Identify works of others through a performance or exhibition (e.g., exhibition of student paintings based on the study of Picasso).
The Organization of American Kodaly Educators;
Picture Study List or Artists, Composer Study List of Artists, Displayed Copywork and Original work; trimester exams- essays; Recitals; Band and Choral Performances</p> <p>G. Recognize the function of rehearsals and practice sessions.
The Organization of American Kodaly Educators;
Watch Shakespeare Productions; annual</p> | <p>• Identify the qualities of safe props/stage equipment.
Produce Shakespeare plays; Dramatic narrations in various content areas; Handwork Projects</p> <p>• Describe methods for storing materials in the arts. Chore Time, Dance room, Art room, Music room, Handwork space</p> | <p>D. Demonstrate knowledge of at least two styles within each art form through performance or exhibition of unique works. The Organization of American Kodaly Educators;
Block of Art (Pottsville); Schuylkill County Arts Council Exhibition; Many Worlds Gallery; Shakespeare Production; Recitals; Choral and Band performances</p> <p>E. Communicate a unifying theme or point of view through the production of works in the arts. The Organization of American Kodaly Educators;
Weekly Instrument Instruction, Weekly art class, Copywork, Illustrated and Dramatic Narrations in all content areas; Picture Study Reproductions</p> <p>DANCE:
-PE: Daily drill, dancing, or games</p> | <p>Picture Study Reproductions</p> <p>F. Analyze works of arts influenced by experiences or historical and cultural events through production, performance or exhibition. The Organization of American Kodaly Educators;
Picture Study List or Artists, Composer Study List of Artists, Displayed Copywork and Original work; trimester exams- essays; Recitals; Band and Choral Performances</p> <p>G. Analyze the effect of rehearsal and practice sessions. The Organization of American Kodaly Educators;
Shakespeare Productions; annual Choral, Dance and Band performances, Recitals</p> <p>H. Incorporate the effective and safe use of materials, equipment and tools into the production of works in the arts at work and performance spaces.
• Evaluate the use</p> |
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| <p>Choral, Dance and Band performances, Recitals</p> <p>H. Handle materials, equipment and tools safely at work and performance spaces.</p> <ul style="list-style-type: none"> • Identify materials used. <p>Exams, narration journals, performances, watch Shakespeare; Dramatic Narrations in various content areas; Handwork Projects</p> <ul style="list-style-type: none"> • Identify issues of cleanliness related to the arts. <p>Art class and Handwork clean up, Chore Time</p> <ul style="list-style-type: none"> • Recognize some mechanical/electrical equipment. <p>Keyboards, amplifiers, microphones; Handwork project tools</p> <ul style="list-style-type: none"> • Recognize differences in selected physical space/environments. <p>Dance room, Art room, Music room, Handwork space</p> <ul style="list-style-type: none"> • Recognize the need to select safe props/stage equipment. <p>Watch Shakespeare practices</p> <ul style="list-style-type: none"> • Identify methods for storing materials in the arts. <p>Chore Time, Dance room, Art room, Music room, Handwork space</p> | | | <p>and applications of materials. Exams, narration journals, performances, Produce Shakespeare plays; Dramatic narrations in various content areas</p> <p>use traditional and contemporary devises to design props and visual presentation of different Shakespeare productions, plays and other performances in school</p> <ul style="list-style-type: none"> • Evaluate issues of cleanliness related to the arts. Art class and Handwork clean up, Chore Time; Exams and narrations; Handwork Projects • Evaluate the use and applications of safe props/stage equipment. Shakespeare Productions; Recitals; Musical productions; narrations; essay exams <p>use traditional and contemporary devises to design props and visual presentation of different Shakespeare productions, plays and other performances in school</p> <ul style="list-style-type: none"> • Evaluate differences among selected |
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| <p>I. Identify arts events that take place in schools and in communities.
 Narrations and essay exams about field studies and guest visitors:
 Gabriel Chamber Ensemble; Schuylkill County Symphony and Children's Orchestra; Block of Art; Many Worlds Gallery; Schuylkill County Arts Coalition; Schuylkill County Council for the Arts events; Penn State-Schuylkill Theater and Musical performances, Shakespeare Festival, Allentown; Bach Festival, Bethlehem; Philadelphia Museum of Art; Allentown Museum of Art; Goggle Works, Reading</p> <p>J. Know and use traditional and contemporary technologies for producing, performing and exhibiting works in the arts or the works of others.
 • Know and use traditional technologies (e.g., charcoal, pigments, clay, needle/thread, quill pens, stencils, tools for</p> | | | <p>physical space/environment.
 Narrations and Essay Exams; Rehearsals; Shakespeare Productions; Recitals; Musical productions; Dramatic Narrations; Illustrated Narrations; Handwork Projects</p> <p>use traditional and contemporary devises to design props and visual presentation of different Shakespeare productions, plays and other performances in school</p> <p>• Evaluate the use and apply safe methods for storing materials in the arts.
 Narrations and Essay Exams, Chore Time, Dance room, Art room, Music room, Handwork space; Shakespeare rehearsals and productions; Handwork Projects</p> <p>I. Distinguish among a variety of regional arts events and resources and analyze methods of selection and admission.
 Narrations and essay exams about field studies and guest visitors: Gabriel</p> |
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| <p>wood carving, looms, stage equipment).
Handwork Scope and Sequence; Art Scope and Sequence; Picture Studies, Art Gallery Visits, Student Work Displays, Narrations of Handwork projects, stringed instruments and orchestral instruments,</p> <p>• Know and use contemporary technologies (e.g., CDs/software, audio/sound equipment, polymers, clays, board-mixers, photographs, recorders).
Instrument Instruction; Handwork; Composer Study CD players; Smart Board Youtube clips, Download prints from Galleries around the world, electric keyboard for piano instruction; small band recording equipment (YMCA); Finale Music Notation Software;</p> <p>K. Know and use traditional and contemporary technologies for furthering knowledge and understanding in the humanities. (ancient</p> | <p>I. Describe arts events that take place in schools and in communities.
Narrations and essay exams about field studies and guest visitors: Gabriel Chamber Ensemble; Schuylkill County Symphony and Children's Orchestra; Block of Art; Many Worlds Gallery; Schuylkill County Arts Coalition; Schuylkill County Council for the Arts events; Penn State-Schuylkill Theater and Musical performances, Shakespeare Festival, Allentown; Bach Festival, Bethlehem; Philadelphia Museum of Art; Allentown Museum of Art; Goggle Works, Reading; NYC Broadway shows; Historical Society performances; Sovereign Majestic programs</p> <p>J. Apply traditional and contemporary technologies for producing, performing and exhibiting works in the arts or the works of others.
• Experiment with</p> | <p>F. Explain works of others within each art form through performance or exhibition. The Organization of American Kodaly Educators; Picture Study List or Artists, Composer Study List of Artists, Displayed Copywork and Original work; trimester exams- essays; Recitals; Band and Choral Performances; Produce Shakespeare plays; Dramatic narrations in various content areas</p> <p>G. Explain the function and benefits of rehearsal and practice sessions. The Organization of American Kodaly Educators; annual Choral, Dance and Band performances, Recitals; Produce Shakespeare plays; Dramatic narrations in various content areas</p> <p>H. Demonstrate and maintain materials, equipment and tools safely at work and performance spaces.
• Analyze the use of materials. Exams, narration journals,</p> | <p>Chamber Ensemble; Schuylkill County Symphony and Children's Orchestra; Block of Art; Many Worlds Gallery; Schuylkill County Arts Coalition; Schuylkill County Council for the Arts events; Penn State- Schuylkill Theater and Musical performances, Shakespeare Festival, Allentown; Bach Festival, Bethlehem; Philadelphia Museum of Art; Allentown Museum of Art; Goggle Works, Reading; NYC Broadway shows; Historical Society performances; Sovereign Majestic programs</p> <p>J. Analyze and evaluate the use of traditional and contemporary technologies for producing, performing and exhibiting works in the arts or the works of others.</p> <p>Handwork Projects</p> |
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| <p>and modern languages, literature, law, history, philosophy, religion, and visual and performing arts (including music))</p> <p>Jeanette Instrument Instruction; Handwork Scope and Sequence; Picture Study; Composer Study; Smart Board Web Browsing, Youtube, Movies about artists and composers and dance performances and plays</p> <p>FIELD STUDIES: Gabriel Chamber Ensemble; Schuylkill County Symphony and Children's Orchestra; Block of Art; Many Worlds Gallery; Visiting artists from Schuylkill County Artists and the Schuylkill County Council for the Arts events; Penn State-Schuylkill Theater and Musical performances, Shakespeare Festival, Allentown; Bach Festival, Bethlehem; Philadelphia Museum of Art; Allentown Museum of Art; Goggle Works, Reading; Historical Society performances; Sovereign Majestic programs</p> | <p>traditional technologies (e.g., ceramic/wooden tools, earthen clays, masks, instruments, folk shoes, etching tools, folk looms).</p> <p>FIELD STUDIES:</p> <p>The Mad Potter (clay) and The Grateful Thread (loom)</p> <p>Art Scope and Sequence; Handwork Scope and Sequence</p> <p>• Experiment with contemporary technologies (e.g., color fills on computers, texture methods on computers, fonts/point systems, animation techniques, video teleconferencing, multimedia techniques, internet access, library computer card catalogues).</p> <p>Finale Music Notation Software; Youtube;</p> | <p>performances, producing Shakespeare</p> <p>• Explain issues of cleanliness related to the arts. Art class and Handwork clean up, Chore Time; exams and narrations</p> <p>• Explain the use of mechanical/electrical equipment. Shakespeare Productions; Recitals; Musical productions; narrations; essay exams</p> <p>• Demonstrate how to work in selected physical space/environment. Rehearsals; Shakespeare Productions; Recitals; Musical productions; Dramatic Narrations; Illustrated Narrations</p> <p>• Demonstrate the selection of safe props/stage equipment. Narrations and Essay Exams, Chore Time, Dance room, Art room, Music room, Handwork space; Shakespeare rehearsals and productions</p> <p>• Demonstrate methods for storing materials in the arts. Narrations and Essay Exams, Chore Time, Dance room, Art room, Music room, Handwork space; Shakespeare</p> | <p>Year Nine</p> <p>Composition: Analyses & Evaluations</p> <p>use traditional and contemporary devises to design props and visual presentation of different Shakespeare productions, plays and other performances in school</p> <p>• Analyze traditional technologies (e.g., acid printing, etching methods, musical instruments, costume materials, eight track recording, super 8 movies).</p> <p>Year Nine</p> <p>Composition: Analyses & Evaluations</p> <p>use traditional and contemporary devises to design props and visual presentation of different Shakespeare productions, plays and other performances in school</p> <p>• Analyze contemporary technologies (e.g., virtual reality design, instrument</p> |
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| | | <p>rehearsals and productions</p> <p>I. Know where arts events, performances and exhibitions occur and how to gain admission.</p> <p>Narrations and essay exams about field studies and guest visitors: Gabriel Chamber Ensemble; Schuylkill County Symphony and Children's Orchestra; Block of Art; Many Worlds Gallery; Schuylkill County Arts Coalition; Schuylkill County Council for the Arts events; Penn State-Schuylkill Theater and Musical performances, Shakespeare Festival, Allentown; Bach Festival, Bethlehem; Philadelphia Museum of Art; Allentown Museum of Art; Goggle Works, Reading; NYC Broadway shows; Historical Society performances; Sovereign Majestic programs</p> <p>J. Incorporate specific uses of traditional and contemporary technologies within the design for producing, performing and exhibiting works in the</p> | <p>enhancements, photographic tools, broadcast equipment, film cameras, preservation tools, web graphics, computer generated marching band designs).</p> <p>Year Nine Composition: <u>Analyses & Evaluations</u></p> <p>use traditional and contemporary devises to design props and visual presentation of different Shakespeare productions, plays and other performances in school</p> |
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| | | <p>arts or the works of others.</p> <ul style="list-style-type: none"> • Explain and demonstrate traditional technologies (e.g., paint, tools, sponges, weaving designs, instruments, natural pigments/glazes). <p>Art Scope and Sequence; "Threads: drawing, painting, printing, clay (ceramics), sculpture, weaving/fibers</p> <p>Handwork Scope and Sequence Design a Class Quilt, Videography, Pottery, Wood Working, Origami, Scroll Work, Landscaping, Calligraphy</p> <p>use traditional and contemporary devises to design props and visual presentation of different Shakespeare productions, plays and other performances in school</p> <ul style="list-style-type: none"> • Explain and demonstrate contemporary technologies (e.g., MIDI keyboards, internet design, | |
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Dogwood Charter School's Curriculum and the PA Standards

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| | | computers, interactive technologies, audio/sound equipment, board-mixer, video equipment, computerized lighting design).

use traditional and contemporary devises to design props and visual presentation of different Shakespeare productions, plays and other performances in school

Handwork Projects: Use sewing machine to design a Class Quilt, Videography, Pottery, Wood Working, Scroll Work, Landscaping | |
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| | <p>Music; Smart Board Web Browsing, Youtube; Movies about artists and composers and dance performances and plays</p> <p>FIELD STUDIES: Gabriel Chamber Ensemble; Schuylkill County Symphony and Children's Orchestra; Block of Art; Many Worlds Gallery; Visiting artists from Schuylkill County Artists and the Schuylkill County Council for the Arts events; Penn State-Schuylkill Theater and Musical performances, Shakespeare Festival, Allentown; Bach Festival, Bethlehem; Philadelphia Museum of Art; Allentown Museum of Art; Goggle Works, Reading; Historical Society performances; Sovereign Majestic programs</p> | <p>Videography, Pottery, Wood Working, Origami, Scroll Work, Landscaping, Calligraphy Picture Study; Composer Study; Smart Board Web Browsing; Youtube; Movies about artists and composers and dance performances and plays</p> <p>FIELD STUDIES: Gabriel Chamber Ensemble; Schuylkill County Symphony and Children's Orchestra; Block of Art; Many Worlds Gallery; Visiting artists from Schuylkill County Artists and the Schuylkill County Council for the Arts events; Penn State-Schuylkill Theater and Musical performances, Shakespeare Festival, Allentown; Bach Festival, Bethlehem; Philadelphia Museum of Art; Allentown Museum of Art; Goggle Works, Reading; NYC Broadway shows; Historical Society performances; Sovereign Majestic programs</p> | <p>Browsing; Youtube; Movies about artists and composers and dance performances and plays</p> <p>FIELD STUDIES: Gabriel Chamber Ensemble; Schuylkill County Symphony and Children's Orchestra; Block of Art; Many Worlds Gallery; Visiting artists from Schuylkill County Artists and the Schuylkill County Council for the Arts events; Penn State-Schuylkill Theater and Musical performances, Shakespeare Festival, Allentown; Bach Festival, Bethlehem; Philadelphia Museum of Art; Allentown Museum of Art; Goggle Works, Reading; NYC Broadway shows; Historical Society performances; Sovereign Majestic programs</p> |
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9.2. Historical and Cultural Contexts**9.2.3. GRADE 3****9.2.5. GRADE 5****9.2.8. GRADE 8****9.2.12. GRADE 12**

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to identify, compare,

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contrast and analyze works in the arts in their historical and cultural context appropriate for each grade level in concert with districts' social studies, literature and language standards.

A. Explain the historical, cultural and social context of an individual work in the arts.

CLASS ACTIVITIES:

- For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
- Essay exams and oral, written, illustrated narrations.
- picture studies and composer studies in various content areas
- Classroom Timeline and Book of Centuries in various content areas

FINE ARTS Book List K-12th :

Georgia's Bones; In the Woods; A Blue Butterfly; What Makes a Monet A Monet?; A Weekend with Matisse; A Child's History of Art; American Folk Songs for Children; Sally Go Round the Sun; Birds, Beasts, Bugs and Fishes Little and Big: Animal Folk Songs; American Folk Songs for Children; Arroz con Leche; Cuentos Y Canciones; 80 Comptines a Mmer et Jeux de Doight, De colores and Other Latin American Folksongs for Children; Step It Down: Games, Plays, Songs and Stories from the Afro-American Heritage; What Makes a Cassatt a Cassatt; A First Book of Architecture; A Weekend with Renoir; Pyramid, Mosque, Castle; Cathedral; A Child's History of Art; Shakespeare Plays: Macbeth; Twelfth Night; Midsummer Night's Dream; Julius Caesar; Coriolanus; King John; A Weekend with Velazquez; A Weekend with Degas; Degas Drawings; ; A Weekend with Homer; A First Book in Architecture; A Weekend with da Vinci What Makes a Leonardo da Vinci a Leonardo? Leonardo Paintings and Cards; A Weekend with van Gogh, What Makes a van Gogh a van Gogh; Benjamin West and His Cat Grimalkin; Bio in Satie, 3 Gymnopedies & 3 Gnossiennes for Piano edited by Murray Baylor (publisher Alfred); Shakespeare Plays: Richard II, Henry V; Henry VIII; King Lear; Merchant of Venice; As You Like It; Much Ado about Nothing; Hamlet; The Tempest; English Literature for Boys and Girls H.E. Marshall;

A Child's History of Art; Young People's Story of Architecture; What Makes a Bruegel a Bruegel; "American Progress" Gast; The Group of Seven: Art for a Nation; A First Book of Architecture; Michelangelo Life Drawings; First Impressions: Michelangelo; Monastery; Shakespeare Plays: Richard III; Loves' Labour Lost; Henry IV; Romeo and Juliet; All's Well that Ends Well; Pericles; Othello; Taming of the Shrew; Winter's Tale; Anthony and Cleopatra; Cymbeline; Troilus and Cressida; Norman Rockwell: Pictures for the American People; A History of Architecture: Settings and Rituals; First Impressions: James McNeill Whistler; Anna Richards Brewster: American Impressionist; Italic Letters: Calligraphy and Handwriting; Rueben's Drawings

B. Relate works in the arts chronologically to historical events (e.g., 10,000 B.C. to present).

CLASS ACTIVITIES:

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- For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
- Essay exams and oral, written, illustrated narrations.
- picture studies and composer studies in various content areas
- Classroom Timeline and Book of Centuries in various content areas

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B. Relate works in the arts to varying styles and genre and to the periods in which they were created (e.g., Bronze Age, Ming Dynasty, Renaissance, Classical, Modern, Post-Modern, Contemporary, Futuristic, others).

CLASS ACTIVITIES:

- For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
- Essay exams and oral, written, illustrated narrations.
- picture studies and composer studies in various content areas

Arts and Humanities

- Classroom Timeline and Book of Centuries in various content areas

FINE ARTS Book List K-12th :

Georgia's Bones; In the Woods; A Blue Butterfly; What Makes a Monet A Monet?; A Weekend with Matisse; A Child's History of Art; American Folk Songs for Children; Sally Go Round the Sun; Birds, Beasts, Bugs and Fishes Little and Big: Animal Folk Songs; American Folk Songs for Children; Arroz con Leche; Cuentos Y Canciones; 80 Comptines a Mmer et Jeux de Doight, De colores and Other Latin American Folksongs for Children; Step It Down: Games, Plays, Songs and Stories from the Afro-American Heritage; What Makes a Cassatt a Cassatt; A First Book of Architecture; A Weekend with Renoir; Pyramid, Mosque, Castle; Cathedral; A Child's History of Art; Shakespeare Plays: Macbeth; Twelfth Night; Midsummer Night's Dream; Julius Caesar; Coriolanus; King John; A Weekend with Velazquez; A Weekend with Degas; Degas Drawings; ; A Weekend with Homer; A First Book in Architecture; A Weekend with da Vinci What Makes a Leonardo da Vinci a Leonardo? Leonardo Paintings and Cards; A Weekend with van Gogh, What Makes a van Gogh a van Gogh; Benjamin West and His Cat Grimalkin; Bio in Satie, 3 Gymnopedies & 3 Gnossiennes for Piano edited by Murray Baylor (publisher Alfred); Shakespeare Plays: Richard II, Henry V; Henry VIII; King Lear; Merchant of Venice; As You Like It; Much Ado about Nothing; Hamlet; The Tempest; English Literature for Boys and Girls H.E. Marshall; A Child's History of Art; Young People's Story of Architecture; What Makes a Bruegel a Bruegel; "American Progress" Gast; The Group of Seven: Art for a Nation; A First Book of Architecture; Michelangelo Life Drawings; First Impressions: Michelangelo; Monastery; Shakespeare Plays: Richard III; Loves' Labour Lost; Henry IV; Romeo and Juliet; All's Well that Ends Well; Pericles; Othello; Taming of the Shrew; Winter's Tale; Anthony and Cleopatra; Cymbeline; Troilus and Cressida; Norman Rockwell: Pictures for the American People; A History of Architecture: Settings and Rituals; First Impressions: James McNeill Whistler; Anna Richards Brewster: American Impressionist; Italic Letters: Calligraphy and Handwriting; Rueben's Drawings

C. Analyze a work of art from its historical and cultural perspective.

CLASS ACTIVITIES:

- For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
- Essay exams and oral, written, illustrated narrations.
- picture studies and composer studies in various content areas
- Classroom Timeline and Book of Centuries in various content areas

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Arts and Humanities

Step It Down: Games, Plays, Songs and Stories from the Afro-American Heritage; What Makes a Cassatt a Cassatt; A First Book of Architecture; A Weekend with Renoir; Pyramid, Mosque, Castle; Cathedral; A Child's History of Art; Shakespeare Plays: Macbeth; Twelfth Night; Midsummer Night's Dream; Julius Caesar; Coriolanus; King John; A Weekend with Velazquez; A Weekend with Degas; Degas Drawings; ; A Weekend with Homer; A First Book in Architecture; A Weekend with da Vinci What Makes a Leonardo da Vinci a Leonardo? Leonardo Paintings and Cards; A Weekend with van Gogh, What Makes a van Gogh a van Gogh; Benjamin West and His Cat Grimalkin; Bio in Satie, 3 Gymnopedies & 3 Gnossiennes for Piano edited by Murray Baylor (publisher Alfred); Shakespeare Plays: Richard II, Henry V; Henry VIII; King Lear; Merchant of Venice; As You Like It; Much Ado about Nothing; Hamlet; The Tempest; English Literature for Boys and Girls H.E. Marshall; A Child's History of Art; Young People's Story of Architecture; What Makes a Bruegel a Bruegel; "American Progress" Gast; The Group of Seven: Art for a Nation; A First Book of Architecture; Michelangelo Life Drawings; First Impressions: Michelangelo; Monastery; Shakespeare Plays: Richard III; Loves' Labour Lost; Henry IV; Romeo and Juliet; All's Well that Ends Well; Pericles; Othello; Taming of the Shrew; Winter's Tale; Anthony and Cleopatra; Cymbeline; Troilus and Cressida; Norman Rockwell: Pictures for the American People; A History of Architecture: Settings and Rituals; First Impressions: James McNeill Whistler; Anna Richards Brewster: American Impressionist; Italic Letters: Calligraphy and Handwriting; Rueben's Drawings

D. Analyze how historical events and culture impact forms, techniques and purposes of works in the arts (e.g., Gilbert and Sullivan operettas).

CLASS ACTIVITIES:

- For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
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- picture studies and composer studies in various content areas
- Classroom Timeline and Book of Centuries in various content areas

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Leonardo? Leonardo Paintings and Cards; A Weekend with van Gogh, What Makes a van Gogh a van Gogh; Benjamin West and His Cat Grimalkin; Bio in Satie, 3 Gymnopedies & 3 Gnossiennes for Piano edited by Murray Baylor (publisher Alfred); Shakespeare Plays: Richard II, Henry V; Henry VIII; King Lear; Merchant of Venice; As You Like It; Much Ado about Nothing; Hamlet; The Tempest; English Literature for Boys and Girls H.E. Marshall; *A Child's History of Art; Young People's Story of Architecture; What Makes a Bruegel a Bruegel; "American Progress" Gast; The Group of Seven: Art for a Nation; A First Book of Architecture; Michelangelo Life Drawings; First Impressions: Michelangelo; Monastery; Shakespeare Plays: Richard III; Loves' Labour Lost; Henry IV; Romeo and Juliet; All's Well that Ends Well; Pericles; Othello; Taming of the Shrew; Winter's Tale; Anthony and Cleopatra; Cymbeline; Troilus and Cressida; Norman Rockwell: Pictures for the American People; A History of Architecture: Settings and Rituals; First Impressions: James McNeill Whistler; Anna Richards Brewster: American Impressionist; Italic Letters: Calligraphy and Handwriting; Rueben's Drawings*

E. Know and apply appropriate vocabulary used between social studies and the arts and humanities.

CLASS ACTIVITIES:

- For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
- Essay exams and oral, written, illustrated narrations.
- picture studies and composer studies in various content areas
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*Georgia's Bones; In the Woods; A Blue Butterfly; What Makes a Monet A Monet?; A Weekend with Matisse; A Child's History of Art; American Folk Songs for Children; Sally Go Round the Sun; Birds, Beasts, Bugs and Fishes Little and Big: Animal Folk Songs; American Folk Songs for Children; Arroz con Leche; Cuentos Y Canciones; 80 Comptines a Mmer et Jeux de Doight, De colores and Other Latin American Folksongs for Children; Step It Down: Games, Plays, Songs and Stories from the Afro-American Heritage; What Makes a Cassatt a Cassatt; A First Book of Architecture;; A Weekend with Renoir; Pyramid, Mosque, Castle; Cathedral; A Child's History of Art; Shakespeare Plays: Macbeth; Twelfth Night; Midsummer Night's Dream; Julius Caesar; Coriolanus; King John; A Weekend with Velazquez; A Weekend with Degas; Degas Drawings; ; A Weekend with Homer; A First Book in Architecture; A Weekend with da Vinci What Makes a Leonardo da Vinci a Leonardo? Leonardo Paintings and Cards; A Weekend with van Gogh, What Makes a van Gogh a van Gogh; Benjamin West and His Cat Grimalkin; Bio in Satie, 3 Gymnopedies & 3 Gnossiennes for Piano edited by Murray Baylor (publisher Alfred); Shakespeare Plays: Richard II, Henry V; Henry VIII; King Lear; Merchant of Venice; As You Like It; Much Ado about Nothing; Hamlet; The Tempest; English Literature for Boys and Girls H.E. Marshall; *A Child's History of Art; Young People's Story of Architecture; What Makes a**

Arts and Humanities

Bruegel a Bruegel; "American Progress" Gast; The Group of Seven: Art for a Nation; A First Book of Architecture; Michelangelo Life Drawings; First Impressions: Michelangelo; Monastery; Shakespeare Plays: Richard III; Loves' Labour Lost; Henry IV; Romeo and Juliet; All's Well that Ends Well; Pericles; Othello; Taming of the Shrew; Winter's Tale; Anthony and Cleopatra; Cymbeline; Troilus and Cressida; Norman Rockwell: Pictures for the American People; A History of Architecture: Settings and Rituals; First Impressions: James McNeill Whistler; Anna Richards Brewster: American Impressionist; Italic Letters: Calligraphy and Handwriting; Rueben's Drawings

F. Relate works in the arts to geographic regions:

In Theatre:

Clues to acting Shakespeare Wesley Van Tassel

Building skills in acting, music, and dance, while using theatre to empower students to become active and informed citizens of the world.

Identifies specific attributes of theatre that reflect culture

Make connections across the arts, to other disciplines, life, cultures and work.

· Applies knowledge of how drama shapes and reflects culture and history throughout time

In Dance:

-Folk Dances in PE and Foreign Language classes

- "Dancing Classrooms is a standards based arts-in education program using the vehicle of dance to build social awareness, confidence and self esteem in school children. By teaching social dance, i.e. working with a partner in a dance hold, students are required to exhibit care, consideration and team work, transferable skills necessary for adult life. *Dancing Classrooms* is an in-school residency for every child, regardless of background, experience and abilities. *Dancing Classrooms* residencies are integrated into the school day, cultivated through curriculum integration. *Dancing Classrooms* unites the experiences of social dancing with the students academic coursework via curriculum integration in language arts (poetry, dance journal), visual arts (painting, design invitation to culminating event), social studies (world map, costumes), math and science (calculate steps, geometric patterns), and physical education (heart rates, teach steps). The Dulaine teaching philosophy is one of inside out versus outside in. It is not just about teaching dance, it's about teaching pride, confidence and respect. The collaborative nature of *Dancing Classrooms* leads to partnerships between schools, school districts, the Monterey County Office of Education, the business community, professional artists, non profit and for profit arts providers, parents with arts experience and parent volunteers." (*Dancing Classrooms; Pierre Dulaine*)

• Africa

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Pyramid; A Child's History of Art; A First Book of Architecture; Young People's Story of Architecture; The Story of Art; History of Architecture: Settings and Rituals, FIELD STUDIES: National Museum of Art; Philadelphia Museum of Art;

• **Asia**

Mosque; A Child's History of Art; A First Book of Architecture; Young People's Story of Architecture; The Story of Art; History of Architecture: Settings and Rituals; FIELD STUDIES: Philadelphia Museum of Art; National Museum of Art

• **Australia**

A Child's History of Art; A First Book of Architecture; Young People's Story of Architecture; The Story of Art; History of Architecture: Settings and Rituals, FIELD STUDIES: National Museum of Art; The Met

• **Central America**

De colores and Other Latin American Folksongs for Children; Arroz con Leche; Cuentos Y Canciones; La Bamba song and dance
A Child's History of Art; A First Book of Architecture; Young People's Story of Architecture; The Story of Art; History of Architecture: Settings and Rituals, FIELD STUDIES: National Museum of Art

• **Europe**

80 Comptines a Mmer et Jeux de Doight;

A Child's History of Art; A First Book of Architecture; Young People's Story of Architecture; The Story of Art; History of Architecture: Settings and Rituals; Blue Butterfly; What Makes a Monet A Monet?; A Weekend with Matisse; A Weekend with Renoir; Castle; Cathedral;; A Weekend with Velazquez; A Weekend with Degas; Degas Drawings; ; A Weekend with da Vinci What Makes a Leonardo da Vinci a Leonardo? Leonardo Paintings and Cards; A Weekend with van Gogh, What Makes a van Gogh a van Gogh; What Makes a Bruegel a Bruegel; Michelangelo Life Drawings; First Impressions: Michelangelo; Monastery; FIELD STUDIES: Philadelphia Museum of Art, National Museum of Art; Allentown Museum of Art; The Met

• **North America**

American Folk Songs for Children, in Home, School and Nursery School: A Book for Children, Parents and Teachers, Ruth Seeger; *American Folk Songs for Children; Step It Down: Games, Plays, Songs and Stories from the Afro-American Heritage; Sally Go Round the Sun*
A Child's History of Art; A First Book of Architecture; Young People's Story of Architecture; The Story of Art; History of Architecture: Settings and Rituals; Georgia's Bones; In the Woods; What

Arts and Humanities

Makes a Cassatt a Cassatt; Norman Rockwell: Pictures for the American People; A Weekend with Homer; Benjamin West and His Cat Grimalkin; "American Progress" Gast; The Group of Seven: Art for a Nation 1995; A First Impressions: James McNeill Whistler; Anna Richards Brewster: American Impressionist; FIELD STUDIES: National Museum of Art; Philadelphia Museum of Art; Allentown Museum of Art; The Met

• **South America**

Arroz con Leche; Cuentos Y Canciones; De colores and Other Latin American Folksongs for Children

A Child's History of Art; A First Book of Architecture; Young People's Story of Architecture; The Story of Art; History of Architecture: Settings and Rituals;

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H. Identify, describe and analyze the work of Pennsylvania Artists in dance, music, theatre and visual arts.

- Field Studies: Philadelphia Museum of Art; Philadelphia and Allentown Philharmonic; Shakespeare Festival, Allentown; Schuylkill Symphony; Schuylkill Artists; Outsider Folk Gallery, Goggle Works, Reading; Monsoon Gallery, Bethlehem; Pennsylvania Ballet; Allentown Museum of Art

- Composer Study:

Stephen Foster:

[Oh! Susanna](#),

[Camptown Races](#),

[Old Folks at Home](#) (Swanee River), [Hard Times Come Again No More](#),

[My Old Kentucky Home](#), [Old Black Joe](#), and

[Beautiful Dreamer](#)

- Picture Study:

Dogwood Charter School's Curriculum and the PA Standards

Arts and Humanities

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| <p>NC Wyeth
 <i>William Penn, Man of Vision, Courage, Action</i>
 <i>Thumbelina</i>
 <i>Jody and Flag</i>
 <i>Last of the Mohicans</i>
 <i>Sacagawea with Lewis and Clark</i>
 <i>Sir Nigel</i>
 <i>The Giant</i>
 <i>The Hunter</i>
 <i>N.C. Wyeth Paintings: 24 Cards</i></p> <p>Andrew Wyeth
 1917-2009
 <i>Wind from the Sea</i>
 <i>Brandywine Valley</i>
 <i>Long Limb</i>
 <i>Master Bedroom</i>
 <i>Big Room</i>
 <i>Easterly</i>
 <i>Christina Olson</i>
 <i>Christina's World</i>
 <i>Braids</i>
 <i>The Stone Fence</i></p> | <p>Anna Richards
 Brewster
 1870-1952
 <i>Bookstalls on the Seine</i>
 <i>A Square at Santa Margherita</i>
 <i>Trafalgar Square, London</i>
 <i>Lily Pond, Matunuck, Rhode Island</i>
 <i>A Market in Biskra, Algeria</i>
 <i>Allegory</i>
 <i>Travel Abroad;</i>
 <i>Anna Richards Brewster, American Impressionist, Judith Kafka Maxwell</i></p> | <p>Frank Wyso
 Untitled Wax
 Reduction 1990
 Oil Composition 1852
 Pen and Ink, 1561
 Wax Reduction, 1230, 1403, 1413, 791, 812
 Tempra 2019
 Miner (sculpture)</p> | <p>Henry Ossawa Tanner
 <i>The Thankful Poor</i>
 <i>The Banjo Lesson</i>
 <i>Sand Dunes at Sunset, Atlantic City</i>
 <i>The Seine</i>
 <i>Gateway, Tangier</i>
 <i>Algiers</i></p> |
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Arts and Humanities

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| John Singer Sargent
<i>Repose</i>
<i>Gondola Moorings on the Grand Canal</i>
<i>The Daughters of Edward D. Boit</i>
<i>Carnation, Lily, Lily, Rose</i>
<i>Claude Monet Painting at the Edge of a Wood</i>
<i>Lady Agnew of Lochnaw</i>
<i>Theodore Roosevelt</i>
<i>Robert Louis Stevenson and His Wife</i> | Thomas Cole
<i>Italian Coast Scene with</i>
<i>The Notch of the White Mountains</i>

<i>Ruined Tower</i>
<i>The Voyage of Life: Childhood</i>
<i>The Voyage of Life: Youth</i>
<i>The Voyage of Life: Manhood</i>
<i>The Voyage of Life: Old Age</i>
<i>The Past</i>
<i>The Present</i> | Mary Cassatt
<i>Little Girl in Blue Armchair</i>
<i>Young Mother</i>
<i>Sewing</i>
<i>Children Playing on the Beach</i>
<i>Child in a Straw Hat</i>
<i>Sara Holding a Cat</i>
<i>Summertime</i>
<i>Breakfast in Bed</i>
<i>What Makes a Cassatt a Cassatt?</i> | John James Audubon
<i>Arctic Hare</i>
<i>Blue Yellow Back Warbler</i>
<i>Osprey and Weakfish</i>
<i>Farmyard Fowls</i>
<i>White Gerfalcons</i>
<i>Mourning Dove</i>
<i>(originally called Carolina Pigeon)</i>
<i>Into the Woods: John James Audubon Lives His Dream</i> , Robert Burleigh
<i>Audubon, Painter of Birds in the Wild Frontier</i> , Jennifer Armstrong |
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I. Identify, explain and analyze philosophical beliefs as they relate to works in the arts (e.g., classical architecture, rock music, Native American dance, contemporary American musical theatre).

CLASS ACTIVITIES:

- For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
- Essay exams and oral, written, illustrated narrations.
- picture studies and composer studies in various content areas
- Classroom Timeline and Book of Centuries in various content areas

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Georgia's Bones; In the Woods; A Blue Butterfly; What Makes a Monet A Monet?; A Weekend with Matisse; A Child's History of Art; American Folk Songs for Children; Sally Go Round the Sun; Birds, Beasts, Bugs and Fishes Little and Big; Animal Folk Songs; American Folk Songs for Children; Arroz con Leche; Cuentos Y Canciones; 80 Comptines a Mmer et Jeux de Doight, De colores and Other Latin American Folksongs for Children; Step It Down: Games, Plays, Songs and Stories from the Afro-American Heritage; What Makes a Cassatt a Cassatt; A First Book of Architecture; A Weekend with Renoir; Pyramid,

Arts and Humanities

Mosque, Castle; Cathedral; A Child's History of Art; Shakespeare Plays: Macbeth; Twelfth Night; Midsummer Night's Dream; Julius Caesar; Coriolanus; King John; A Weekend with Velazquez; A Weekend with Degas; Degas Drawings; A Weekend with Homer; A First Book in Architecture; A Weekend with da Vinci What Makes a Leonardo da Vinci a Leonardo? Leonardo Paintings and Cards; A Weekend with van Gogh, What Makes a van Gogh a van Gogh; Benjamin West and His Cat Grimalkin; Bio in Satie, 3 Gymnopedies & 3 Gnossiennes for Piano edited by Murray Baylor (publisher Alfred); Shakespeare Plays: Richard II, Henry V; Henry VIII; King Lear; Merchant of Venice; As You Like It; Much Ado about Nothing; Hamlet; The Tempest; English Literature for Boys and Girls H.E. Marshall; A Child's History of Art; Young People's Story of Architecture; What Makes a Bruegel a Bruegel; "American Progress" Gast; The Group of Seven: Art for a Nation; A First Book of Architecture; Michelangelo Life Drawings; First Impressions: Michelangelo; Monastery; Shakespeare Plays: Richard III; Loves' Labour Lost; Henry IV; Romeo and Juliet; All's Well that Ends Well; Pericles; Othello; Taming of the Shrew; Winter's Tale; Anthony and Cleopatra; Cymbeline; Troilus and Cressida; Norman Rockwell: Pictures for the American People; A History of Architecture: Settings and Rituals; First Impressions: James McNeill Whistler; Anna Richards Brewster: American Impressionist; Italic Letters: Calligraphy and Handwriting; Rueben's Drawings

In Dance: Latin, with Merengue and Rumba, and Ballroom which includes Foxtrot, Waltz, and Tango, plus Swing and Toe-Heel Polka, and the fun "Line" dances. Students learn steps, rhythm, body posture and style, as well as the history, background, and philosophies of the various cultures, from which the dances emerged. *Dancing Classrooms, Pierre Dulaine*

In Theatre: Applies knowledge of how drama shapes and reflects culture and history throughout time. Text: *Acting for Life*

J. Identify, explain and analyze historical and cultural differences as they relate to works in the arts (e.g., plays by Shakespeare, works by Michelangelo, ethnic dance and music).

CLASS ACTIVITIES:

- For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
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Arts and Humanities

Mosque, Castle; Cathedral; A Child's History of Art; Shakespeare Plays: Macbeth; Twelfth Night; Midsummer Night's Dream; Julius Caesar; Coriolanus; King John; A Weekend with Velazquez; A Weekend with Degas; Degas Drawings; ; A Weekend with Homer; A First Book in Architecture; A Weekend with da Vinci What Makes a Leonardo da Vinci a Leonardo? Leonardo Paintings and Cards; A Weekend with van Gogh, What Makes a van Gogh a van Gogh; Benjamin West and His Cat Grimalkin; Bio in Satie, 3 Gymnopedies & 3 Gnossiennes for Piano edited by Murray Baylor (publisher Alfred); Shakespeare Plays: Richard II, Henry V; Henry VIII; King Lear; Merchant of Venice; As You Like It; Much Ado about Nothing; Hamlet; The Tempest; English Literature for Boys and Girls H.E. Marshall; A Child's History of Art; Young People's Story of Architecture; What Makes a Bruegel a Bruegel; "American Progress" Gast; The Group of Seven: Art for a Nation; A First Book of Architecture; Michelangelo Life Drawings; First Impressions: Michelangelo; Monastery; Shakespeare Plays: Richard III; Loves' Labour Lost; Henry IV; Romeo and Juliet; All's Well that Ends Well; Pericles; Othello; Taming of the Shrew; Winter's Tale; Anthony and Cleopatra; Cymbeline; Troilus and Cressida; Norman Rockwell: Pictures for the American People; A History of Architecture: Settings and Rituals; First Impressions: James McNeill Whistler; Anna Richards Brewster: American Impressionist; Italic Letters: Calligraphy and Handwriting; Rueben's Drawings

In Dance: *Dancing Classrooms* is based on a syllabus of ballroom dance that nurtures mastery of an art form in a fun learning environment, while fostering respect, team work, confidence, politeness, a sense of joy and accomplishment. Essentially, we "teach life skills wrapped up in ballroom dance. Outlet for expression, musically and emotionally, connects children's positive feelings for one another, focuses their physical energy and builds their self-esteem and social skills." *The Dulaine Dance Method*

Curriculum Integration: *Dancing Classrooms* isn't simply a ballroom dancing program; *Dancing Classrooms* Teaching Artists collaborate with the school teachers to connect the program to the rest of the school curriculum. Listed below are some ways this integration has occurred:

Reading & Writing:

- Poetry, essays, diaries, short stories from other countries

Social Studies:

- Customs & Costumes
- Family History
- Community Studies

Visual Arts:

- Dance Art
- Bookmaking
- Dance In Art

Math:

- Addition, subtraction, multiplication and division
- Shapes and patterns
- Problem solving through use of skills
- Fractions, rhythm and musical time

Physical Education:

- Body Awareness
- Nutrition
- Sportsmanship

In Theatre: Identify the attributes of artworks of various types. Using Artistic Process the student will: · Develop work using a creative process · Applies arts concepts, vocabulary, skills, and techniques through a creative/performance/responding process Communication through

Arts and Humanities

Drama

Text: Dramatizing Classic Poetry

K. Identify, explain and analyze traditions as they relate to works in the arts (e.g., story telling—plays, oral histories—poetry, work songs—blue grass).

CLASS ACTIVITIES:

- For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
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- picture studies and composer studies in various content areas
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Dance: In a recent study, dance has been shown to support feelings of trusting others, social support, comfort & connectedness, and diversity & compassion for others. In this way, relationships are deepened, and traditions are more likely to be retained and passed on. Further,

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Dancing Classrooms has impacted school climate, personal growth, community health, allowing system change. Source: Dancing Classrooms

Theatre: Identifies specific attributes of theatre that reflect culture and history

Text: *Scene and Character Study*; Read and Produce Shakespeare and other plays 4-12th

L. Identify, explain and analyze common themes, forms and techniques from works in the arts (e.g., Copland and Graham's *Appalachian Spring* and Millet's *The Gleaners*).

CLASS ACTIVITIES:

- For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
- Essay exams and oral, written, illustrated narrations.
- picture studies and composer studies in various content areas
- Classroom Timeline and Book of Centuries in various content areas

FINE ARTS Book List K-12th:

Georgia's Bones; In the Woods; A Blue Butterfly; What Makes a Monet A Monet?; A Weekend with Matisse; A Child's History of Art; American Folk Songs for Children; Sally Go Round the Sun; Birds, Beasts, Bugs and Fishes Little and Big: Animal Folk Songs; American Folk Songs for Children; Arroz con Leche; Cuentos Y Canciones; 80 Comptines a Mmer et Jeux de Doight, De colores and Other Latin American Folksongs for Children; Step It Down: Games, Plays, Songs and Stories from the Afro-American Heritage; What Makes a Cassatt a Cassatt; A First Book of Architecture; A Weekend with Renoir; Pyramid, Mosque, Castle; Cathedral; A Child's History of Art; Shakespeare Plays: Macbeth; Twelfth Night; Midsummer Night's Dream; Julius Caesar; Coriolanus; King John; A Weekend with Velazquez; A Weekend with Degas; Degas Drawings; ; A Weekend with Homer; A First Book in Architecture; A Weekend with da Vinci What Makes a Leonardo da Vinci a Leonardo? Leonardo Paintings and Cards; A Weekend with van Gogh, What Makes a van Gogh a van Gogh; Benjamin West and His Cat Grimalkin; Bio in Satie, 3 Gymnopedies & 3 Gnossiennes for Piano edited by Murray Baylor (publisher Alfred); Shakespeare Plays: Richard II, Henry V; Henry VIII; King Lear; Merchant of Venice; As You Like It; Much Ado about Nothing; Hamlet; The Tempest; English Literature for Boys and Girls H.E. Marshall; A Child's History of Art; Young People's Story of Architecture; What Makes a Bruegel a Bruegel; "American Progress" Gast; The Group of Seven: Art for a Nation; A First Book of Architecture; Michelangelo Life Drawings; First Impressions: Michelangelo; Monastery; Shakespeare Plays: Richard III; Loves' Labour Lost; Henry IV; Romeo and Juliet; All's Well that Ends Well; Pericles; Othello; Taming of the Shrew; Winter's Tale; Anthony and Cleopatra; Cymbeline; Troilus and Cressida; Norman Rockwell: Pictures for the American People; A History of Architecture: Settings and Rituals; First Impressions: James McNeill Whistler; Anna Richards Brewster: American Impressionist; Italic Letters: Calligraphy and Handwriting; Rueben's Drawings

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Dance: Latin, with Merengue and Rumba, and Ballroom which includes Foxtrot, Waltz, and Tango, plus Swing and Toe-Heel Polka, and the fun "Line" dances. Dancing Classrooms, Pierre Dulaine Method. Program: Canadian National Music and Ballet

Theatre: Make connections across the arts, to other disciplines, life, cultures and work.

- Analyzes an arts presentation that integrates two or more arts disciplines
- Integrates and adapts skills within the arts and other content areas (creative writing, and scientific processes)
- Analyzes how the arts impact economic choices
- Identifies specific attributes of theatre that reflect culture and history

Texts: *Drama Games and Improves* By Justine Jones and Mary Ann Kelly
Monologues; Scene and Character Study

| 9.3. Critical Response | | | |
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| 9.3.3. GRADE 3 | 9.3.5. GRADE 5 | 9.3.8. GRADE 8 | 9.3.12. GRADE 12 |
| <i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</i> | | | |
| A. Recognize critical processes used in the examination of works in the arts and humanities. <ul style="list-style-type: none"> • Compare and contrast • Analyze • Interpret • Form and test hypotheses • Evaluate/form judgments | A. Identify critical processes in the examination of works in the arts and humanities. <ul style="list-style-type: none"> • Compare and contrast • Analyze • Interpret • Form and test hypotheses • Evaluate/form judgments | A. Know and use the critical process of the examination of works in the arts and humanities. <ul style="list-style-type: none"> • Compare and contrast • Analyze • Interpret • Form and test hypotheses • Evaluate/form judgments | A. Explain and apply the critical examination processes of works in the arts and humanities. <ul style="list-style-type: none"> • Compare and contrast • Analyze • Interpret • Form and test hypotheses • Evaluate/form judgments |
| CLASS ACTIVITIES:
-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All | CLASS ACTIVITIES:
-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' | CLASS ACTIVITIES:
-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often | CLASS ACTIVITIES:
-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' |

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| composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed. | works are observed, often reproduced, and always discussed, and biographies are also read and discussed. | reproduced, and always discussed, and biographies are also read and discussed. | works are observed, often reproduced, and always discussed, and biographies are also read and discussed. |
| - Essay exams and oral, written, illustrated narrations. | - Essay exams and oral, written, illustrated narrations. | - Essay exams and oral, written, illustrated narrations. | - Essay exams and oral, written, illustrated narrations. |
| - picture studies and composer studies in various content areas | - picture studies and composer studies in various content areas | - picture studies and composer studies in various content areas | - picture studies and composer studies in various content areas |
| - Classroom Timeline and Book of Centuries in various content areas | - Classroom Timeline and Book of Centuries in various content areas | - Classroom Timeline and Book of Centuries in various content areas | - Classroom Timeline and Book of Centuries in various content areas |
| FINE ARTS Book List K-3 rd : | FINE ARTS Book List 4 th -5 th : | FINE ARTS Book List 6 th -8 th : | FINE ARTS Book List 9 th -12 th : |
| <i>Georgia's Bones; In the Woods; A Blue Butterfly; What Makes a Monet A Monet?; A Weekend with Matisse; A Child's History of Art; American Folk Songs for Children; Sally Go Round the Sun; Birds, Beasts, Bugs and Fishes Little and Big; Animal Folk Songs; American Folk Songs for Children; Arroz con Leche; Cuentos Y Canciones; 80 Comptines a Mmer et Jeux de Doight,</i> | <i>Shakespeare Plays: Macbeth; Twelfth Night; Midsummer Night's Dream; Julius Caesar; Coriolanus; King John; A Weekend with Velazquez; A Child's History of Art; A Weekend with Degas; Degas Drawings; ; A Weekend with Homer; A First Book in Architecture; A Leonardo da Vinci a Leonardo? Leonardo Paintings and Cards; A Weekend with van Gogh, What Makes a van Gogh a van Gogh; Benjamin West and His Cat Grimalkin; Bio in Satie, 3 Gymnopedies & 3 Gnossiennes for</i> | <i>Shakespeare Plays: Richard II, Henry V; Henry VIII; King Lear; Merchant of Venice; As You Like It; Much Ado about Nothing; Hamlet; The Tempest; English Literature for Boys and Girls H.E. Marshall; A Child's History of Art; Young People's Story of Architecture; What Makes a Bruegel a Bruegel; "American Progress" Gast; The Group of Seven: Art for a Nation; A First Book of Architecture; Michelangelo Life Drawings; First Impressions: Michelangelo; Monastery</i> | <i>Shakespeare Plays: Richard III; Loves' Labour Lost; Henry IV; Romeo and Juliet; All's Well that Ends Well; Pericles; Othello; Taming of the Shrew; Winter's Tale; Anthony and Cleopatra; Cymbeline; Troilus and Cressida; Norman Rockwell: Pictures for the American People; A History of Architecture: Settings and Rituals; First Impressions: James McNeill Whistler; Anna Richards Brewster: American Impressionist; Italic Letters: Calligraphy</i> |

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| <i>De colores and Other Latin American Folksongs for Children; Step It Down: Games, Plays, Songs and Stories from the Afro-American Heritage; What Makes a Cassatt a Cassatt; A First Book of Architecture; A Weekend with Renoir; Pyramid, Mosque, Castle; Cathedral; A Child's History of Art</i> | <i>Piano</i> edited by Murray Baylor (publisher Alfred) | | <i>and Handwriting; Rueben's Drawings</i> |
| B. Know that works in the arts can be described by using the arts elements, principles and concepts (e.g., use of color, shape and pattern in Mondrian's <i>Broadway Boogie-Woogie</i>; use of dynamics, tempo, texture in Ravel's <i>Bolero</i>).
CLASS ACTIVITIES:
-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often | B. Describe works in the arts comparing similar and contrasting characteristics (e.g., staccato in Grieg's <i>In the Hall of the Mountain King</i> and in tap dance).
CLASS ACTIVITIES:
-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
- Essay exams and oral, written, illustrated narrations. | B. Analyze and interpret specific characteristics of works in the arts within each art form (e.g., pentatonic scales in Korean and Indonesian music).
CLASS ACTIVITIES:
-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
- Essay exams and oral, written, illustrated narrations.
- picture studies and composer studies in various content areas | B. Determine and apply criteria to a person's work and works of others in the arts (e.g., use visual scanning techniques to critique the student's own use of sculptural space in comparison to Julio Gonzales' use of space in <i>Woman Combing Her Hair</i>).
CLASS ACTIVITIES:
-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and |

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| <p>reproduced, and always discussed, and biographies are also read and discussed.</p> <p>- Essay exams and oral, written, illustrated narrations.</p> <p>- picture studies and composer studies in various content areas</p> <p>- Classroom Timeline and Book of Centuries in various content areas</p> <p>FINE ARTS Book List K-3rd :</p> <p><i>Georgia's Bones; In the Woods; A Blue Butterfly; What Makes a Monet A Monet?; A Weekend with Matisse; A Child's History of Art; American Folk Songs for Children; Sally Go Round the Sun; Birds, Beasts, Bugs and Fishes Little and Big; Animal Folk Songs; American Folk Songs for Children; Arroz con Leche; Cuentos Y Canciones; 80 Comptines a Mmer et Jeux de Doight, De colores and Other Latin American Folksongs for Children; Step It Down: Games, Plays,</i></p> | <p>- picture studies and composer studies in various content areas</p> <p>- Classroom Timeline and Book of Centuries in various content areas</p> <p>FINE ARTS Book List 4th-5th:</p> <p>Shakespeare Plays: <u>Macbeth; Twelfth Night; Midsummer Night's Dream; Julius Caesar; Coriolanus; King John; A Weekend with Velazquez; A Child's History of Art; A Weekend with Degas; Degas Drawings; ; A Weekend with Homer; A First Book in Architecture; A Weekend with da Vinci What Makes a Leonardo da Vinci a Leonardo? Leonardo Paintings and Cards; A Weekend with van Gogh, What Makes a van Gogh a van Gogh; Benjamin West and His Cat Grimalkin; Bio in Satie, 3 Gymnopedies & 3 Gnossiennes for Piano</u> edited by Murray Baylor (publisher Alfred)</p> | <p>- Classroom Timeline and Book of Centuries in various content areas</p> <p>FINE ARTS Book List 6th-8th:</p> <p>Shakespeare Plays: <u>Richard II, Henry V; Henry VIII; King Lear; Merchant of Venice; As You Like It; Much Ado about Nothing; Hamlet; The Tempest; English Literature for Boys and Girls H.E. Marshall; A Child's History of Art; Young People's Story of Architecture; What Makes a Bruegel a Bruegel; "American Progress" Gast; The Group of Seven: Art for a Nation; A First Book of Architecture; Michelangelo Life Drawings; First Impressions: Michelangelo; Monastery</u></p> | <p>biographies are also read and discussed.</p> <p>- Essay exams and oral, written, illustrated narrations.</p> <p>- picture studies and composer studies in various content areas</p> <p>- Classroom Timeline and Book of Centuries in various content areas</p> <p>FINE ARTS Book List 9th-12th:</p> <p>Shakespeare Plays: <u>Richard III; Loves' Labour Lost; Henry IV; Romeo and Juliet; All's Well that Ends Well; Pericles; Othello; Taming of the Shrew; Winter's Tale; Anthony and Cleopatra; Cymbeline; Troilus and Cressida; Norman Rockwell: Pictures for the American People; A History of Architecture: Settings and Rituals; First Impressions: James McNeill Whistler; Anna Richards Brewster: American Impressionist; Italic Letters: Calligraphy and Handwriting; Rueben's Drawings</u></p> |
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| <p><i>Songs and Stories from the Afro-American Heritage; What Makes a Cassatt a Cassatt; A First Book of Architecture; A Weekend with Renoir; Pyramid, Mosque, Castle; Cathedral; A Child's History of Art</i></p> | | | |
| <p>C. Know classification skills with materials and processes used to create works in the arts (e.g., sorting and matching textiles, musical chants, television comedies).
Handwork projects include natural materials, Finger songs and foreign language songs; <i>Sally Go Round the Sun</i>; Shakespeare plays: Comedies, Tragedy, History; Fiction and Non-Fictions books in various content areas; watch Shakespeare movies vs. plays;</p> | <p>C. Classify works in the arts by forms in which they are found (e.g., farce, architecture, graphic design).
Narrations, Essay Exams, <i>The History of Art; Motels of Mysteries</i>; Picture Study and Composer Study class discussions of the various artists/composer's works</p> | <p>Identify and classify styles, forms, types and genre within art forms (e.g., modern dance and the ethnic dance, a ballad and a patriotic song).

Students will learn the following dances: Latin, with Merengue and Rumba, and Ballroom which includes Foxtrot, Waltz, and Tango, plus Swing and Toe-Heel Polka, and the fun "Line" dances. Students learn steps, rhythm, body posture and style as well as the history and background.</p> <p>Stephen Foster in Picture Study; <i>John Henry</i>; The</p> | <p>C. Apply systems of classification for interpreting works in the arts and forming a critical response.
Narrations, Essay Exams, <i>The Roar on the Other Side</i>; van Loon's <i>The Arts</i>; Composer and Picture Study list; <i>The Writing Life, The Creative Habit: Learn It and Use It for Life</i></p> |

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| | | Breaker Boys; 1960's songs;
Composer Study list; | |
| D. Explain meanings in the arts and humanities through individual works and the works of others using a fundamental vocabulary of critical response.
CLASS ACTIVITIES:
-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
- Essay exams and oral, written, illustrated narrations.
- picture studies and composer studies in various content areas
- Classroom Timeline and Book of Centuries in various content areas
FINE ARTS Book List K-3 rd : | D. Compare similar and contrasting important aspects of works in the arts and humanities based on a set of guidelines using a comprehensive vocabulary of critical response.
CLASS ACTIVITIES:
-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
- Essay exams and oral, written, illustrated narrations.
- picture studies and composer studies in various content areas
- Classroom Timeline and Book of Centuries in various content areas
FINE ARTS Book List 4 th -5 th :
Shakespeare Plays: <u>Macbeth</u> ; <u>Twelfth Night</u> ; <u>Midsummer Night's Dream</u> ; <u>Julius Caesar</u> ; | D. Evaluate works in the arts and humanities using a complex vocabulary of critical response.
CLASS ACTIVITIES:
-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
- Essay exams and oral, written, illustrated narrations.
- picture studies and composer studies in various content areas
- Classroom Timeline and Book of Centuries in various content areas
FINE ARTS Book List 6 th -8 th :
Shakespeare Plays: <u>Richard II</u> , <u>Henry V</u> ; <u>Henry VIII</u> ; <u>King Lear</u> ; <u>Merchant of Venice</u> ; <u>As You Like It</u> ; <u>Much Ado about Nothing</u> ; <u>Hamlet</u> ; <u>The Tempest</u> ; <u>English Literature for Boys and Girls</u> H.E. Marshall; <u>A Child's History of Art</u> ; <u>Young People's Story of</u> | D. Analyze and interpret works in the arts and humanities from different societies using culturally specific vocabulary of critical response.
CLASS ACTIVITIES:
-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
- Essay exams and oral, written, illustrated narrations.
- picture studies and composer studies in various content areas
- Classroom Timeline and Book of Centuries in various content areas
FINE ARTS Book List 9 th -12 th :
Shakespeare Plays: <u>Richard III</u> ; <u>Loves' Labour Lost</u> ; <u>Henry IV</u> ; <u>Romeo and Juliet</u> ; |

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| <p><i>Georgia's Bones; In the Woods; A Blue Butterfly; What Makes a Monet A Monet?; A Weekend with Matisse; A Child's History of Art; American Folk Songs for Children; Sally Go Round the Sun; Birds, Beasts, Bugs and Fishes Little and Big: Animal Folk Songs; American Folk Songs for Children; Arroz con Leche; Cuentos Y Canciones; 80 Comptines a Mmer et Jeux de Doight, De colores and Other Latin American Folksongs for Children; Step It Down: Games, Plays, Songs and Stories from the Afro-American Heritage; What Makes a Cassatt a Cassatt; A First Book of Architecture; A Weekend with Renoir; Pyramid, Mosque, Castle; Cathedral; A Child's History of Art</i></p> | <p><u>Coriolanus; King John; A Weekend with Velazquez; A Child's History of Art; A Weekend with Degas; Degas Drawings; ; A Weekend with Homer; A First Book in Architecture; A Weekend with da Vinci What Makes a Leonardo da Vinci a Leonardo? Leonardo Paintings and Cards; A Weekend with van Gogh, What Makes a van Gogh a van Gogh; Benjamin West and His Cat Grimalkin; Bio in Satie, 3 Gymnopedies & 3 Gnossiennes for Piano</u> edited by Murray Baylor (publisher Alfred)</p> | <p><i>Architecture; What Makes a Bruegel a Bruegel; "American Progress" Gast; The Group of Seven: Art for a Nation; A First Book of Architecture; Michelangelo Life Drawings; First Impressions: Michelangelo; Monastery</i></p> | <p><u>All's Well that Ends Well; Pericles; Othello; Taming of the Shrew; Winter's Tale; Anthony and Cleopatra; Cymbeline; Troilus and Cressida; Norman Rockwell: Pictures for the American People; A History of Architecture: Settings and Rituals; First Impressions: James McNeill Whistler; Anna Richards Brewster: American Impressionist; Italic Letters: Calligraphy and Handwriting; Rueben's Drawings</u></p> |
| <p>E. Recognize and identify types of critical analysis in the arts and humanities.</p> <ul style="list-style-type: none"> • Contextual criticism | <p>E. Describe and use types of critical analysis in the arts and humanities.</p> <ul style="list-style-type: none"> • Contextual criticism • Formal criticism • Intuitive criticism | <p>E. Interpret and use various types of critical analysis in the arts and humanities.</p> <ul style="list-style-type: none"> • Contextual criticism • Formal criticism • Intuitive criticism | <p>E. Examine and evaluate various types of critical analysis of works in the arts and humanities.</p> <ul style="list-style-type: none"> • Contextual criticism |

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| <p>• Formal criticism
• Intuitive criticism
In all narrations of the arts and humanities, students will observe, read, discuss and evaluate critical positions.
These are facilitated by the following:
CLASS ACTIVITIES:
-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
- Essay exams and oral, written, illustrated narrations.
- picture studies and composer studies in various content areas
- Classroom Timeline and Book of Centuries in various content areas
FINE ARTS Book List K-3rd : <i>Georgia's Bones; In the Woods; A Blue Butterfly; What Makes</i></p> | <p>In all narrations of the arts and humanities, students will observe, read, discuss and evaluate critical positions.
These are facilitated by the following:
CLASS ACTIVITIES:
-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
- Essay exams and oral, written, illustrated narrations.
- picture studies and composer studies in various content areas
- Classroom Timeline and Book of Centuries in various content areas
FINE ARTS Book List 4th-5th:
Shakespeare Plays: <u>Macbeth; Twelfth Night; Midsummer Night's Dream; Julius Caesar; Coriolanus; King John; A Weekend with Velazquez; A Child's History of Art; A Weekend with Degas;</u></p> | <p>In all narrations of the arts and humanities, students will observe, read, discuss and evaluate critical positions.
These are facilitated by the following:
CLASS ACTIVITIES:
-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
- Essay exams and oral, written, illustrated narrations.
- picture studies and composer studies in various content areas
- Classroom Timeline and Book of Centuries in various content areas
FINE ARTS Book List 6th-8th:
Shakespeare Plays: <u>Richard III; Henry V; Henry VIII; King Lear; Merchant of Venice; As You Like It; Much Ado about Nothing; Hamlet; The Tempest; English Literature for Boys and Girls H.E. Marshall; A Child's History of Art; Young People's Story of Architecture; What Makes a</u></p> | <p>• Formal criticism
• Intuitive criticism
CLASS ACTIVITIES:
-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.
- Essay exams and oral, written, illustrated narrations.
- picture studies and composer studies in various content areas
- Classroom Timeline and Book of Centuries in various content areas
FINE ARTS Book List 9th-12th:
Shakespeare Plays: <u>Richard III; Loves' Labour Lost; Henry IV; Romeo and Juliet; All's Well that Ends Well; Pericles; Othello; Taming of the Shrew; Winter's Tale; Anthony and Cleopatra; Cymbeline; Troilus and Cressida; Norman Rockwell: Pictures for the American People; A</u></p> |
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| <i>a Monet A Monet?; A Weekend with Matisse; A Child's History of Art; American Folk Songs for Children; Sally Go Round the Sun; Birds, Beasts, Bugs and Fishes Little and Big: Animal Folk Songs; American Folk Songs for Children; Arroz con Leche; Cuentos Y Canciones; 80 Comptines a Mmer et Jeux de Doight, De colores and Other Latin American Folksongs for Children; Step It Down: Games, Plays, Songs and Stories from the Afro-American Heritage; What Makes a Cassatt a Cassatt; A First Book of Architecture; A Weekend with Renoir; Pyramid, Mosque, Castle; Cathedral; A Child's History of Art</i>
FIELD STUDIES: | <i>Degas Drawings; ; A Weekend with Homer; A First Book in Architecture; A Weekend with da Vinci What Makes a Leonardo da Vinci a Leonardo? Leonardo Paintings and Cards; A Weekend with van Gogh, What Makes a van Gogh a van Gogh; Benjamin West and His Cat Grimalkin; Bio in Satie, 3 Gymnopedies & 3 Gnossiennes for Piano</i>
edited by Murray Baylor (publisher Alfred)
FIELD STUDIES: | <i>Bruegel a Bruegel; "American Progress" Gast; The Group of Seven: Art for a Nation; A First Book of Architecture; Michelangelo Life Drawings; First Impressions: Michelangelo; Monastery</i>
FIELD STUDIES: | <i>History of Architecture: Settings and Rituals; First Impressions: James McNeill Whistler; Anna Richards Brewster: American Impressionist; Italic Letters: Calligraphy and Handwriting; Rueben's Drawings</i>
FIELD STUDIES: |
| F. Know how to recognize and identify similar and different characteristics among works in the arts (e.g., Amish and Hawaiian quilts, | F. Know how to recognize the process of criticism in identifying and analyzing characteristics among works in the arts.
CLASS ACTIVITIES: | F. Apply the process of criticism to identify characteristics among works in the arts.
CLASS ACTIVITIES:
-For Picture Study and Composer Study classes, see Picture Study and | F. Analyze the processes of criticism used to compare the meanings of a work in the arts in both its own and present time. |

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| <p>Navaho weavings and Kente cloth from West Africa).</p> <p>Book of Centuries compare arts from different areas of the world and country and historical period;</p> <p>CLASS</p> <p>ACTIVITIES:</p> <p>-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.</p> <p>- Essay exams and oral, written, illustrated narrations.</p> <p>- picture studies and composer studies in various content areas</p> <p>- Classroom Timeline and Book of Centuries in various content areas</p> <p>FINE ARTS Book List 4th-5th:</p> <p>Shakespeare Plays: <u>Macbeth</u>; <u>Twelfth Night</u>; <u>Midsummer Night's Dream</u>; <u>Julius Caesar</u>; <u>Coriolanus</u>; <u>King John</u>; <u>A Weekend with Velazquez</u>; <u>A Child's History of Art</u>; <u>A Weekend with Degas</u>; <u>Degas Drawings</u>; <u>A Weekend with Homer</u>; <u>A First Book in Architecture</u>; <u>A Weekend with da Vinci</u> What Makes a Leonardo da Vinci a Leonardo?</p> <p>Leonardo Paintings and Cards; A Weekend with</p> | <p>-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.</p> <p>- Essay exams and oral, written, illustrated narrations.</p> <p>- picture studies and composer studies in various content areas</p> <p>- Classroom Timeline and Book of Centuries in various content areas</p> <p>FINE ARTS Book List 6th-8th:</p> <p>Shakespeare Plays: <u>Richard II</u>; <u>Henry V</u>; <u>Henry VIII</u>; <u>King Lear</u>; <u>Merchant of Venice</u>; <u>As You Like It</u>; <u>Much Ado about Nothing</u>; <u>Hamlet</u>; <u>The Tempest</u>; <u>English Literature for Boys and Girls</u> H.E. Marshall; <u>A Child's History of Art</u>; <u>Young People's Story of Architecture</u>; <u>What Makes a Bruegel a Bruegel</u>; "American Progress" Gast; <u>The Group of Seven: Art for a Nation</u>; <u>A First Book of Architecture</u>; <u>Michelangelo Life Drawings</u>; <u>First Impressions: Michelangelo</u>; <u>Monastery</u></p> | <p>CLASS</p> <p>ACTIVITIES:</p> <p>-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.</p> <p>- Essay exams and oral, written, illustrated narrations.</p> <p>- picture studies and composer studies in various content areas</p> <p>- Classroom Timeline and Book of Centuries in various content areas</p> <p>FINE ARTS Book List 9th-12th:</p> <p>Shakespeare Plays: <u>Richard III</u>; <u>Loves' Labour Lost</u>; <u>Henry IV</u>; <u>Romeo and Juliet</u>; <u>All's Well that Ends Well</u>; <u>Pericles</u>; <u>Othello</u>; <u>Taming of the Shrew</u>; <u>Winter's Tale</u>; <u>Anthony and Cleopatra</u>; <u>Cymbeline</u>; <u>Troilus and Cressida</u>; <u>Norman Rockwell: Pictures for the American People</u>; <u>A History of</u></p> |
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| <p>Matisse; <i>A Child's History of Art</i>; <i>American Folk Songs for Children</i>; Sally Go Round the Sun; <i>Birds, Beasts, Bugs and Fishes Little and Big</i>; <i>Animal Folk Songs</i>; <i>American Folk Songs for Children</i>; <i>Arroz con Leche</i>; <i>Cuentos Y Canciones</i>; 80 <i>Comptines a Mmer et Jeux de Doight, De colores and Other Latin American Folksongs for Children</i>; <i>Step It Down: Games, Plays, Songs and Stories from the Afro-American Heritage</i>; <i>What Makes a Cassatt a Cassatt</i>; <i>A First Book of Architecture</i>; <i>A Weekend with Renoir</i>; <i>Pyramid, Mosque, Castle; Cathedral</i>; <i>A Child's History of Art</i></p> | <p>van Gogh, <i>What Makes a van Gogh a van Gogh</i>; Benjamin West and <i>His Cat Grimalkin</i>; <i>Bio in Satie, 3 Gymnopedies & 3 Gnossiennes for Piano</i> edited by Murray Baylor (publisher Alfred)</p> | | <p><i>Architecture: Settings and Rituals</i>; <i>First Impressions</i>: James McNeill Whistler; Anna Richards Brewster: <i>American Impressionist</i>; <i>Italic Letters: Calligraphy and Handwriting</i>; <i>Rueben's Drawings</i></p> |
| <p>G. Know and demonstrate what a critic's position or opinion is related to works in the arts and humanities (e.g., I like patriotic songs because ...; The movie was enjoyed for its exceptional special effects).</p> | <p>G. Describe a critic's position or opinion about selected works in the arts and humanities (e.g., student's presentation of a critical position on Walt Disney's <i>Evolution of Mickey and Minnie Mouse</i>).
CLASS ACTIVITIES:</p> | <p>G. Compare and contrast critical positions or opinions about selected works in the arts and humanities (e.g., critic's review and comparison of Alvin Ailey's <i>Revelations</i> to Tchaikovsky's <i>Swan Lake</i>).
CLASS ACTIVITIES:
-For Picture Study and Composer Study classes,</p> | <p>G. Analyze works in the arts by referencing the judgments advanced by arts critics as well as one's own analysis and critique.
CLASS ACTIVITIES:
-For Picture Study and Composer Study classes, see Picture Study and Composer</p> |

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| <p>CLASS ACTIVITIES:</p> <p>-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.</p> <p>- Essay exams and oral, written, illustrated narrations.</p> <p>- picture studies and composer studies in various content areas</p> <p>- Classroom Timeline and Book of Centuries in various content areas</p> <p>- Current Events and Reviews</p> <p>FINE ARTS Book List K-3rd :</p> <p><i>Georgia's Bones; In the Woods; A Blue Butterfly; What Makes a Monet A Monet?; A Weekend with Matisse; A Child's History of Art; American Folk Songs for Children; Sally Go Round the Sun; Birds, Beasts, Bugs and</i></p> | <p>-For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.</p> <p>- Essay exams and oral, written, illustrated narrations.</p> <p>- picture studies and composer studies in various content areas</p> <p>- Classroom Timeline and Book of Centuries in various content areas</p> <p>- Current Events and Reviews</p> <p>FINE ARTS Book List 4th-5th:</p> <p><i>Shakespeare Plays: Macbeth; Twelfth Night; Midsummer Night's Dream; Julius Caesar; Coriolanus; King John; A Weekend with Velazquez; A Child's History of Art; A Weekend with Degas; Degas Drawings; ; A Weekend with Homer; A First Book in Architecture; A Weekend with da Vinci What Makes a Leonardo da Vinci a Leonardo?</i></p> | <p>see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.</p> <p>- Essay exams and oral, written, illustrated narrations.</p> <p>- picture studies and composer studies in various content areas</p> <p>- Classroom Timeline and Book of Centuries in various content areas</p> <p>- Current Events and Reviews</p> <p>FINE ARTS Book List 6th-8th:</p> <p><i>Shakespeare Plays: Richard II, Henry V; Henry VIII; King Lear; Merchant of Venice; As You Like It; Much A do about Nothing; Hamlet; The Tempest; English Literature for Boys and Girls H.E. Marshall; A Child's History of Art; Young People's Story of Architecture; What Makes a Bruegel a Bruegel; "American Progress" Gast; The Group of Seven: Art for a Nation; A First Book of Architecture; Michelangelo Life Drawings; First</i></p> | <p>Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.</p> <p>- Essay exams and oral, written, illustrated narrations.</p> <p>- picture studies and composer studies in various content areas</p> <p>- Classroom Timeline and Book of Centuries in various content areas</p> <p>- Current Events and Reviews</p> <p>FINE ARTS Book List 9th-12th:</p> <p><i>Shakespeare Plays: Richard III; Loves' Labour Lost; Henry IV; Romeo and Juliet; All's Well that Ends Well; Pericles; Othello; Taming of the Shrew; Winter's Tale; Anthony and Cleopatra; Cymbeline; Troilus and Cressida; Norman Rockwell: Pictures for the American People; A History of Architecture: Settings and Rituals; First Impressions: James McNeill Whistler;</i></p> |
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| <i>Fishes Little and Big; Animal Folk Songs; American Folk Songs for Children; Arroz con Leche; Cuentos Y Canciones; 80 Comptines a Mmer et Jeux de Doight, De colores and Other Latin American Folksongs for Children; Step It Down: Games, Plays, Songs and Stories from the Afro-American Heritage; What Makes a Cassatt a Cassatt; A First Book of Architecture; A Weekend with Renoir; Pyramid, Mosque, Castle; Cathedral; A Child's History of Art</i> | <i>Leonardo Paintings and Cards; A Weekend with van Gogh, What Makes a van Gogh a van Gogh; Benjamin West and His Cat Grimalkin; Bio in Satie, 3 Gymnopedies & 3 Gnossiennes for Piano edited by Murray Baylor (publisher Alfred)</i> | <i>Impressions: Michelangelo; Monastery</i> | <i>Anna Richards Brewster: American Impressionist; Italic Letters: Calligraphy and Handwriting; Rueben's Drawings</i> |
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| 9.4. Aesthetic Response | | | |
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| 9.4.3. GRADE 3 | 9.4.5. GRADE 5 | 9.4.8. GRADE 8 | 9.4.12. GRADE 12 |
| <i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</i> | | | |
| A. Know how to respond to a philosophical statement about works in the arts and humanities (e.g., "Can artworks that depict or are about ugly or unpleasant things ever be beautiful?"). | A. Identify uses of expressive symbols that show philosophical meanings in works in the arts and humanities (e.g., American TV ads versus Asian TV ads). Picture Studies and Composer Study | A. Compare and contrast examples of group and individual philosophical meanings of works in the arts and humanities (e.g., group discussions on musical theatre versus the individual's concept of musical theatre). | A. Evaluate an individual's philosophical statement on a work in the arts and its relationship to one's own life based on knowledge and experience. Current Events and Reviews van Loon's <i>The Arts</i> |

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| Picture Studies and Composer Studies Lessons
Jansen <i>The Story of Painting</i> | Lessons; Youtube; Jansen <i>The Story of Painting</i> | Current Events and Reviews
van Loon's <i>The Arts</i>
<i>The Story of Art</i>
Jansen | |
| B. Know how to communicate an informed individual opinion about the meaning of works in the arts (e.g., works of an artist of the month).
Weekly Picture and Composer Study lessons narrations; museum visits; essay exams; <i>A Child's History of Art</i> | B. Investigate and communicate multiple philosophical views about works in the arts.
Weekly Picture and Composer Study lessons narrations; museum visits, essay exams; <i>Dancing Classrooms</i> ; <i>A Child's History of Art</i> | B. Compare and contrast informed individual opinions about the meaning of works in the arts to others (e.g., debate philosophical opinions within a listserve or at an artist's website).
<i>Young People's Story of Architecture: Gothic-Modern</i> ; Weekly Picture and Composer Study lessons narrations; museum visits; essay exams; <i>Dancing Classrooms</i> FIELD STUDIES: Philadelphia Museum of Art; Guest Artist | B. Describe and analyze the effects that works in the arts have on groups, individuals and the culture (e.g., Orson Welles' 1938 radio broadcast, <i>War of the Worlds</i>).
<i>The Story of Architecture</i> by Leslie P. Waterhouse
OR <i>A History of Architecture : Settings and Rituals</i> by Spiro;
Weekly Picture and Composer Study lessons narrations (e.g. Picasso, Shoenburg, ; museum visits; essay exams; <i>A History of the Twentieth Century</i> by Martin Gilbert ; <i>Uncle Tom's Cabin</i> ; <i>The Koran</i> ; <i>The Writing Life</i> ; <i>The Gift of Fire</i> ; 1960's Folk Songs; <i>The Age of Persuasion</i> (marketing culture); <i>Technopoly</i> ; <i>Amusing Ourselves to Death</i> |
| C. Recognize that the environment of the observer influences individual aesthetic | C. Identify the attributes of various audiences' environments as they influence individual | C. Describe how the attributes of the audience's environment | C. Compare and contrast the attributes of various audiences' environments as they |

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| <p>responses to works in the arts (e.g., the effect of live music as opposed to listening to the same piece on a car radio).</p> <p>Narrations about Field Studies:</p> <p>Live concerts</p> | <p>aesthetic response (e.g., Beatles' music played by the Boston Pops versus video taped concerts from the 1970s).</p> <p>Narrations (retelling and class discussion) and Essay Exams about Youtube clip of Bach being played in different venues; Bach Festival; Dancing Classrooms Program</p> | <p>influence aesthetic responses (e.g., the ambiance of the theatre in a performance of Andrew Lloyd Weber's <i>Cats</i>).</p> <p>Narrations and Essay Exams about Field Studies: Philadelphia Philharmonic, Local Concerts</p> | <p>influence individual aesthetic response (e.g., viewing traditional <i>Irish</i> dance at county fair versus the performance of <i>River Dance</i> in a concert hall).</p> <p>Narrations and Essay Exams of local concerts and NYC Broadway or through Youtube. Movie of Romeo and Juliet vs. a Romeo and Juliet play. Study Shakespeare yearly.</p> |
| <p>D. Recognize that choices made by artists regarding subject matter and themes communicate ideas through works in the arts and humanities (e.g., artist's interpretation through the use of classical ballet of the American West in Agnes De Mille's <i>Rodeo</i>).</p> <p>CLASS ACTIVITIES:</p> <ul style="list-style-type: none"> -For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and | <p>D. Explain choices made regarding media, technique, form, subject matter and themes that communicate the artist's philosophy within a work in the arts and humanities (e.g., selection of stage lighting in Leonard Bernstein's <i>West Side Story</i> to communicate mood).</p> <p>CLASS ACTIVITIES:</p> <ul style="list-style-type: none"> -For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed. | <p>D. Describe to what purpose philosophical ideas generated by artists can be conveyed through works in the arts and humanities (e.g., T. Ganson's <i>Destructive Periods in Russia During Stalin's and Deniken's Leadership</i> conveys her memories and emotions of a specific incident).</p> <p>CLASS ACTIVITIES:</p> <ul style="list-style-type: none"> -For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and | <p>D. Analyze and interpret a philosophical position identified in works in the arts and humanities.</p> <p>CLASS ACTIVITIES:</p> <ul style="list-style-type: none"> -For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed. - Essay exams and oral, written, illustrated narrations. - picture studies and composer studies in various content areas |

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| <p>biographies are also read and discussed.</p> <ul style="list-style-type: none"> - Essay exams and oral, written, illustrated narrations. - picture studies and composer studies in various content areas - Classroom Timeline and Book of Centuries in various content areas <p>FINE ARTS Book List K-3rd :</p> <p><i>Georgia's Bones; In the Woods; A Blue Butterfly; What Makes a Monet A Monet?; A Weekend with Matisse; A Child's History of Art; American Folk Songs for Children; Sally Go Round the Sun; Birds, Beasts, Bugs and Fishes Little and Big; Animal Folk Songs; American Folk Songs for Children; Arroz con Leche; Cuentos Y Canciones; 80 Comptines a Mmer et Jeux de Doight, De colores and Other Latin American Folksongs for Children; Step It Down: Games, Plays, Songs and Stories from the Afro-American Heritage; What Makes a Cassatt a Cassatt; A</i></p> | <ul style="list-style-type: none"> - Essay exams and oral, written, illustrated narrations. - picture studies and composer studies in various content areas - Classroom Timeline and Book of Centuries in various content areas <p>FINE ARTS Book List 4th-5th:</p> <p>Shakespeare Plays: <u>Macbeth; Twelfth Night; Midsummer Night's Dream; Julius Caesar; Coriolanus; King John; A Weekend with Velazquez; A Child's History of Art; A Weekend with Degas; Degas Drawings; ; A Weekend with Homer; A First Book in Architecture; A Weekend with da Vinci What Makes a Leonardo da Vinci a Leonardo? Leonardo Paintings and Cards; A Weekend with van Gogh, What Makes a van Gogh a van Gogh; Benjamin West and His Cat Grimalkin; Bio in Satie, 3 Gymnopedies & 3 Gnossiennes for Piano</u> edited by Murray Baylor (publisher Alfred)</p> | <p>always discussed, and biographies are also read and discussed.</p> <ul style="list-style-type: none"> - Essay exams and oral, written, illustrated narrations. - picture studies and composer studies in various content areas - Classroom Timeline and Book of Centuries in various content areas <p>FINE ARTS Book List 6th-8th:</p> <p>Shakespeare Plays: <u>Richard II, Henry V; Henry VIII; King Lear; Merchant of Venice; As You Like It; Much Ado about Nothing; Hamlet; The Tempest; English Literature for Boys and Girls H.E. Marshall; A Child's History of Art; Young People's Story of Architecture; What Makes a Bruegel a Bruegel; "American Progress" Gast; The Group of Seven: Art for a Nation; A First Book of Architecture; Michelangelo Life Drawings; First Impressions: Michelangelo; Monastery</u></p> | <ul style="list-style-type: none"> - Classroom Timeline and Book of Centuries in various content areas <p>FINE ARTS Book List 9th-12th:</p> <p>Shakespeare Plays: <u>Richard III; Loves' Labour Lost; Henry IV; Romeo and Juliet; All's Well that Ends Well; Pericles; Othello; Taming of the Shrew; Winter's Tale; Anthony and Cleopatra; Cymbeline; Troilus and Cressida; Norman Rockwell: Pictures for the American People; A History of Architecture: Settings and Rituals; First Impressions: James McNeill Whistler; Anna Richards Brewster: American Impressionist; Italic Letters: Calligraphy and Handwriting; Rueben's Drawings</u></p> |
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Dogwood Charter School's Curriculum and the PA Standards

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| <i>First Book of
Architecture; A
Weekend with Renoir;
Pyramid, Mosque,
Castle; Cathedral; A
Child's History of Art</i> | | | |
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**Pennsylvania State Standards
CURRICULUM MAPPING
Grade K-3rd
Subject Theatre/Dance**

Standard Area - 9.1: Production, Performance and Exhibition of Dance, Music, Theatre and Visual Arts

| Grade Level - 9.1.3: GRADE 3 | Books/Activities Used |
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| <p>9.1.3.A: Know and use the elements and principles of each art form to create works in the arts and humanities.</p> <p>Elements
 Dance:
 • energy/force • space • time
 Music: • duration • intensity • pitch • timbre
 Theatre: • scenario • script/text • set design
 Visual Arts: • color • form/shape • line • space • texture • value
 Principles Dance: • choreography • form • genre • improvisation • style • technique
 Music: • composition • form • genre • harmony • rhythm • texture
 Theatre: • balance • collaboration • discipline • emphasis • focus • intention • movement • rhythm • style • voice
 Visual Arts: • balance • contrast • emphasis/focal point • movement/rhythm • proportion/scale • repetition • unity/harmony</p> | <p>Dramatic Narration - student interpretation of stories that are read through acting (includes set design, scripts, improvisation, coordination, prop use, choreography, etc.)</p> <p><i>Tales from Shakespeare</i> by Charles and Mary Lamb
 <i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew</p> <p>Music Instruction - includes pitch, timbre, composition, harmony, rhythm, genre, voice, etc. See Music Scope</p> <p>Art Instruction - includes color, line, forms, shapes, textures, contrast, focal point, proportion, scale, repetition</p> <p>Spanish Instruction - folk songs and dances</p> |
| <p>9.1.3.B: Recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts.</p> <p>Dance: • move • perform • read and notate dance • create and choreograph • improvise</p> | <p>Dramatic Narration - student interpretation of stories that are read through acting (includes set design, scripts, improvisation, coordination, prop use, choreography, etc.)</p> <p><i>Tales from Shakespeare</i> by Charles and Mary Lamb</p> |

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| <p>Music: • sing • play an instrument • read and notate music • compose and arrange •improvise</p> <p>Theatre: • stage productions • read and write scripts • improvise • interpret a role • design sets • direct</p> <p>Visual Arts: • paint • draw • craft • sculpt • print • design for environment, communication, multi-media</p> | <p><i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew</p> <p>Art Instruction - includes creating original artwork, painting, drawing, designing, etc.</p> <p>Music Instruction - includes dancing, playing instruments, reading music, composing, etc.</p> <p>Spanish Instruction - folk songs and dances</p> |
| <p>9.1.3.C: Recognize and use fundamental vocabulary within each of the arts forms</p> | <p>Grand Conversations</p> <p><i>Tales from Shakespeare</i> by Charles and Mary Lamb</p> <p><i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew</p> |
| <p>9.1.3.D: Use knowledge of varied styles within each art form through a performance or exhibition of unique work</p> | <p>Dramatic Narration - student interpretation of stories that are read through acting (includes set design, scripts, improvisation, coordination, prop use, choreography, etc.)</p> <p><i>Tales from Shakespeare</i> by Charles and Mary Lamb</p> <p><i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew</p> <p>Art Instruction - includes creating original artwork, painting, drawing, designing, etc.</p> <p>Spanish Instruction - folk songs and dances</p> |
| <p>9.1.3.E: Demonstrate the ability to define objects, express emotions, illustrate an action or relate an experience through creation of works in the arts.</p> | <p>Dramatic Narration - student interpretation of stories that are read through acting</p> <p>Illustrated Narration - illustrated depictions of stories heard, field studies</p> |

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| | <p><i>Tales from Shakespeare</i> by Charles and Mary Lamb
 <i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew</p> |
| <p>9.1.3.F: Identify works of others through a performance or exhibition (e.g., exhibition of student paintings based on the study of Picasso).</p> | <p>Dramatic Narration - student interpretation of stories that are read through acting (includes set design, scripts, improvisation, coordination, prop use, choreography, etc.)</p> <p><i>Tales from Shakespeare</i> by Charles and Mary Lamb
 <i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew</p> <p>Art Instruction - includes creating original artwork, painting, drawing, designing, etc.</p> |
| <p>9.1.3.G: Recognize the function of rehearsals and practice sessions.</p> | <p>Dramatic Narration - student interpretation of stories that are read through acting (includes set design, scripts, improvisation, coordination, prop use, choreography, etc.)</p> <p><i>Tales from Shakespeare</i> by Charles and Mary Lamb
 <i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew</p> <p>Music Instruction - includes recitals, practice time and practiced performances</p> <p>Spanish Instruction - folk songs and dances</p> |
| <p>9.1.3.H: Handle materials, equipment and tools safely at work and performance spaces. Identify materials used. Identify issues of cleanliness related to the arts. Recognize some mechanical/electrical equipment. Recognize differences in selected physical space/environments. Recognize the need to</p> | <p>Art/Music Instruction - includes gathering, cleaning, and putting away materials appropriately, remaining in a comfortable physical space of one another</p> |

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| select safe props/stage equipment. Identify methods for storing materials in the arts | |
| 9.1.3.I: Identify arts events that take place in schools and in communities. | <p>Art Instruction - includes students taking part in/setting up annual art galleries</p> <p>Music Instruction - includes students taking part in annual music recitals, practiced performances at school assemblies</p> |
| 9.1.3.J: Know and use traditional and contemporary technologies for producing, performing and exhibiting works in the arts or the works of others. Know and use traditional technologies (e.g., charcoal, pigments, clay, needle/thread, quill pens, stencils, tools for wood carving, looms, stage equipment). Know and use contemporary technologies (e.g., CDs/software, audio/sound equipment, polymers, clays, board-mixers, photographs, recorders). | <p>Handwork - includes sewing, crocheting, bead work, painting, weaving, etc.</p> <p>Art Instruction</p> <p>Dramatic Narrations</p> |
| 9.1.3.K: Know and use traditional and contemporary technologies for furthering knowledge and understanding in the humanities. | <p>Lessons/Activities:
 Skyline Printmaking
 Flocks, Herds, Swarms: Warm/Cool Fish
 Calder Sculptures</p> <p>Books:
 Sandy's Circus</p> |

Standard Area - 9.2: Historical and Cultural Contexts

| Grade Level - 9.2.3: GRADE 3 | Books/Activities Used |
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| <p>9.2.3.A: Explain the historical, cultural and social context of an individual work in the arts.</p> | <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets
 Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners</p> <p><i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg
 <i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin
 <i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu
 <i>Poetry for Young People: Emily Dickinson</i> by Frances
 <i>Handel at the Court of Kings</i> by Opal Wheeler
 <i>Paganini: Master of Strings</i> by Opal Wheeler
 <i>The Young Brahms</i> by Opal Wheeler
 <i>Frederic Chopin Son of Poland: Early Years</i> by Opal Wheeler
 <i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew
 <i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Faith Ringgold
 <i>Camille Saint-Saens's: The Carnival of the Animals</i> new verses by Jack Prelutsky</p> |
| <p>9.2.3.B: Relate works in the arts chronologically to historical events (e.g., 10,000 B.C. to present)</p> | <p>Classroom Timelines</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> |

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| | <p><i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg</p> <p><i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin</p> <p><i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu</p> <p><i>Poetry for Young People: Emily Dickinson</i> by Frances Handel at the Court of Kings by Opal Wheeler</p> <p><i>Paganini: Master of Strings</i> by Opal Wheeler</p> <p><i>The Young Brahms</i> by Opal Wheeler</p> <p><i>Frederic Chopin Son of Poland: Early Years</i> by Opal Wheeler</p> <p><i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew</p> <p><i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Faith Ringgold</p> <p><i>Camille Saint-Saens's: The Carnival of the Animals</i> new verses by Jack Prelutsky</p> |
| <p>9.2.3.C: Relate works in the arts to varying styles and genre and to the periods in which they were created (e.g., Bronze Age, Ming Dynasty, Renaissance, Classical, Modern, Post-Modern, Contemporary, Futuristic, others).</p> | <p>Classroom Timeline</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg</p> <p><i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin</p> <p><i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu</p> <p><i>Poetry for Young People: Emily Dickinson</i> by Frances Handel at the Court of Kings by Opal Wheeler</p> |

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| | <p><i>Paganini: Master of Strings</i> by Opal Wheeler
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 <i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew
 <i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Faith Ringgold
 <i>Camille Saint-Saens's: The Carnival of the Animals</i> new verses by Jack Prelutsky</p> |
| 9.2.3.D: Analyze a work of art from its historical and cultural perspective. | <p>Classroom Timeline</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg
 <i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin
 <i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu
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 <i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Faith Ringgold</p> |

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| | <p><i>Camille Saint-Saens's: The Carnival of the Animals</i> new verses by Jack Prelutsky</p> |
| <p>9.2.3.E: Analyze how historical events and culture impact forms, techniques and purposes of works in the arts (e.g., Gilbert and Sullivan operettas)</p> | <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg</p> <p><i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin</p> <p><i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu</p> <p><i>Poetry for Young People: Emily Dickinson</i> by Frances</p> <p><i>Handel at the Court of Kings</i> by Opal Wheeler</p> <p><i>Paganini: Master of Strings</i> by Opal Wheeler</p> <p><i>The Young Brahms</i> by Opal Wheeler</p> <p><i>Frederic Chopin Son of Poland: Early Years</i> by Opal Wheeler</p> <p><i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew</p> <p><i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Faith Ringgold</p> <p><i>Camille Saint-Saens's: The Carnival of the Animals</i> new verses by Jack Prelutsky</p> |
| <p>9.2.3.F: Know and apply appropriate vocabulary used between social studies and the arts and humanities.</p> | <p>Lessons/Activities:</p> <p>Aboriginal Dot Painting</p> <p>Totem Poles</p> <p>Architecture - Three orders of columns</p> <p>Books:</p> <p>Arrow to the Sun: A Pueblo Indian Tale</p> |

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| | <p>Raven: A Trickster Tale from the Pacific Northwest</p> <p>Child's History of Art: Architecture</p> |
| <p>9.2.3.G: Relate works in the arts to geographic regions:</p> <p>Africa</p> <p>Asia</p> <p>Australia</p> <p>Central America</p> <p>Europe</p> <p>North America</p> <p>South America</p> | <p>Classroom Maps</p> <p>World Globe</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg</p> <p><i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin</p> <p><i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu</p> <p><i>Poetry for Young People: Emily Dickinson</i> by Frances</p> <p><i>Handel at the Court of Kings</i> by Opal Wheeler</p> <p><i>Paganini: Master of Strings</i> by Opal Wheeler</p> <p><i>The Young Brahms</i> by Opal Wheeler</p> <p><i>Frederic Chopin Son of Poland: Early Years</i> by Opal Wheeler</p> <p><i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew</p> <p><i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Faith Ringgold</p> <p><i>Camille Saint-Saens's: The Carnival of the Animals</i> new verses by Jack Prelutsky</p> |
| <p>9.2.3.H: Identify, describe and analyze the work of Pennsylvania Artists in dance, music, theatre and visual arts.</p> | <p>Art Instruction</p> <p>Music Instruction</p> <p>Artist Study</p> |

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| | <i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i>
by Faith Ringgold |
| 9.2.3.I: Identify, explain and analyze philosophical beliefs as they relate to works in the arts (e.g., classical architecture, rock music, Native American dance, contemporary American musical theatre). | Music Instruction - Grand Conversation: discussion of various American Musical Theatre Songwriters
Artist Study |
| 9.2.3.J: Identify, explain and analyze historical and cultural differences as they relate to works in the arts (e.g., PLAYS BY Shakespeare, works by Michelangelo, ethnic dance and music). | <p><i>Tales from Shakespeare</i> by Charles and Mary Lamb
 <i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg</p> <p><i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin
 <i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu
 <i>Poetry for Young People: Emily Dickinson</i> by Frances
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 <i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew
 <i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Faith Ringgold
 <i>Camille Saint-Saens's: The Carnival of the Animals</i> new verses by Jack Prelutsky</p> <p>Dramatic Narrations
 Artist Study</p> |

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| <p>9.2.3.K: Identify, explain and analyze traditions as they relate to works in the arts (e.g., story telling – plays, oral histories- poetry, work songs- blue grass).</p> | <p><i>Tales from Shakespeare</i> by Charles and Mary Lamb
 <i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg
 <i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin
 <i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu
 <i>Poetry for Young People: Emily Dickinson</i> by Frances Handel at the Court of Kings by Opal Wheeler
 <i>Paganini: Master of Strings</i> by Opal Wheeler
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 <i>Frederic Chopin Son of Poland: Early Years</i> by Opal Wheeler
 <i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew
 <i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Faith Ringgold
 <i>Camille Saint-Saens's: The Carnival of the Animals</i> new verses by Jack Prelutsky</p> <p>Artist Study
 Music Instruction
 Art Instruction
 Dramatic Narrations
 Whole Group Discussions</p> |
| <p>9.2.3.L: Identify, explain and analyze common themes, forms and techniques from works in the arts (e.g., Copland and Graham's Appalachian Spring and Millet's The Gleaners).</p> | <p><i>Tales from Shakespeare</i> by Charles and Mary Lamb
 <i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg
 <i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin</p> |

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| | <p><i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu</p> <p><i>Poetry for Young People: Emily Dickinson</i> by Frances</p> <p><i>Handel at the Court of Kings</i> by Opal Wheeler</p> <p><i>Paganini: Master of Strings</i> by Opal Wheeler</p> <p><i>The Young Brahms</i> by Opal Wheeler</p> <p><i>Frederic Chopin Son of Poland: Early Years</i> by Opal Wheeler</p> <p><i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew</p> <p><i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Faith Ringgold</p> <p><i>Camille Saint-Saens's: The Carnival of the Animals</i> new verses by Jack Prelutsky</p> <p>Artist Study</p> |
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Standard Area - 9.3: Critical Response

| Grade Level - 9.3.3: GRADE 3 | Books/Activities Used |
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| <p>9.3.3.A: Recognize critical processes used in the examination of works in the arts and humanities.</p> <p>Compare and contrast</p> <p>Analyze Interpret</p> <p>Form and test hypotheses</p> <p>Evaluate/form judgments</p> | <p>Whole Group Discussions</p> <p>Dramatic Narrations</p> <p>Artist Study</p> <p><i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg</p> <p><i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin</p> |

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| | <p><i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu</p> <p><i>Poetry for Young People: Emily Dickinson</i> by Frances</p> <p><i>Handel at the Court of Kings</i> by Opal Wheeler</p> <p><i>Paganini: Master of Strings</i> by Opal Wheeler</p> <p><i>The Young Brahms</i> by Opal Wheeler</p> <p><i>Frederic Chopin Son of Poland: Early Years</i> by Opal Wheeler</p> <p><i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew</p> <p><i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Faith Ringgold</p> <p><i>Camille Saint-Saens's: The Carnival of the Animals</i> new verses by Jack Prelutsky</p> |
| 9.3.3.B: Know that works in the arts can be described by using the arts elements, principles and concepts (e.g., use of color, shape and pattern in Mondrian's <i>Broadway Boogie-Woogie</i>; use of dynamics, tempo, texture in Ravel's <i>Bolero</i>). | <p>Art Instruction</p> <p>Music Instruction -</p> <p>Dramatic Narrations</p> <p>Oral Narrations</p> |
| 9.3.3.C: Know classification skills with materials and processes used to create works in the arts (e.g., sorting and matching textiles, musical chants, television comedies). | <p>Art Instruction</p> <p>Music Instruction</p> <p>Dramatic Narrations</p> <p>Oral Narrations</p> |
| 9.3.3.D: Explain meanings in the arts and humanities through individual works and the works of others using a fundamental vocabulary of critical response. | <p>Art Instruction</p> <p>Music Instruction</p> <p>Dramatic Narrations</p> <p>Oral Narrations</p> <p>Grand Conversations</p> <p><i>Tales from Shakespeare</i> by Charles and Mary Lamb</p> |

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| | <i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i>
by Patrick Ryan and James Matthew |
| 9.3.3.E: Recognize and identify types of critical analysis in the arts and humanities.
Contextual criticism
Formal criticism
Intuitive criticism | Dramatic Narrations
Oral Narrations
Grand Conversations

<i>Tales from Shakespeare</i> by Charles and Mary Lamb
<i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i>
by Patrick Ryan and James Matthew |
| 9.3.3.F: Know how to recognize and identify similar and different characteristics among works in the arts (e.g., Amish and Hawaiian quilts, Navaho weavings and Kente cloth from West Africa). | Artist Study
Art Instruction
Music Instruction
Handwork
Grand Conversations

<i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg
<i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin
<i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu
<i>Poetry for Young People: Emily Dickinson</i> by Frances
<i>Handel at the Court of Kings</i> by Opal Wheeler
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<i>Frederic Chopin Son of Poland: Early Years</i> by Opal Wheeler
<i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i>
by Patrick Ryan and James Matthew
<i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i>
by Faith Ringgold |

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| | <i>Camille Saint-Saens's: The Carnival of the Animals</i> new verses by Jack Prelutsky |
| 9.3.3.G: Know and demonstrate what a critic's position or opinion is related to works in the arts and humanities (e.g., I like patriotic songs because...; The movie was enjoyed for its exceptional special effects) | <p>Grand Conversations
 Artist Study
 Composer Study</p> <p><i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg
 <i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin
 <i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu
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 <i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew
 <i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Faith Ringgold
 <i>Camille Saint-Saens's: The Carnival of the Animals</i> new verses by Jack Prelutsky</p> |

Standard Area - 9.4: Aesthetic Response

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| Grade Level - 9.4.3: GRADE 3 | Books/Activities Used |
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| <p>9.4.3.A: Know how to respond to a philosophical statement about works in the arts and humanities (e.g., “Can artworks that depict or are about ugly or unpleasant things ever be beautiful?”)</p> | <p>Grand Conversations</p> <p><i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg</p> <p><i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin</p> <p><i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu</p> <p><i>Poetry for Young People: Emily Dickinson</i> by Frances</p> <p><i>Handel at the Court of Kings</i> by Opal Wheeler</p> <p><i>Paganini: Master of Strings</i> by Opal Wheeler</p> <p><i>The Young Brahms</i> by Opal Wheeler</p> <p><i>Frederic Chopin Son of Poland: Early Years</i> by Opal Wheeler</p> <p><i>Shakespeare’s Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew</p> <p><i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Faith Ringgold</p> <p><i>Camille Saint-Saens’s: The Carnival of the Animals</i> new verses by Jack Prelutsky</p> |
| <p>9.4.3.B: Know how to communicate an informed individual opinion about the meaning of works in the arts (e.g., works of an artist of the month)Broadway Boogie-Woogie; use of dynamics, tempo, texture in Ravel’s Bolero).</p> | <p>Grand Conversations</p> <p><i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg</p> <p><i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin</p> <p><i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu</p> <p><i>Poetry for Young People: Emily Dickinson</i> by Frances</p> <p><i>Handel at the Court of Kings</i> by Opal Wheeler</p> <p><i>Paganini: Master of Strings</i> by Opal Wheeler</p> |

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| | <p><i>The Young Brahms</i> by Opal Wheeler</p> <p><i>Frederic Chopin Son of Poland: Early Years</i> by Opal Wheeler</p> <p><i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew</p> <p><i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Faith Ringgold</p> <p><i>Camille Saint-Saens's: The Carnival of the Animals</i> new verses by Jack Prelutsky</p> |
| <p>9.4.3.C: Recognize that the environment of the observer influences individual aesthetic responses to works in the arts (e.g., the effect of live music as opposed to listening to the same piece on a car radio).</p> | <p>Grand Conversations</p> <p><i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg</p> <p><i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin</p> <p><i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu</p> <p><i>Poetry for Young People: Emily Dickinson</i> by Frances</p> <p><i>Handel at the Court of Kings</i> by Opal Wheeler</p> <p><i>Paganini: Master of Strings</i> by Opal Wheeler</p> <p><i>The Young Brahms</i> by Opal Wheeler</p> <p><i>Frederic Chopin Son of Poland: Early Years</i> by Opal Wheeler</p> <p><i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew</p> <p><i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Faith Ringgold</p> <p><i>Camille Saint-Saens's: The Carnival of the Animals</i> new verses by Jack Prelutsky</p> |
| <p>9.4.3.D: Recognize that choices made by artists regarding subject matter and themes communicate</p> | <p>Grand Conversations</p> |

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| <p>ideas through works in the arts and humanities (e.g., artist's interpretation through the use of classical ballet of the American West in Agnes De Mille's Rodeo)</p> | <p><i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg
 <i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin
 <i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu
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 <i>Camille Saint-Saens's: The Carnival of the Animals</i> new verses by Jack Prelutsky</p> |
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Standard Area - 9.4: Aesthetic Response

| Grade Level - 9.4.3: GRADE 3 | Books/Activities Used |
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| <p>9.4.3.A: Know how to respond to a philosophical statement about works in the arts and humanities (e.g., "Can artworks that depict or are about ugly or unpleasant things ever be beautiful?")</p> | <p>Grand Conversations
 <i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg
 <i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin</p> |

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| | <p><i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu</p> <p><i>Poetry for Young People: Emily Dickinson</i> by Frances</p> <p><i>Handel at the Court of Kings</i> by Opal Wheeler</p> <p><i>Paganini: Master of Strings</i> by Opal Wheeler</p> <p><i>The Young Brahms</i> by Opal Wheeler</p> <p><i>Frederic Chopin Son of Poland: Early Years</i> by Opal Wheeler</p> <p><i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew</p> <p><i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Faith Ringgold</p> <p><i>Camille Saint-Saens's: The Carnival of the Animals</i> new verses by Jack Prelutsky</p> |
| <p>9.4.3.B: Know how to communicate an informed individual opinion about the meaning of works in the arts (e.g., works of an artist of the month)Broadway Boogie-Woogie; use of dynamics, tempo, texture in Ravel's Bolero).</p> | <p>Grand Conversations</p> <p><i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg</p> <p><i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin</p> <p><i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu</p> <p><i>Poetry for Young People: Emily Dickinson</i> by Frances</p> <p><i>Handel at the Court of Kings</i> by Opal Wheeler</p> <p><i>Paganini: Master of Strings</i> by Opal Wheeler</p> <p><i>The Young Brahms</i> by Opal Wheeler</p> <p><i>Frederic Chopin Son of Poland: Early Years</i> by Opal Wheeler</p> <p><i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew</p> |

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| | <p><i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Faith Ringgold</p> <p><i>Camille Saint-Saens's: The Carnival of the Animals</i> new verses by Jack Prelutsky</p> |
| <p>9.4.3.C: Recognize that the environment of the observer influences individual aesthetic responses to works in the arts (e.g., the effect of live music as opposed to listening to the same piece on a car radio).</p> | <p>Grand Conversations</p> <p><i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg</p> <p><i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin</p> <p><i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu</p> <p><i>Poetry for Young People: Emily Dickinson</i> by Frances</p> <p><i>Handel at the Court of Kings</i> by Opal Wheeler</p> <p><i>Paganini: Master of Strings</i> by Opal Wheeler</p> <p><i>The Young Brahms</i> by Opal Wheeler</p> <p><i>Frederic Chopin Son of Poland: Early Years</i> by Opal Wheeler</p> <p><i>Shakespeare's Storybook: Folk Tales that Inspired the Bard</i> by Patrick Ryan and James Matthew</p> <p><i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Faith Ringgold</p> <p><i>Camille Saint-Saens's: The Carnival of the Animals</i> new verses by Jack Prelutsky</p> |
| <p>9.4.3.D: Recognize that choices made by artists regarding subject matter and themes communicate ideas through works in the arts and humanities (e.g., artist's interpretation through the use of classical ballet of the American West in Agnes De Mille's Rodeo)</p> | <p>Grand Conversations</p> <p><i>What Makes a Rembrandt a Rembrandt?</i> edited by Richard Muhlberg</p> <p><i>Poetry for Young People: Maya Angelou</i> edited by Edwin Graves Wilson Schoonmaker Bolin</p> |

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| | <i>Poetry for Young People: William Wordsworth</i> edited by Dr. Alan Liu
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<i>Henry Ossawa Tanner: His Boyhood Dream Comes True</i> by Faith Ringgold
<i>Camille Saint-Saens's: The Carnival of the Animals</i> new verses by Jack Prelutsky |
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Pennsylvania State Standards
CURRICULUM MAPPING
Grade 5th
Subject Theatre

Standard Area - 9.1: Production, Performance and Exhibition of Dance, Music, Theatre and Visual Arts

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| Grade Level - 9.1.5: GRADE 5 | Books/Activities Used |
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| <p>9.1.5.A: Know and use the elements and principles of each art form to create works in the arts and humanities.</p> <p>Elements Dance:
 • energy/force • space • time
 Music: • duration • intensity • pitch • timbre
 Theatre: • scenario • script/text • set design
 Visual Arts: • color • form/shape • line • space • texture • value
 Principles
 Dance: • choreography • form • genre • improvisation • style • technique
 Music: • composition • form • genre • harmony • rhythm • texture
 Theatre: • balance • collaboration • discipline • emphasis • focus • intention • movement • rhythm • style • voice
 Visual Arts: • balance • contrast • emphasis/focal point • movement/rhythm • proportion/scale • repetition • unity/harmony</p> | <p>Dramatic Narration - student interpretation of stories that are read through acting (includes set design, scripts, improvisation, coordination, prop use, choreography, etc.)</p> <p><i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville</p> <p>Music Instruction - includes pitch, timbre, composition, harmony, rhythm, genre, voice, etc.</p> <p>Art Instruction - includes color, line, forms, shapes, textures, contrast, focal point, proportion, scale, repetition</p> <p>Spanish Instruction - folk songs and dances</p> |
| <p>9.1.5.B: Recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts.</p> <p>Dance: • move • perform • read and notate dance • create and choreograph • improvise
 Music: • sing • play an instrument • read and notate music • compose and arrange • improvise
 Theatre: • stage productions • read and write scripts • improvise • interpret a role • design sets • direct
 Visual Arts: • paint • draw • craft • sculpt • print • design for environment, communication, multi-media</p> | <p>Dramatic Narration - student interpretation of stories that are read through acting (includes set design, scripts, improvisation, coordination, prop use, choreography, etc.)</p> <p><i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville</p> <p>Art Instruction - includes creating original artwork, painting, drawing, designing, etc.</p> <p>Music Instruction - includes dancing, playing instruments, reading music, composing, etc.</p> <p>Spanish Instruction - folk songs and dances</p> |

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| 9.1.5.C: Know and use fundamental vocabulary within each of the arts forms. | <p>Grand Conversations</p> <p><i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville</p> |
| 9.1.5.D: Describe and use knowledge of a specific style within each art form through a performance or exhibition of a unique work. | <p>Dramatic Narration - student interpretation of stories that are read through acting (includes set design, scripts, improvisation, coordination, prop use, choreography, etc.)</p> <p><i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville</p> <p>Art Instruction - includes creating original artwork, painting, drawing, designing, etc.</p> |
| 9.1.5.E: Know and demonstrate how arts can communicate experiences, stories or emotions through the production of works in the arts. | <p>Dramatic narrations</p> <p><i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville</p> |
| 9.1.5.F: Describe works of others through performance or exhibition in two art forms. | <p>Dramatic Narrations
Grand Conversations
Written Narrations
Copy Work</p> <p>Field study to Philadelphia Shakespeare Theatre</p> <p>Art Instruction - includes creating original artwork, painting, drawing, designing, etc.</p> |
| 9.1.5.G: Identify the function and benefits of rehearsal and practice sessions. | <p>Grand Conversations
Dramatic Narration - student interpretation of stories that are read through acting (includes set design, scripts, improvisation, coordination, prop use, choreography, etc.)</p> |

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| | <p>Music Instruction - includes recitals and practiced performances</p> <p><i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville</p> <p>Field study to Philadelphia Shakespeare Theatre</p> |
| <p>9.1.5.H: Use and maintain materials, equipment and tools safely at work and performance spaces. Describe some materials used. Describe issues of cleanliness related to the arts. Describe types of mechanical/electrical equipment usage. Know how to work in selected physical space/environments. Identify the qualities of safe props/stage equipment. Describe methods for storing materials in the arts</p> | <p>Art/Music Instruction - includes gathering, cleaning, and putting away materials appropriately, remaining in a comfortable physical space of one another</p> |
| <p>9.1.5.I: Describe arts events that take place in schools and in communities.</p> | <p>Art Instruction - includes students taking part in/setting up annual art galleries</p> <p>Field study to Philadelphia Shakespeare Theatre</p> |
| <p>9.1.5.J: Apply traditional and contemporary technologies for producing, performing and exhibiting works in the arts or the works of others. Experiment with traditional technologies (e.g., ceramic/wooden tools, earthen clays, masks, instruments, folk shoes, etching tools, folk looms). Experiment with contemporary technologies (e.g., color fills on computers, texture methods on computers, fonts/point systems, animation techniques, video teleconferencing, multimedia techniques, internet access, library computer card catalogues).</p> | <p>Handwork - includes book making, soap carving, canvas weaving, quilling, origami, etc.
<i>Making Books that Fly, Fold, Wrap, Hide, Pop-Up, Twist, and Turn</i> by Gwen Diehn</p> <p>Art Instruction</p> <p>Dramatic Narrations</p> |

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| 9.1.5.K: Apply traditional and contemporary technology in furthering knowledge and understanding in the humanities. | Lesson on Shadow Puppets :
http://artsedge.kennedy-center.org/interactives/shadowpuppets/shadow_puppets.html ** |
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Standard Area - 9.2: Historical and Cultural Contexts

| Grade Level - 9.2.5: GRADE 5 | Books/Activities Used |
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| 9.2.5.A: Explain the historical, cultural and social context of an individual work in the arts | <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets
 Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners</p> <p><i>Poetry for Young People: William Blake</i> edited by John Maynard
 <i>Poetry for Young People: Shakespeare</i> edited by David Scott
 <i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville
 Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh
 <i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi
 <i>Leonardo's Horse</i> by Jean Fritz</p> <p>Composer Study: Ludwig van Beethoven, Johannes Sebastian Bach, Claude Debussy
 <i>Ludwig Beethoven and the Chiming Tower Bells</i> by Opal Wheeler</p> <p>Grand Conversations</p> |

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| <p>9.2.5.B: Relate works in the arts chronologically to historical events (e.g., 10,000 B.C. to present).</p> | <p>Classroom Timelines</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: William Blake</i> edited by John Maynard
 <i>Poetry for Young People: Shakespeare</i> edited by David Scott
 <i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville</p> <p>Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh
 <i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi
 <i>Leonardo's Horse</i> by Jean Fritz</p> <p>Composer Study: Ludwig van Beethoven, Johannes Sebastian Bach, Claude Debussy
 <i>Ludwig Beethoven and the Chiming Tower Bells</i> by Opal Wheeler</p> |
| <p>9.2.5.C: Relate works in the arts to varying styles and genre and to the periods in which they were created (e.g., Bronze Age, Ming Dynasty, Renaissance, Classical, Modern, Post-Modern, Contemporary, Futuristic, others).</p> | <p>Classroom Timeline</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: William Blake</i> edited by John Maynard
 <i>Poetry for Young People: Shakespeare</i> edited by David Scott
 <i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville</p> |

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| | <p>Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh
 <i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi
 <i>Leonardo's Horse</i> by Jean Fritz</p> <p>Composer Study: Ludwig van Beethoven, Johannes Sebastian Bach, Claude Debussy
 <i>Ludwig Beethoven and the Chiming Tower Bells</i> by Opal Wheeler</p> |
| 9.2.5.D: Analyze a work of art from its historical and cultural perspective. | <p>Classroom Timeline</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: William Blake</i> edited by John Maynard
 <i>Poetry for Young People: Shakespeare</i> edited by David Scott
 <i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville</p> <p>Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh
 <i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi
 <i>Leonardo's Horse</i> by Jean Fritz</p> <p>Composer Study: Ludwig van Beethoven, Johannes Sebastian Bach, Claude Debussy
 <i>Ludwig Beethoven and the Chiming Tower Bells</i> by Opal Wheeler</p> |
| 9.2.5.E: Analyze how historical events and culture impact forms, techniques and purposes of works in the arts (e.g., Gilbert and Sullivan operettas) | <p>Classroom Timeline</p> <p>Grand Conversations</p> |

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| | <p>Dramatic Narrations
Written Narrations</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: William Blake</i> edited by John Maynard
 <i>Poetry for Young People: Shakespeare</i> edited by David Scott
 <i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville
 Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh
 <i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi
 <i>Leonardo's Horse</i> by Jean Fritz</p> <p>Composer Study: Ludwig van Beethoven, Johannes Sebastian Bach, Claude Debussy
 <i>Ludwig Beethoven and the Chiming Tower Bells</i> by Opal Wheeler</p> |
| 9.2.5.F: Know and apply appropriate vocabulary used between social studies and the arts and humanities. | <p>Dramatic Narrations
Written Narrations
Grand Conversations</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: William Blake</i> edited by John Maynard
 <i>Poetry for Young People: Shakespeare</i> edited by David Scott</p> |

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| | <p><i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville</p> <p>Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh</p> <p><i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi</p> <p><i>Leonardo's Horse</i> by Jean Fritz</p> <p>Composer Study: Ludwig van Beethoven, Johannes Sebastian Bach, Claude Debussy</p> <p><i>Ludwig Beethoven and the Chiming Tower Bells</i> by Opal Wheeler</p> |
| <p>9.2.5.G: Relate works in the arts to geographic regions:</p> <p>Africa</p> <p>Asia</p> <p>Australia</p> <p>Central America</p> <p>Europe</p> <p>North America</p> <p>South America</p> | <p>Classroom Maps</p> <p>World Globe</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: William Blake</i> edited by John Maynard</p> <p><i>Poetry for Young People: Shakespeare</i> edited by David Scott</p> <p><i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville</p> <p>Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh</p> <p><i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi</p> <p><i>Leonardo's Horse</i> by Jean Fritz</p> <p>Composer Study: Ludwig van Beethoven, Johannes Sebastian Bach, Claude Debussy</p> <p><i>Ludwig Beethoven and the Chiming Tower Bells</i> by Opal Wheeler</p> |

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| 9.2.5.H: Identify, describe and analyze the work of Pennsylvania Artists in dance, music, theatre and visual arts. | Field study to Philadelphia Shakespeare Theatre

Art Instruction
Music Instruction

Grand Conversations |
| 9.2.5.I: Identify, explain and analyze philosophical beliefs as they relate to works in the arts (e.g., classical architecture, rock music, Native American dance, contemporary American musical theatre). | Music Instruction
Composer Study
Artist Study |
| 9.2.5.J: Identify, explain and analyze historical and cultural differences as they relate to works in the arts (e.g., PLAYS BY Shakespeare, works by Michelangelo, ethnic dance and music). | Artist Study - includes studies of biographies and works by famous painters, composers, and poets

<i>Poetry for Young People: William Blake</i> edited by John Maynard
<i>Poetry for Young People: Shakespeare</i> edited by David Scott
<i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville
Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh
<i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi
<i>Leonardo's Horse</i> by Jean Fritz

Composer Study: Ludwig van Beethoven, Johannes Sebastian Bach, Claude Debussy
<i>Ludwig Beethoven and the Chiming Tower Bells</i> by Opal Wheeler

Field study to Philadelphia Shakespeare Theatre |

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| <p>9.2.5.K: Identify, explain and analyze traditions as they relate to works in the arts (e.g., story telling – plays, oral histories- poetry, work songs- blue grass).</p> | <p>Grand Conversations
 Oral Narrations
 Written Narrations
 Dramatic Narrations</p> <p>Field study to Philadelphia Shakespeare Theatre</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: William Blake</i> edited by John Maynard
 <i>Poetry for Young People: Shakespeare</i> edited by David Scott
 <i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville
 Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh
 <i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi
 <i>Leonardo's Horse</i> by Jean Fritz</p> <p>Composer Study: Ludwig van Beethoven, Johannes Sebastian Bach, Claude Debussy
 <i>Ludwig Beethoven and the Chiming Tower Bells</i> by Opal Wheeler</p> |
| <p>9.2.5.L: Identify, explain and analyze common themes, forms and techniques from works in the arts (e.g., Copland and Graham's Appalachian Spring and Millet's The Gleaners).</p> | <p>Grand Conversations</p> <p>Field study to Philadelphia Shakespeare Theatre</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> |

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| | <p><i>Poetry for Young People: William Blake</i> edited by John Maynard</p> <p><i>Poetry for Young People: Shakespeare</i> edited by David Scott</p> <p><i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville</p> <p>Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh</p> <p><i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi</p> <p><i>Leonardo's Horse</i> by Jean Fritz</p>
<p>Composer Study: Ludwig van Beethoven, Johannes Sebastian Bach, Claude Debussy</p> <p><i>Ludwig Beethoven and the Chiming Tower Bells</i> by Opal Wheeler</p> |
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Standard Area - 9.3: Critical Response

| Grade Level - 9.3.5: GRADE 5 | Books/Activities Used |
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| <p>9.3.5.A: Identify critical processes in the examination of works in the arts and humanities.
 Compare and contrast
 Analyze Interpret
 Form and test hypotheses
 Evaluate/form judgments</p> | <p>Grand Conversations
 Written Narrations
 Dramatic Narrations
 Oral Narrations</p> <p><i>Poetry for Young People: William Blake</i> edited by John Maynard
 <i>Poetry for Young People: Shakespeare</i> edited by David Scott
 <i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville
 Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh
 <i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi
 <i>Leonardo's Horse</i> by Jean Fritz</p> <p>Composer Study: Ludwig van Beethoven, Johannes Sebastian Bach, Claude Debussy
 <i>Ludwig Beethoven and the Chiming Tower Bells</i> by Opal Wheeler</p> |
| <p>9.3.5.B: Describe works in the arts comparing similar and contrasting characteristics (e.g., staccato in Grieg's In the Hall of the Mountain King and in tap dance).</p> | <p><i>Poetry for Young People: William Blake</i> edited by John Maynard
 <i>Poetry for Young People: Shakespeare</i> edited by David Scott
 <i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville
 Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh
 <i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi
 <i>Leonardo's Horse</i> by Jean Fritz</p> |

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| | <p>Composer Study: Ludwig van Beethoven, Johannes Sebastian Bach, Claude Debussy
 <i>Ludwig Beethoven and the Chiming Tower Bells</i> by Opal Wheeler</p> <p>Grand Conversations</p> <p>Field study to Philadelphia Shakespeare Theatre</p> |
| <p>9.3.5.C: Classify works in the arts by forms in which they are found (e.g., farce, architecture, graphic design)</p> | <p><i>Poetry for Young People: William Blake</i> edited by John Maynard
 <i>Poetry for Young People: Shakespeare</i> edited by David Scott
 <i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville
 Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh
 <i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi
 <i>Leonardo's Horse</i> by Jean Fritz</p> <p>Composer Study: Ludwig van Beethoven, Johannes Sebastian Bach, Claude Debussy
 <i>Ludwig Beethoven and the Chiming Tower Bells</i> by Opal Wheeler</p> <p>Grand Conversations</p> |
| <p>9.3.5.D: Compare similar and contrasting important aspects of works in the arts and humanities based on a set of guidelines using a comprehensive vocabulary of critical response.</p> | <p><i>Poetry for Young People: William Blake</i> edited by John Maynard
 <i>Poetry for Young People: Shakespeare</i> edited by David Scott</p> |

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| | <p><i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville</p> <p>Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh</p> <p><i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi</p> <p><i>Leonardo's Horse</i> by Jean Fritz</p> <p>Composer Study: Ludwig van Beethoven, Johannes Sebastian Bach, Claude Debussy</p> <p><i>Ludwig Beethoven and the Chiming Tower Bells</i> by Opal Wheeler</p> <p>Grand Conversations</p> <p>Written Narrations</p> <p>Oral Narrations</p> |
| <p>9.3.5.E: Describe and use types of critical analysis in the arts and humanities.</p> <p>Contextual criticism</p> <p>Formal criticism</p> <p>Intuitive criticism</p> | <p><i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville</p> <p>Grand Conversations</p> <p>Written Narrations</p> <p>Oral Narrations</p> <p>Field study to Philadelphia Shakespeare Theatre</p> |
| <p>9.3.5.F: Know how to recognize the process of criticism in identifying and analyzing characteristics among works in the arts.</p> | <p><i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville</p> <p>Grand Conversations</p> <p>Written Narrations</p> <p>Oral Narrations</p> <p>Field study to Philadelphia Shakespeare Theatre</p> |

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| 9.3.5.G: Describe a critic's position or opinion about selected works in the arts and humanities (e.g., student's presentation of a critical position on Walt Disney's Evolution of Mickey and Minnie Mouse) | <i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville

Grand Conversations

Field study to Philadelphia Shakespeare Theatre |
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Standard Area - 9.4: Aesthetic Response

| Grade Level - 9.4.5: GRADE 5 | Books/Activities Used |
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| 9.4.5.A: Identify uses of expressive symbols that show philosophical meanings in works in the arts and humanities (e.g., American TV ads versus Asian TV ads). | <i>Poetry for Young People: William Blake</i> edited by John Maynard
<i>Poetry for Young People: Shakespeare</i> edited by David Scott
<i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville
Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh
<i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi
<i>Leonardo's Horse</i> by Jean Fritz

Composer Study: Ludwig van Beethoven, Johannes Sebastian Bach, Claude Debussy
<i>Ludwig Beethoven and the Chiming Tower Bells</i> by Opal Wheeler

Grand Conversations
Written Narrations
Oral Narrations
Dramatic Narrations |

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| <p>9.4.5.B: Investigate and communicate multiple philosophical views about works in the arts</p> | <p><i>Poetry for Young People: William Blake</i> edited by John Maynard
 <i>Poetry for Young People: Shakespeare</i> edited by David Scott
 <i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville
 Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh
 <i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi
 <i>Leonardo's Horse</i> by Jean Fritz</p> <p>Composer Study: Ludwig van Beethoven, Johannes Sebastian Bach, Claude Debussy
 <i>Ludwig Beethoven and the Chiming Tower Bells</i> by Opal Wheeler</p> <p>Grand Conversations
 Written Narrations
 Oral Narrations
 Dramatic Narrations</p> <p>Field study to Philadelphia Shakespeare Theatre</p> |
| <p>9.4.5.C: Identify the attributes of various audiences' environments as they influence individual aesthetic response (e.g., Beatles' music played by the Boston Pops versus video taped concerts from the 1970s).</p> | <p><i>Poetry for Young People: William Blake</i> edited by John Maynard
 <i>Poetry for Young People: Shakespeare</i> edited by David Scott
 <i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville
 Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh
 <i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi
 <i>Leonardo's Horse</i> by Jean Fritz</p> |

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| | <p>Composer Study: Ludwig van Beethoven, Johannes Sebastian Bach, Claude Debussy
 <i>Ludwig Beethoven and the Chiming Tower Bells</i> by Opal Wheeler</p> <p>Grand Conversations
 Written Narrations
 Oral Narrations</p> <p>Field study to Philadelphia Shakespeare Theatre</p> |
| <p>9.3.5.D: Compare similar and contrasting important aspects of works in the arts and humanities based on a set of guidelines using a comprehensive vocabulary of critical response.</p> | <p><i>Poetry for Young People: William Blake</i> edited by John Maynard
 <i>Poetry for Young People: Shakespeare</i> edited by David Scott
 <i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville
 Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh
 <i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi
 <i>Leonardo's Horse</i> by Jean Fritz</p> <p>Composer Study: Ludwig van Beethoven, Johannes Sebastian Bach, Claude Debussy
 <i>Ludwig Beethoven and the Chiming Tower Bells</i> by Opal Wheeler</p> <p>Grand Conversations
 Written Narrations
 Oral Narrations</p> <p>Field study to Philadelphia Shakespeare Theatre</p> |

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| <p>9.4.5.D: Explain choices made regarding media, technique, form, subject matter and themes that communicate the artist's philosophy within a work in the arts and humanities (e.g., selection of stage lighting in Leonard Bernstein's West Side Story to communicate mood)</p> | <p><i>Poetry for Young People: William Blake</i> edited by John Maynard
 <i>Poetry for Young People: Shakespeare</i> edited by David Scott
 <i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville
 Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh
 <i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi
 <i>Leonardo's Horse</i> by Jean Fritz</p> <p>Composer Study: Ludwig van Beethoven, Johannes Sebastian Bach, Claude Debussy
 <i>Ludwig Beethoven and the Chiming Tower Bells</i> by Opal Wheeler</p> <p>Grand Conversations
 Written Narrations
 Oral Narrations</p> |
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Pennsylvania State Standards
CURRICULUM MAPPING
Grade 8th
Subject Theatre

Standard Area - 9.1: Production, Performance and Exhibition of Dance, Music, Theatre and Visual Arts

| Grade Level - 9.1.8: GRADE 8 | Books/Activities |
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| <p>9.1.8.A: Know and use the elements and principles of each art form to create works in the arts and humanities.</p> <p>Elements Dance: • energy/force • space • time</p> <p>Music: • duration • intensity • pitch • timbre</p> <p>Theatre: • scenario • script/text • set design</p> <p>Visual Arts: • color • form/shape • line • space • texture • value</p> <p>Principles Dance: • choreography • form • genre • improvisation • style • technique</p> <p>Music: • composition • form • genre • harmony • rhythm • texture</p> <p>Theatre: • balance • collaboration • discipline • emphasis • focus • intention • movement • rhythm • style • voice</p> <p>Visual Arts: • balance • contrast • emphasis/focal point • movement/rhythm • proportion/scale • repetition • unity/harmony</p> | <p>Dramatic Narration - student interpretation of stories that are read through acting (includes set design, scripts, improvisation, coordination, prop use, choreography, etc.)</p> <p><i>Comedy of Errors</i>, William Shakespeare</p> <p><i>Antony and Cleopatra</i>, William Shakespeare</p> <p>Music Instruction - includes pitch, timbre, composition, harmony, rhythm, genre, voice, etc.</p> <p>Art Instruction - includes color, line, forms, shapes, textures, contrast, focal point, proportion, scale, repetition</p> <p>Spanish Instruction - folk songs</p> <p>Cotillion - waltz, swing dance, line dance, foxtrot</p> <p>Field study to production of Shakespeare's plays</p> <p>Field study to workshop on performing Shakespeare's plays</p> |
| <p>9.1.8.B: Recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts.</p> <p>Dance: • move • perform • read and notate dance • create and choreograph • improvise</p> <p>Music: • sing • play an instrument • read and notate music • compose and arrange • improvise</p> <p>Theatre: • stage productions • read and write scripts • improvise • interpret a role • design sets • direct</p> <p>Visual Arts: • paint • draw • craft • sculpt • print • design for environment, communication, multi-media</p> | <p>Dramatic Narration - student interpretation of stories that are read through acting (includes set design, scripts, improvisation, coordination, prop use, choreography, etc.)</p> <p>Spanish Instruction - folk songs and dances</p> <p>Cotillion - waltz, swing dance, line dance, foxtrot</p> <p><i>Comedy of Errors</i>, William Shakespeare</p> <p><i>Antony and Cleopatra</i>, William Shakespeare</p> <p>Art Instruction - includes creating original artwork, painting, drawing, designing, etc.</p> |

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| | <p>Music Instruction - includes dancing, playing instruments, reading music, composing, etc.</p> <p>Field study to production of Shakespeare's plays
Field study to workshop on performing Shakespeare's plays
Field study to Barnes Foundation in Philadelphia</p> |
| 9.1.8.C: Identify and use comprehensive vocabulary within each of the arts forms. | <p>Grand Conversations</p> <p><i>Comedy of Errors</i>, William Shakespeare
<i>Antony and Cleopatra</i>, William Shakespeare</p> <p>Field study to production of Shakespeare's plays
Field study to workshop on performing Shakespeare's plays
Field study to Barnes Foundation in Philadelphia</p> |
| 9.1.8.D: Demonstrate knowledge of at least two styles within each art form through performance or exhibition of unique works. | <p>Dramatic Narration - student interpretation of stories that are read through acting (includes set design, scripts, improvisation, coordination, prop use, choreography, etc.)
Spanish Instruction - folk songs
Cotillion - waltz, swing dance, line dance, foxtrot</p> <p><i>Comedy of Errors</i>, William Shakespeare
<i>Antony and Cleopatra</i>, William Shakespeare</p> <p>Art Instruction - includes creating original artwork, painting, drawing, designing, etc.</p> <p>Music Instruction - includes listening, studying and discussing pieces in various styles, and performing works in various styles</p> |

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| | Field study to production of Shakespeare's plays
Field study to workshop on performing Shakespeare's plays
Field study to Barnes Foundation in Philadelphia |
| 9.1.8.E: Communicate a unifying theme or point of view through the production of works in the arts. | Dramatic Narrations
Spanish Instruction - folk songs
Cotillion - waltz, swing dance, line dance, foxtrot

<i>Comedy of Errors</i> , William Shakespeare
<i>Antony and Cleopatra</i> , William Shakespeare

Art Instruction - includes creating original artwork
Music Instruction - includes composition of original pieces

Field study to production of Shakespeare's plays
Field study to workshop on performing Shakespeare's plays
Field study to Barnes Foundation in Philadelphia |
| 9.1.8.F: Explain works of others within each art form through performance or exhibition. | Dramatic Narrations
Grand Conversations
Written Narrations
Copy Work
Spanish Instruction - folk songs
Cotillion - waltz, swing dance, line dance, foxtrot

Art Instruction - includes creating original artwork, painting, drawing, designing, etc.

Field study to production of Shakespeare's plays
Field study to workshop on performing Shakespeare's plays
Field study to Barnes Foundation in Philadelphia |

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| <p>9.1.8.G: Explain the function and benefits of rehearsal and practice sessions.</p> | <p>Grand Conversations
 Dramatic Narration - student interpretation of stories that are read through acting (includes set design, scripts, improvisation, coordination, prop use, choreography, etc.)
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot
 Music Instruction - includes recitals and practiced performances</p> <p><i>Comedy of Errors</i>, William Shakespeare</p> <p><i>Antony and Cleopatra</i>, William Shakespeare</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.1.8.H: Demonstrate and maintain materials, equipment and tools safely at work and performance spaces. Analyze the use of materials. Explain issues of cleanliness related to the arts. Explain the use of mechanical/electrical equipment. Demonstrate how to work in selected physical space/environment. Demonstrate the selection of safe props/stage equipment. Demonstrate methods for storing materials in the arts.</p> | <p>Art/Music Instruction - includes gathering, cleaning, and putting away materials appropriately, remaining in a comfortable physical space of one another</p> <p>Training in habits, including cleanliness and safety in all classes</p> |
| <p>9.1.8.I: Know where arts events, performances and exhibitions occur and how to gain admission.</p> | <p>Art Instruction - includes students taking part in/setting up annual art galleries</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |

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| 9.1.8.J: Incorporate specific uses of traditional and contemporary technologies within the design for producing, performing and exhibiting works in the arts or the works of others. Explain and demonstrate traditional technologies (e.g., paint, tools, sponges, weaving designs, instruments, natural pigments/glazes). Explain and demonstrate contemporary technologies (e.g., MIDI keyboards, Internet design, computers, interactive technologies, audio/sound equipment, board-mixer, video equipment, computerized lighting design). | Handwork - includes journal making, camping skills

Art Instruction

Dramatic Narrations |
| 9.1.8.K: Incorporate specific uses of traditional and contemporary technologies in furthering knowledge and understanding in the humanities. | Handwork - includes journal making, camping skills
Art Instruction |

Standard Area - 9.2: Historical and Cultural Contexts

| Grade Level - 9.2.8: GRADE 8 | Books/Activities |
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| 9.2.8.A: Explain the historical, cultural and social context of an individual work in the arts. | Artist Study - includes studies of biographies and works by famous painters, composers, and poets
Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
Spanish Instruction - folk songs
Cotillion - waltz, swing dance, line dance, foxtrot

<i>Poetry for Young People: Edgar Allen Poe</i>
<i>Poetry for Young People: Carl Sandburg</i>
<i>Comedy of Errors, William Shakespeare</i>
<i>Antony and Cleopatra, William Shakespeare</i> |

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| | <p>Poet Study: William Butler Yeats
Picture Study: Cezanne, Sargent, Frieda & Diego Rivera</p> <p>Composer Study: Beethoven, Scott Joplin, Bruce Springsteen</p> <p>Grand Conversations</p> <p>Field study to production of Shakespeare's plays
Field study to workshop on performing Shakespeare's plays
Field study to Barnes Foundation in Philadelphia</p> |
| 9.2.8.B: Relate works in the arts chronologically to historical events (e.g., 10,000 B.C. to present). | <p>Classroom Timelines
Spanish Instruction - folk songs
Cotillion - waltz, swing dance, line dance, foxtrot
Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: Edgar Allen Poe</i>
<i>Poetry for Young People: Carl Sandburg</i>
<i>Comedy of Errors</i>, William Shakespeare
<i>Antony and Cleopatra</i>, William Shakespeare
Poet Study: William Butler Yeats
Picture Study: Cezanne, Sargent, Frieda & Diego Rivera</p> <p>Composer Study: Beethoven, Scott Joplin, Bruce Springsteen</p> <p>Grand Conversations</p> <p>Field study to Barnes Foundation in Philadelphia</p> |
| 9.2.8.C: Relate works in the arts to varying styles and genre and to the periods in which they were created (e.g., Bronze Age, Ming Dynasty, Renaissance, Classical, Modern, Post-Modern, Contemporary, Futuristic, others). | <p>Classroom Timelines
Spanish Instruction - folk songs
Cotillion - waltz, swing dance, line dance, foxtrot</p> |

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| | <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: Edgar Allen Poe</i>
 <i>Poetry for Young People: Carl Sandburg</i>
 <i>Comedy of Errors</i>, William Shakespeare
 <i>Antony and Cleopatra</i>, William Shakespeare
 Poet Study: William Butler Yeats
 Picture Study: Cezanne, Sargent, Frieda & Diego Rivera</p> <p>Composer Study: Beethoven, Scott Joplin, Bruce Springsteen</p> <p>Grand Conversations</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.2.8.D: Analyze a work of art from its historical and cultural perspective.</p> | <p>Classroom Timeline
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot
 Grand Conversations
 Dramatic Narrations
 Written Narrations</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: Edgar Allen Poe</i>
 <i>Poetry for Young People: Carl Sandburg</i>
 <i>Comedy of Errors</i>, William Shakespeare
 <i>Antony and Cleopatra</i>, William Shakespeare
 Poet Study: William Butler Yeats</p> |

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| | <p>Picture Study: Cezanne, Sargent, Frieda & Diego Rivera</p> <p>Composer Study: Beethoven, Scott Joplin, Bruce Springsteen</p> <p>Field study to production of Shakespeare's plays</p> <p>Field study to workshop on performing Shakespeare's plays</p> <p>Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.2.8.E: Analyze how historical events and culture impact forms, techniques and purposes of works in the arts (e.g., Gilbert and Sullivan operettas)</p> | <p>Classroom Timeline</p> <p>Spanish Instruction - folk songs</p> <p>Cotillion - waltz, swing dance, line dance, foxtrot</p> <p>Grand Conversations</p> <p>Dramatic Narrations</p> <p>Written Narrations</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: Edgar Allen Poe</i></p> <p><i>Poetry for Young People: Carl Sandburg</i></p> <p><i>Comedy of Errors</i>, William Shakespeare</p> <p><i>Antony and Cleopatra</i>, William Shakespeare</p> <p>Poet Study: William Butler Yeats</p> <p>Picture Study: Cezanne, Sargent, Frieda & Diego Rivera</p> <p>Composer Study: Beethoven, Scott Joplin, Bruce Springsteen</p> <p>Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.2.8.F: Know and apply appropriate vocabulary used between social studies and the arts and humanities.</p> | <p>Classroom Timeline</p> <p>Grand Conversations</p> <p>Dramatic Narrations</p> <p>Written Narrations</p> |

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| | <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: Edgar Allen Poe</i>
 <i>Poetry for Young People: Carl Sandburg</i>
 <i>Comedy of Errors</i>, William Shakespeare
 <i>Antony and Cleopatra</i>, William Shakespeare
 Poet Study: William Butler Yeats
 Picture Study: Cezanne, Sargent, Frieda & Diego Rivera</p> <p>Composer Study: Beethoven, Scott Joplin, Bruce Springsteen</p> |
| 9.2.8.G: Relate works in the arts to geographic regions:
Africa Asia Australia Central America Europe North
America South America | <p>Classroom Timeline
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot
 Grand Conversations
 Dramatic Narrations
 Written Narrations</p> <p>Poet Study: William Butler Yeats
 Picture Study: Cezanne, Sargent, Frieda & Diego Rivera</p> <p>Composer Study: Beethoven, Scott Joplin, Bruce Springsteen</p> <p>Field study to Barnes Foundation in Philadelphia</p> |
| 9.2.8.H: Identify, describe and analyze the work of Pennsylvania Artists in dance, music, theatre and visual arts. | <p>Grand Conversations
 Dramatic Narrations
 Written Narrations</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> |

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| | Field study to Barnes Foundation in Philadelphia |
| 9.2.8.I: Identify, explain and analyze philosophical beliefs as they relate to works in the arts (e.g., classical architecture, rock music, Native American dance, contemporary American musical theatre). | <p>Classroom Timeline
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot
 Grand Conversations
 Dramatic Narrations
 Written Narrations</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: Edgar Allen Poe</i>
 <i>Poetry for Young People: Carl Sandburg</i></p> <p>Poet Study: William Butler Yeats
 Picture Study: Cezanne, Sargent, Frieda & Diego Rivera</p> <p>Composer Study: Beethoven, Scott Joplin, Bruce Springsteen</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |
| 9.2.8.J: Identify, explain and analyze historical and cultural differences as they relate to works in the arts (e.g., PLAYS BY Shakespeare, works by Michelangelo, ethnic dance and music). | <p>Classroom Timeline
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot
 Grand Conversations
 Dramatic Narrations
 Written Narrations</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> |

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| | <p><i>Poetry for Young People: Edgar Allen Poe</i>
 <i>Poetry for Young People: Carl Sandburg</i>
 <i>Comedy of Errors</i>, William Shakespeare
 <i>Antony and Cleopatra</i>, William Shakespeare
 Poet Study: William Butler Yeats
 Picture Study: Cezanne, Sargent, Frieda & Diego Rivera</p> <p>Composer Study: Beethoven, Scott Joplin, Bruce Springsteen</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.2.8.K: Identify, explain and analyze traditions as they relate to works in the arts (e.g., story telling – plays, oral histories- poetry, work songs- blue grass).</p> | <p>Classroom Timeline</p> <p>Grand Conversations
 Dramatic Narrations
 Written Narrations</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: Edgar Allen Poe</i>
 <i>Poetry for Young People: Carl Sandburg</i>
 <i>Comedy of Errors</i>, William Shakespeare
 <i>Antony and Cleopatra</i>, William Shakespeare
 Poet Study: William Butler Yeats
 Picture Study: Cezanne, Sargent, Frieda & Diego Rivera</p> <p>Composer Study: Beethoven, Scott Joplin, Bruce Springsteen</p> <p>Field study to production of Shakespeare's plays</p> |

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| | Field study to workshop on performing Shakespeare's plays
Field study to Barnes Foundation in Philadelphia |
| 9.2.8.L: Identify, explain and analyze common themes, forms and techniques from works in the arts (e.g., Copland and Graham's Appalachian) | <p>Classroom Timeline
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot
 Grand Conversations
 Dramatic Narrations
 Written Narrations</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p>Picture Study: Cezanne, Sargent, Frieda & Diego Rivera</p> <p>Composer Study: Beethoven, Scott Joplin, Bruce Springsteen</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |

Standard Area - 9.3: Critical Response

| Grade Level - 9.3.8: GRADE 8 | Books/Activities |
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| 9.3.8.A: Know and use the critical process of the examination of works in the arts and humanities. Compare | <p>Classroom Timeline
 Spanish Instruction - folk songs</p> |

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| <p>and contrast Analyze Interpret Form and test hypotheses Evaluate/form judgments</p> | <p>Cotillion - waltz, swing dance, line dance, foxtrot
Grand Conversations
Dramatic Narrations
Written Narrations</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: Edgar Allen Poe</i>
<i>Poetry for Young People: Carl Sandburg</i>
<i>Comedy of Errors</i>, William Shakespeare
<i>Antony and Cleopatra</i>, William Shakespeare
Poet Study: William Butler Yeats
Picture Study: Cezanne, Sargent, Frieda & Diego Rivera</p> <p>Composer Study: Beethoven, Scott Joplin, Bruce Springsteen</p> <p>Field study to production of Shakespeare's plays
Field study to workshop on performing Shakespeare's plays
Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.3.8.B: Analyze and interpret specific characteristics of works in the arts within each art form (e.g., pentatonic scales in Korean and Indonesian music).</p> | <p>Classroom Timeline
Spanish Instruction - folk songs
Cotillion - waltz, swing dance, line dance, foxtrot
Grand Conversations
Dramatic Narrations
Written Narrations</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: Edgar Allen Poe</i>
<i>Poetry for Young People: Carl Sandburg</i></p> |

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| | <p><i>Comedy of Errors</i>, William Shakespeare
 <i>Antony and Cleopatra</i>, William Shakespeare
 Poet Study: William Butler Yeats
 Picture Study: Cezanne, Sargent, Frieda & Diego Rivera</p> <p>Composer Study: Beethoven, Scott Joplin, Bruce Springsteen</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.3.8.C: Identify and classify styles, forms, types and genre within art forms (e.g., modern dance and the ethnic dance, a ballad and a patriotic song).</p> | <p>Classroom Timeline
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot
 Grand Conversations
 Dramatic Narrations
 Written Narrations</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p>Picture Study: Cezanne, Sargent, Frieda & Diego Rivera</p> <p>Composer Study: Beethoven, Scott Joplin, Bruce Springsteen</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.3.8.D: Evaluate works in the arts and humanities using a complex vocabulary of critical response.</p> | <p>Classroom Timeline</p> <p>Grand Conversations
 Dramatic Narrations
 Written Narrations</p> |

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| | <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: Edgar Allen Poe</i>
 <i>Poetry for Young People: Carl Sandburg</i>
 <i>Comedy of Errors</i>, William Shakespeare
 <i>Antony and Cleopatra</i>, William Shakespeare
 Poet Study: William Butler Yeats
 Picture Study: Cezanne, Sargent, Frieda & Diego Rivera</p> <p>Composer Study: Beethoven, Scott Joplin, Bruce Springsteen</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |
| 9.3.8.E: Interpret and use various types of critical analysis in the arts and humanities. Contextual criticism Formal criticism Intuitive criticism | <p>Classroom Timeline
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot
 Grand Conversations
 Dramatic Narrations
 Written Narrations</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: Edgar Allen Poe</i>
 <i>Poetry for Young People: Carl Sandburg</i>
 <i>Comedy of Errors</i>, William Shakespeare
 <i>Antony and Cleopatra</i>, William Shakespeare
 Poet Study: William Butler Yeats
 Picture Study: Cezanne, Sargent, Frieda & Diego Rivera</p> |

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| | <p>Composer Study: Beethoven, Scott Joplin, Bruce Springsteen</p> <p>Field study to production of Shakespeare's plays</p> <p>Field study to workshop on performing Shakespeare's plays</p> <p>Field study to Barnes Foundation in Philadelphia</p> |
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Standard Area - 9.4: Aesthetic Response

| Grade Level - 9.4.8: GRADE 8 | Books/Activities |
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| 9.4.8.A: Compare and contrast examples of group and individual philosophical meanings of works in the arts and humanities (e.g., group discussions on musical theatre versus the individual's concept of musical theatre). | <p>Grand Conversation</p> <p>Spanish Instruction - folk songs</p> <p>Cotillion - waltz, swing dance, line dance, foxtrot</p> <p><i>Poetry for Young People: William Blake</i> edited by John Maynard</p> <p><i>Poetry for Young People: Shakespeare</i> edited by David Scott</p> <p><i>William Shakespeare's A Midsummer's Night Dream</i> by Bruce Coville</p> <p>Picture Study: Michelangelo, Leonardo da Vinci, Vincent van Gogh</p> <p><i>A Weekend with Leonardo da Vinci</i> by Skira-Venturi</p> <p><i>Leonardo's Horse</i> by Jean Fritz</p> <p>Field study to production of Shakespeare's plays</p> <p>Field study to workshop on performing Shakespeare's plays</p> <p>Field study to Barnes Foundation in Philadelphia</p> |
| 9.4.8.B: Compare and contrast informed individual opinions about the meaning of works in the arts to others (e.g., | <p>Classroom Timeline</p> <p>Spanish Instruction - folk songs</p> |

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| <p>debate philosophical opinions within a listserve or at an artist's website).</p> | <p>Cotillion - waltz, swing dance, line dance, foxtrot
 Grand Conversations
 Dramatic Narrations
 Written Narrations</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: Edgar Allen Poe</i>
 <i>Poetry for Young People: Carl Sandburg</i>
 <i>Comedy of Errors</i>, William Shakespeare
 <i>Antony and Cleopatra</i>, William Shakespeare
 Poet Study: William Butler Yeats
 Picture Study: Cezanne, Sargent, Frieda & Diego Rivera</p> <p>Composer Study: Beethoven, Scott Joplin, Bruce Springsteen</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.4.8.C: Describe how the attributes of the audience's environment influence aesthetic responses (e.g., the ambiance of the theatre in a performance of Andrew Lloyd Weber's Cats).</p> | <p>Classroom Timeline
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot
 Grand Conversations
 Dramatic Narrations
 Written Narrations</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: Edgar Allen Poe</i>
 <i>Poetry for Young People: Carl Sandburg</i></p> |

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| | <p><i>Comedy of Errors</i>, William Shakespeare
 <i>Antony and Cleopatra</i>, William Shakespeare
 Poet Study: William Butler Yeats
 Picture Study: Cezanne, Sargent, Frieda & Diego Rivera</p> <p>Composer Study: Beethoven, Scott Joplin, Bruce Springsteen</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.4.8.D: Describe to what purpose philosophical ideas generated by artists can be conveyed through works in the arts and humanities (e.g., T. Ganson's <i>Destructive Periods in Russia During Stalin's and Deniken's Leadership</i> conveys her memories and emotions of a specific incident).</p> | <p>Classroom Timeline
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot
 Grand Conversations
 Dramatic Narrations
 Written Narrations</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p><i>Poetry for Young People: Edgar Allen Poe</i>
 <i>Poetry for Young People: Carl Sandburg</i>
 <i>Comedy of Errors</i>, William Shakespeare
 <i>Antony and Cleopatra</i>, William Shakespeare
 Poet Study: William Butler Yeats
 Picture Study: Cezanne, Sargent, Frieda & Diego Rivera</p> <p>Composer Study: Beethoven, Scott Joplin, Bruce Springsteen</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |

**Pennsylvania State Standards
CURRICULUM MAPPIN
Grade 12th
Subject Theatre**

Standard Area - 9.1: Production, Performance and Exhibition of Dance, Music, Theatre and Visual Arts

| <u>Grade Level - 9.1.12: GRADE 12</u> | Books/Activities |
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| <p>9.1.12.A: Know and use the elements and principles of each art form to create works in the arts and humanities.
 Elements Dance: • energy/force • space • time
 Music: • duration • intensity • pitch • timbre
 Theatre: • scenario • script/text • set design
 Visual Arts: • color • form/shape • line • space • texture • value
 Principles Dance: • choreography • form • genre • improvisation • style • technique
 Music: • composition • form • genre • harmony • rhythm • texture
 Theatre: • balance • collaboration • discipline • emphasis • focus • intention • movement • rhythm • style • voice
 Visual Arts: • balance • contrast • emphasis/focal point • movement/rhythm • proportion/scale • repetition • unity/harmony</p> | <p>Music Instruction - includes pitch, timbre, composition, harmony, rhythm, genre, voice, etc. See Music Scope</p> <p>Art Instruction - includes color, line, forms, shapes, textures, contrast, focal point, proportion, scale, repetition</p> <p>Spanish Instruction - folk songs and dances</p> <p>Dramatic Narration - student interpretation of stories that are read through acting (includes set design, scripts, improvisation, coordination, prop use, choreography, etc.)</p> <p>Cotillion - waltz, swing dance, line dance, foxtrot</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.1.12.B: Recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts.</p> | <p>Dramatic Narration - student interpretation of stories that are read through acting (includes set design, scripts, improvisation, coordination, prop use, choreography, etc.)</p> |

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| <p>Dance: • move • perform • read and notate dance • create and choreograph • improvise</p> <p>Music: • sing • play an instrument • read and notate music • compose and arrange • improvise</p> <p>Theatre: • stage productions • read and write scripts • improvise • interpret a role • design sets • direct</p> <p>Visual Arts: • paint • draw • craft • sculpt • print • design for environment, communication, multi-media</p> | <p>Music Instruction - playing an instrument of student choice, read music, etc. See Music Scope</p> <p>Art Instruction</p> <p>Spanish Instruction - folk songs
Cotillion - waltz, swing dance, line dance, foxtrot</p> <p>Field study to production of Shakespeare's plays
Field study to workshop on performing Shakespeare's plays
Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.1.12.C: Integrate and apply advanced vocabulary to the arts forms.</p> | <p>Dramatic Narration - student interpretation of stories that are read through acting (includes set design, scripts, improvisation, coordination, prop use, choreography, etc.)</p> <p>Grand Conversations
Artist Study
Composer Study</p> |
| <p>9.1.12.D: Demonstrate specific styles in combination through the production or performance of a unique work of art (e.g., a dance composition that combines jazz dance and African dance)..</p> | <p>Dramatic Narration - student interpretation of stories that are read through acting (includes set design, scripts, improvisation, coordination, prop use, choreography, etc.)</p> <p>Spanish Instruction - folk songs
Cotillion - waltz, swing dance, line dance, foxtrot</p> <p>Composer Study
Music Instruction</p> <p>Field study to production of Shakespeare's plays
Field study to workshop on performing Shakespeare's plays
Field study to Barnes Foundation in Philadelphia</p> |

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| 9.1.12.E: Delineate a unifying theme through the production of a work of art that reflects skills in media processes and techniques. | <p>Composer Study
Music Instruction
Art Instruction</p> <p>Field study to production of Shakespeare's plays
Field study to workshop on performing Shakespeare's plays
Field study to Barnes Foundation in Philadelphia</p> |
| 9.1.12.F: Analyze works of arts influenced by experiences or historical and cultural events through production, performance or exhibition. | <p>Grand Conversations
Dramatic Narrations
Written Narrations
Spanish Instruction - folk songs
Cotillion - waltz, swing dance, line dance, foxtrot</p> <p>Artist Study - includes studies of biographies and works by famous painters, composers, and poets</p> <p>Field study to production of Shakespeare's plays
Field study to workshop on performing Shakespeare's plays
Field study to Barnes Foundation in Philadelphia</p> |
| 9.1.12.G: Analyze the effect of rehearsal and practice sessions. | <p>Grand Conversations
Dramatic Narrations
Spanish Instruction - folk songs
Cotillion - waltz, swing dance, line dance, foxtrot</p> <p>Music Instruction - includes recitals, practice time and practiced performances</p> <p>Field study to production of Shakespeare's plays
Field study to workshop on performing Shakespeare's plays</p> |

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| <p>9.1.12.H: Incorporate the effective and safe use of materials, equipment and tools into the production of works in the arts at work and performance spaces. Evaluate the use and applications of materials. Evaluate issues of cleanliness related to the arts. Evaluate the use and applications of mechanical/electrical equipment. Evaluate differences among selected physical space/environment. Evaluate the use and applications of safe props/stage equipment. Evaluate the use and apply safe methods for storing materials in the arts.</p> | <p>Art/Music Instruction - includes gathering, cleaning, and putting away materials appropriately, remaining in a comfortable physical space of one another</p> <p>Training in habits, including cleanliness and safety in all classes</p> |
| <p>9.1.12.I: Distinguish among a variety of regional arts events and resources and analyze methods of selection and admission.</p> | <p>Grand Conversations
Community Involvement</p> <p>Field study to production of Shakespeare's plays
Field study to workshop on performing Shakespeare's plays
Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.1.12.J: Analyze and evaluate the use of traditional and contemporary technologies for producing, performing and exhibiting works in the arts or the works of others. Analyze traditional technologies (e.g., acid printing, etching methods, musical instruments, costume materials, eight track recording, super 8 movies). Analyze contemporary technologies (e.g., virtual reality design, instrument enhancements, photographic tools, broadcast equipment, film cameras, preservation tools, web graphics, computer generated marching band designs).</p> | <p>Art Instruction</p> <p><i>From Mud Huts to Skyscrapers</i> by C. Paxmann
<i>Architectural Drawing Course: Techniques for 2D and 3D Representations</i> by Moe Zeli
<i>Designing Brand Identity: An Essential Guide for the Whole Branding Team</i> by A. Wheeler
<i>Go! A Kid's Guide to Graphic Design</i> by C. Kidd</p> <p>Field study to production of Shakespeare's plays
Field study to workshop on performing Shakespeare's plays
Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.1.12.K: Analyze and evaluate the use of traditional and contemporary technologies in furthering knowledge and</p> | <p>Art Instruction</p> |

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| understanding in the humanities | <p><i>From Mud Huts to Skyscrapers</i> by C. Paxmann
 <i>Architectural Drawing Course: Techniques for 2D and 3D Representations</i> by Moe Zeli
 <i>Designing Brand Identity: An Essential Guide for the Whole Branding Team</i> by A. Wheeler
 <i>Go! A Kid's Guide to Graphic Design</i> by C. Kidd</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |
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Standard Area - 9.2: Historical and Cultural Contexts

| Grade Level - 9.2.12: GRADE 12 | Books/Activities |
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| 9.2.12.A: Explain the historical, cultural and social context of an individual work in the arts. | <p>Composer Study
 Artist Study
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot</p> <p>Grand Conversations</p> <p><i>From Mud Huts to Skyscrapers</i> by C. Paxmann
 <i>50 Women Artists You Should Know</i> by C. Wiedermann
 <i>The Guerilla Girls Bedside Companion to Western Art</i>
 <i>The History of Jazz</i> by Ted Gioia</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |

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| <p>9.2.12.B: Relate works in the arts chronologically to historical events (e.g., 10,000 B.C. to present).</p> | <p>Classroom Timeline</p> <p>Composer Study
Artist Study
Spanish Instruction - folk songs
Cotillion - waltz, swing dance, line dance, foxtrot</p> <p>Grand Conversation</p> <p><i>From Mud Huts to Skyscrapers</i> by C. Paxmann
<i>50 Women Artists You Should Know</i> by C. Wiedermann
<i>The Guerilla Girls Bedside Companion to Western Art</i>
<i>The History of Jazz</i> by Ted Gioia</p> <p>Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.2.12.C: Relate works in the arts to varying styles and genre and to the periods in which they were created (e.g., Bronze Age, Ming Dynasty, Renaissance, Classical, Modern, Post-Modern, Contemporary, Futuristic, others).</p> | <p>Classroom Timeline</p> <p>Composer Study
Artist Study
Spanish Instruction - folk songs
Cotillion - waltz, swing dance, line dance, foxtrot</p> <p><i>From Mud Huts to Skyscrapers</i> by C. Paxmann
<i>Designing Brand Identity: An Essential Guide for the Whole Branding Team</i> by A. Wheeler
<i>Go! A Kid's Guide to Graphic Design</i> by C. Kidd
<i>50 Women Artists You Should Know</i> by C. Wiedermann
<i>The Guerilla Girls Bedside Companion to Western Art</i>
<i>The History of Jazz</i> by Ted Gioia</p> <p>Field study to production of Shakespeare's plays
Field study to workshop on performing Shakespeare's plays</p> |

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| | Field study to Barnes Foundation in Philadelphia |
| 9.2.12.D: Analyze a work of art from its historical and cultural perspective. | <p>Composer Study
 Artist Study
 Grand Conversation
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot</p> <p><i>From Mud Huts to Skyscrapers</i> by C. Paxmann
 <i>Architectural Drawing Course: Techniques for 2D and 3D Representations</i> by Moe Zeli
 <i>Designing Brand Identity: An Essential Guide for the Whole Branding Team</i> by A. Wheeler
 <i>Go! A Kid's Guide to Graphic Design</i> by C. Kidd
 <i>50 Women Artists You Should Know</i> by C. Wiedermann
 <i>The Guerilla Girls Bedside Companion to Western Art</i>
 <i>The History of Jazz</i> by Ted Gioia</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |
| 9.2.12.E: Analyze how historical events and culture impact forms, techniques and purposes of works in the arts (e.g., Gilbert and Sullivan operettas) | <p>Classroom Timeline
 Grand Conversation
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot</p> <p><i>50 Women Artists You Should Know</i> by C. Wiedermann
 <i>The Guerilla Girls Bedside Companion to Western Art</i>
 <i>The History of Jazz</i> by Ted Gioia
 <i>Midsummer Night's Dream</i> by Shakespeare
 <i>Merchant of Venice</i> by Shakespeare
 <i>Much Ado About Nothing</i> by Shakespeare</p> |

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| | <p><i>The Importance of Being Earnest</i> by Oscar Wild</p> <p>Field study to production of Shakespeare's plays
Field study to workshop on performing Shakespeare's plays
Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.2.12.F: Know and apply appropriate vocabulary used between social studies and the arts and humanities.</p> | <p>Grand Conversations
Spanish Instruction - folk songs
Cotillion - waltz, swing dance, line dance, foxtrot</p> <p><i>From Mud Huts to Skyscrapers</i> by C. Paxmann
<i>Architectural Drawing Course: Techniques for 2D and 3D</i>
<i>Representations</i> by Moe Zeli
<i>Designing Brand Identity: An Essential Guide for the Whole Branding Team</i> by A. Wheeler
<i>Go! A Kid's Guide to Graphic Design</i> by C. Kidd
<i>50 Women Artists You Should Know</i> by C. Wiedermann
<i>The Guerilla Girls Bedside Companion to Western Art</i>
<i>The History of Jazz</i> by Ted Gioia
<i>Midsummer Night's Dream</i> by Shakespeare
<i>Merchant of Venice</i> by Shakespeare
<i>Much Ado About Nothing</i> by Shakespeare
<i>The Importance of Being Earnest</i> by Oscar Wild</p> |
| <p>9.2.12.G: Relate works in the arts to geographic regions: Africa Asia Australia Central America Europe North America South America</p> | <p>World Globe
World Map
Classroom Discussions
Spanish Instruction - folk songs
Cotillion - waltz, swing dance, line dance, foxtrot</p> <p><i>50 Women Artists You Should Know</i> by C. Wiedermann
<i>The Guerilla Girls Bedside Companion to Western Art</i></p> |

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| | <p><i>The History of Jazz</i> by Ted Gioia
 <i>Midsummer Night's Dream</i> by Shakespeare
 <i>Merchant of Venice</i> by Shakespeare
 <i>Much Ado About Nothing</i> by Shakespeare
 <i>The Importance of Being Earnest</i> by Oscar Wild</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |
| 9.2.12.H: Identify, describe and analyze the work of Pennsylvania Artists in dance, music, theatre and visual arts. | <p>Artist Study
 Composer Study</p> <p>Field study to Barnes Foundation in Philadelphia</p> |
| 9.2.12.I: Identify, explain and analyze philosophical beliefs as they relate to works in the arts (e.g., classical architecture, rock music, Native American dance, contemporary American musical theatre). | <p>Artist Study
 Composer Study
 Grand Conversation
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot</p> <p><i>50 Women Artists You Should Know</i> by C. Wiedermann
 <i>The Guerilla Girls Bedside Companion to Western Art</i>
 <i>The History of Jazz</i> by Ted Gioia
 <i>Midsummer Night's Dream</i> by Shakespeare
 <i>Merchant of Venice</i> by Shakespeare
 <i>Much Ado About Nothing</i> by Shakespeare
 <i>The Importance of Being Earnest</i> by Oscar Wild</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |

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| <p>9.2.12.J: Identify, explain and analyze historical and cultural differences as they relate to works in the arts (e.g., PLAYS BY Shakespeare, works by Michelangelo, ethnic dance and music).</p> | <p>Artist Study
 Composer Study
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot</p> <p><i>50 Women Artists You Should Know</i> by C. Wiedermann
 <i>The Guerilla Girls Bedside Companion to Western Art</i>
 <i>The History of Jazz</i> by Ted Gioia
 <i>Midsummer Night's Dream</i> by Shakespeare
 <i>Merchant of Venice</i> by Shakespeare
 <i>Much Ado About Nothing</i> by Shakespeare
 <i>The Importance of Being Earnest</i> by Oscar Wild</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.2.12.K: Identify, explain and analyze traditions as they relate to works in the arts (e.g., story telling – plays, oral histories- poetry, work songs- blue grass).</p> | <p>Artist Study
 Composer Study
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot</p> <p><i>50 Women Artists You Should Know</i> by C. Wiedermann
 <i>The Guerilla Girls Bedside Companion to Western Art</i>
 <i>The History of Jazz</i> by Ted Gioia
 <i>Midsummer Night's Dream</i> by Shakespeare
 <i>Merchant of Venice</i> by Shakespeare
 <i>Much Ado About Nothing</i> by Shakespeare
 <i>The Importance of Being Earnest</i> by Oscar Wild</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays</p> |

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| | Field study to Barnes Foundation in Philadelphia |
| 9.2.12.L: Identify, explain and analyze common themes, forms and techniques from works in the arts (e.g., Copland and Graham's Appalachian Spring and Millet's The Gleaners | <p>Artist Study
 Composer Study
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot</p> <p><i>50 Women Artists You Should Know</i> by C. Wiedermann
 <i>The Guerilla Girls Bedside Companion to Western Art</i>
 <i>The History of Jazz</i> by Ted Gioia
 <i>Midsummer Night's Dream</i> by Shakespeare
 <i>Merchant of Venice</i> by Shakespeare
 <i>Much Ado About Nothing</i> by Shakespeare
 <i>The Importance of Being Earnest</i> by Oscar Wilde</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |

Standard Area - 9.3: Critical Response

| Grade Level - 9.3.12: GRADE 12 | Books/Activities |
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| 9.3.12.A: Explain and apply the critical examination processes of works in the arts and humanities. Compare and contrast Analyze Interpret Form and test hypotheses Evaluate/form judgments | <p>Artist Study
 Composer Study
 Grand Conversations</p> <p><i>50 Women Artists You Should Know</i> by C. Wiedermann
 <i>The Guerilla Girls Bedside Companion to Western Art</i>
 <i>The History of Jazz</i> by Ted Gioia
 <i>Midsummer Night's Dream</i> by Shakespeare</p> |

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| | <p><i>Merchant of Venice</i> by Shakespeare
 <i>Much Ado About Nothing</i> by Shakespeare
 <i>The Importance of Being Earnest</i> by Oscar Wilde</p> |
| <p>9.3.12.B: Determine and apply criteria to a person's work and works of others in the arts (e.g., use visual scanning techniques to critique the student's own use of sculptural space in comparison to Julio Gonzales' use of space in <i>Woman Combing Her Hair</i>).</p> | <p>Artist Study
 Composer Study
 Picture Study</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.3.12.C: Apply systems of classification for interpreting works in the arts and forming a critical response.</p> | <p>Artist Study
 Composer Study
 Grand Conversations
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot</p> <p><i>From Mud Huts to Skyscrapers</i> by C. Paxmann
 <i>Architectural Drawing Course: Techniques for 2D and 3D Representations</i> by Moe Zeli
 <i>Designing Brand Identity: An Essential Guide for the Whole Branding Team</i> by A. Wheeler
 <i>Go! A Kid's Guide to Graphic Design</i> by C. Kidd
 <i>50 Women Artists You Should Know</i> by C. Wiedermann
 <i>The Guerilla Girls Bedside Companion to Western Art</i>
 <i>The History of Jazz</i> by Ted Gioia
 <i>Midsummer Night's Dream</i> by Shakespeare
 <i>Merchant of Venice</i> by Shakespeare
 <i>Much Ado About Nothing</i> by Shakespeare
 <i>The Importance of Being Earnest</i> by Oscar Wilde</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays</p> |

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| | Field study to Barnes Foundation in Philadelphia |
| 9.3.12.D: Analyze and interpret works in the arts and humanities from different societies using culturally specific vocabulary of critical response. | <p>Artist Study
 Composer Study
 Grand Conversations
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot</p> <p><i>From Mud Huts to Skyscrapers</i> by C. Paxmann
 <i>Architectural Drawing Course: Techniques for 2D and 3D</i>
 <i>Representations</i> by Moe Zeli
 <i>Designing Brand Identity: An Essential Guide for the Whole Branding Team</i> by A. Wheeler
 <i>Go! A Kid's Guide to Graphic Design</i> by C. Kidd
 <i>50 Women Artists You Should Know</i> by C. Wiedermann
 <i>The Guerilla Girls Bedside Companion to Western Art</i>
 <i>The History of Jazz</i> by Ted Gioia
 <i>Midsummer Night's Dream</i> by Shakespeare
 <i>Merchant of Venice</i> by Shakespeare
 <i>Much Ado About Nothing</i> by Shakespeare
 <i>The Importance of Being Earnest</i> by Oscar Wilde</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |
| 9.3.12.E: Examine and evaluate various types of critical analysis of works in the arts and humanities. Contextual criticism Formal criticism Intuitive criticism | <p>Artist Study
 Composer Study
 Grand Conversations
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot</p> <p><i>From Mud Huts to Skyscrapers</i> by C. Paxmann
 <i>Architectural Drawing Course: Techniques for 2D and 3D</i></p> |

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| | <p> <i>Representations</i> by Moe Zeli
 <i>Designing Brand Identity: An Essential Guide for the Whole Branding Team</i> by A. Wheeler
 <i>Go! A Kid's Guide to Graphic Design</i> by C. Kidd
 <i>50 Women Artists You Should Know</i> by C. Wiedermann
 <i>The Guerilla Girls Bedside Companion to Western Art</i>
 <i>The History of Jazz</i> by Ted Gioia
 <i>Midsummer Night's Dream</i> by Shakespeare
 <i>Merchant of Venice</i> by Shakespeare
 <i>Much Ado About Nothing</i> by Shakespeare
 <i>The Importance of Being Earnest</i> by Oscar Wilde </p> <p> Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia </p> |
| <p>9.3.12.F: Analyze the processes of criticism used to compare the meanings of a work in the arts in both its own and present time.</p> | <p> Artist Study
 Composer Study
 Classroom Timeline
 Grand Conversations </p> <p> <i>From Mud Huts to Skyscrapers</i> by C. Paxmann
 <i>Architectural Drawing Course: Techniques for 2D and 3D</i>
 <i>Representations</i> by Moe Zeli
 <i>Designing Brand Identity: An Essential Guide for the Whole Branding Team</i> by A. Wheeler
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 <i>The Guerilla Girls Bedside Companion to Western Art</i>
 <i>The History of Jazz</i> by Ted Gioia
 <i>Midsummer Night's Dream</i> by Shakespeare
 <i>Merchant of Venice</i> by Shakespeare
 <i>Much Ado About Nothing</i> by Shakespeare </p> |

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| | <p><i>The Importance of Being Earnest</i> by Oscar Wilde</p> <p>Field study to production of Shakespeare's plays
Field study to workshop on performing Shakespeare's plays
Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.3.12.G: Analyze works in the arts by referencing the judgments advanced by arts critics as well as one's own analysis and critique.</p> | <p>Picture Study
Artist Study
Classroom Timeline
Grand Conversations
Spanish Instruction - folk songs
Cotillion - waltz, swing dance, line dance, foxtrot</p> <p><i>From Mud Huts to Skyscrapers</i> by C. Paxmann
<i>Architectural Drawing Course: Techniques for 2D and 3D Representations</i> by Moe Zeli
<i>Designing Brand Identity: An Essential Guide for the Whole Branding Team</i> by A. Wheeler
<i>Go! A Kid's Guide to Graphic Design</i> by C. Kidd
<i>50 Women Artists You Should Know</i> by C. Wiedermann
<i>The Guerilla Girls Bedside Companion to Western Art</i>
<i>The History of Jazz</i> by Ted Gioia
<i>Midsummer Night's Dream</i> by Shakespeare
<i>Merchant of Venice</i> by Shakespeare
<i>Much Ado About Nothing</i> by Shakespeare
<i>The Importance of Being Earnest</i> by Oscar Wilde</p> |

Standard Area - 9.4: Aesthetic Response

| Grade Level - 9.4.12: GRADE 12 | Books/Activities |
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| 9.4.12.A: Evaluate an individual's philosophical statement on a work in the arts and its relationship to one's own life based on knowledge and experience. | <p>Grand Conversation
 Picture Study
 Composer Study
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |
| 9.4.12.B: Describe and analyze the effects that works in the arts have on groups, individuals and the culture (e.g., Orson Welles' 1938 radio broadcast, War of the Worlds). | <p>Picture Study
 Composer Study
 Grand Conversations
 Classroom Timeline
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot</p> <p><i>From Mud Huts to Skyscrapers</i> by C. Paxmann
 <i>Architectural Drawing Course: Techniques for 2D and 3D</i>
 <i>Representations</i> by Moe Zeli
 <i>50 Women Artists You Should Know</i> by C. Wiedermann
 <i>The Guerilla Girls Bedside Companion to Western Art</i>
 <i>The History of Jazz</i> by Ted Gioia</p> <p>Field study to production of Shakespeare's plays
 Field study to workshop on performing Shakespeare's plays
 Field study to Barnes Foundation in Philadelphia</p> |
| 9.4.12.C: Compare and contrast the attributes of various audiences' environments as they influence individual aesthetic response (e.g., viewing traditional Irish dance at county fair versus the performance of River Dance in a | <p>Grand Conversation
 Music Instruction
 Spanish Instruction - folk songs
 Cotillion - waltz, swing dance, line dance, foxtrot</p> |

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| concert hall). | <p>Field study to production of Shakespeare's plays</p> <p>Field study to workshop on performing Shakespeare's plays</p> <p>Field study to Barnes Foundation in Philadelphia</p> |
| <p>9.4.12.D: Analyze and interpret a philosophical position identified in works in the arts and humanities</p> | <p>For Picture Study and Composer Study classes, see Picture Study and Composer Study Scope and Sequences. All composers and artists' works are observed, often reproduced, and always discussed, and biographies are also read and discussed.</p> <p>Essay exams and oral, written, illustrated narrations.</p> <p>picture studies and composer studies in various content areas</p> <p>Classroom Timeline and Book of Centuries in various content areas</p> <p>Field study to production of Shakespeare's plays</p> <p>Field study to workshop on performing Shakespeare's plays</p> <p>Field study to Barnes Foundation in Philadelphia</p> |

**Pennsylvania State Standards
CURRICULUM MAPPING**

Grades 3-4

Subject: VISUAL ARTS

Standard Area - 9.1: Production, Performance and Exhibition of Dance, Music, Theatre and Visual Arts

| Grade Level - 9.1.3-4: GRADES 3-4 | Books/Activities Used |
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| 9.1.3.A: Know and use the elements and principles of each art form to create works in the arts and humanities. | Lessons/Activities:
Totem Poles
Horace Pippin: Imagination Drawings
Monet Poplar Trees
Aboriginal Dot Painting
Architectural Mashup - Inspired by James Rizzi
Mannequin Drawings
Calder Sculptures
Modigliani Self Portraits
Skyline Printmaking

Books:
Arrow to the Sun: A Pueblo Indian Tale
This is Australia
Where We Live (Adventures in Architecture)
Salvador Dali and the Surrealists: Their Lives & Ideas
Monet and the Impressionists for Kids: Their Lives & Ideas
What Makes a Monet A Monet?
A Child's Introduction to Art
Child's History of Art: Architecture
Raven: A Trickster Tale from the Pacific Northwest |

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| <p>9.1.3.B: Recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts.</p> | <p>Lessons/Activities:
 Totem Poles
 Horace Pippin: Imagination Drawings
 Monet Poplar Trees
 Aboriginal Dot Painting
 Architectural Mashup - Inspired by James Rizzi
 Mannequin Drawings
 Calder Sculptures
 Modigliani Self Portraits
 Skyline Printmaking</p> <p>Books:
 Arrow to the Sun: A Pueblo Indian Tale
 This is Australia
 Where We Live (Adventures in Architecture)
 Salvador Dali and the Surrealists: Their Lives & Ideas
 Monet and the Impressionists for Kids: Their Lives & Ideas
 What Makes a Monet A Monet?
 A Child's Introduction to Art
 Child's History of Art: Architecture
 Raven: A Trickster Tale from the Pacific Northwest</p> |
| <p>9.1.3.C: Recognize and use fundamental vocabulary within each of the arts forms.</p> | <p>Lessons/Activities:
 Paper Mache Poppies
 Architecture - Three orders of columns
 Monet Poplar Trees
 Aboriginal Animals Dot Painting
 Modigliani Self Portraits
 Skyline Printmaking</p> <p>Books:
 Child's History of Art: Architecture
 Arrow to the Sun: A Pueblo Indian Tale
 What Makes a Monet A Monet?</p> |

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| <p>9.1.3.D: Use knowledge of varied styles within each art form through a performance or exhibition of unique work.</p> | <p>Lessons/Activities:
 Architectural Mashup - Inspired by James Rizzi
 Calder Sculptures
 Aboriginal Dot Painting
 Skyline Printmaking</p> <p>Books:
 Sandy's Circus
 From Mud Huts to Skyscrapers
 Arrow to the Sun: A Pueblo Indian Tale</p> |
| <p>9.1.3.E: Demonstrate the ability to define objects, express emotions, illustrate an action or relate an experience through creation of works in the arts.</p> | <p>Lessons/Activities:
 Horace Pippin: Imagination Drawings
 Architectural Mashup- Inspired by James Rizzi
 Totem Poles</p> <p>Books:
 A Splash of Red: The Life and Art of Horace Pippin
 Raven: A Trickster Tale from the Pacific Northwest</p> |
| <p>9.1.3.F: Identify works of others through a performance or exhibition (e.g., exhibition of student paintings based on the study of Picasso).</p> | <p>Lessons/Activities:
 Modigliani Self-Portraits
 Exhibited at ARTSpring event
 Salvador Dali Portraits
 Calder sculptures</p> <p>Books:
 Sandy's Circus
 Salvador Dali and the Surrealists: Their Lives & Ideas</p> |

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| <p>9.1.3.G: Recognize the function of rehearsals and practice sessions.</p> | <p>Lessons/Activities:
 Exquisite Corpse drawings
 Decalcomania by the Surrealists
 Totem Poles
 Skyline Printmaking</p> <p>Books:
 Salvador Dali and the Surrealists: Their Lives & Ideas
 Raven: A Trickster Tale from the Pacific Northwest</p> |
| <p>9.1.3.H: Handle materials, equipment and tools safely at work and performance spaces.</p> | <p>Lessons/Activities:
 Paper Mache Poppies
 Skyline Printmaking</p> |
| <p>9.1.3.I: Identify arts events that take place in schools and in communities.</p> | <p>Lessons/Activities:
 ARTSpring
 Block of Art
 HS Art Show at SCCA</p> |
| <p>9.1.3.J: Know and use traditional and contemporary technologies for producing, performing and exhibiting works in the arts or the works of others.</p> | <p>Lessons/Activities:
 Skyline Printmaking
 Flocks, Herds, Swarms: Warm/Cool Fish
 Calder Sculptures</p> <p>Books:
 Sandy's Circus</p> |
| <p>9.1.3.K: Know and use traditional and contemporary technologies for furthering knowledge and understanding in the humanities.</p> | <p>Lessons/Activities:
 Skyline Printmaking
 Flocks, Herds, Swarms: Warm/Cool Fish
 Calder Sculptures</p> <p>Books:
 Sandy's Circus</p> |

Standard Area - 9.2: Historical and Cultural Contexts

| Grade Level - 9.2.3-4: GRADES 3-4 | Books/Activities Used |
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| 9.2.3.A: Explain the historical, cultural and social context of an individual work in the arts. | Lessons/Activities:
Horace Pippin: Imagination Drawings
Aboriginal Dot Painting

Books:
A Splash of Red: The Life and Art of Horace Pippin
Arrow to the Sun: A Pueblo Indian Tale |
| 9.2.3.B: Relate works in the arts chronologically to historical events (e.g., 10,000 B.C. to present). | Lessons/Activities:
Horace Pippin: Imagination Drawings
Aboriginal Dot Painting
Monet Poplar Trees
The Surrealists

Books:
A Splash of Red: The Life and Art of Horace Pippin
Arrow to the Sun: A Pueblo Indian Tale
Salvador Dali and the Surrealists: Their Lives & Ideas
What Makes a Monet a Monet? |

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| <p>9.2.3.C: Relate works in the arts to varying styles and genre and to the periods in which they were created (e.g., Bronze Age, Ming Dynasty, Renaissance, Classical, Modern, Post-Modern, Contemporary, Futuristic, others).</p> | <p>Lessons/Activities:
 Decalcomania and Exquisite Corpse Drawing Activities of the Surrealists
 Monet Poplar Trees
 Architecture - Three orders of columns
 Architectural Mashup - Inspired by James Rizzi</p> <p>Books:
 Salvador Dali and the Surrealists: Their Lives & Ideas
 What Makes a Monet a Monet?
 From Mud Huts to Skyscrapers
 Child's History of Art: Architecture</p> |
| <p>9.2.3.D: Analyze a work of art from its historical and cultural perspective.</p> | <p>Lessons/Activities:
 Aboriginal Dot Painting
 Horace Pippin: Imagination Drawings
 Totem Poles</p> <p>Books:
 A Splash of Red: The Life and Art of Horace Pippin
 Arrow to the Sun: A Pueblo Indian Tale
 Raven: A Trickster Tale from the Pacific Northwest</p> |
| <p>9.2.3.E: Analyze how historical events and culture impact forms, techniques and purposes of works in the arts (e.g., Gilbert and Sullivan operettas)</p> | <p>Lessons/Activities:
 Totem Poles
 Aboriginal Dot Painting
 Architecture - Three orders of columns</p> <p>Books:
 Arrow to the Sun: A Pueblo Indian Tale
 Raven: A Trickster Tale from the Pacific Northwest
 Child's History of Art: Architecture</p> |

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| <p>9.2.3.F: Know and apply appropriate vocabulary used between social studies and the arts and humanities.</p> | <p>Lessons/Activities:
 Aboriginal Dot Painting
 Totem Poles
 Architecture - Three orders of columns</p> <p>Books:
 Arrow to the Sun: A Pueblo Indian Tale
 Raven: A Trickster Tale from the Pacific Northwest
 Child's History of Art: Architecture</p> |
| <p>9.2.3.G: Relate works in the arts to geographic regions:</p> | <p>Lessons/Activities:
 Aboriginal Dot Painting
 Architecture - Three orders of columns
 Totem Poles</p> <p>Books:
 Arrow to the Sun: A Pueblo Indian Tale
 Raven: A Trickster Tale from the Pacific Northwest
 Child's History of Art: Architecture</p> |
| <p>9.2.3.H: Identify, describe and analyze the work of Pennsylvania Artists in dance, music, theatre and visual arts.</p> | <p>Lessons/Activities:
 Horace Pippin: Imagination Drawings
 Calder Sculptures</p> <p>Books:
 A Splash of Red: The Life and Art of Horace Pippin
 Sandy's Circus</p> |

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| <p>9.2.3.I: Identify, explain and analyze philosophical beliefs as they relate to works in the arts (e.g., classical architecture, rock music, Native American dance, contemporary American musical theatre).</p> | <p>Lessons/Activities:
 Architecture - Three orders of columns
 Totem Poles
 Aboriginal Dot Painting</p> <p>Books:
 Arrow to the Sun: A Pueblo Indian Tale
 Raven: A Trickster Tale from the Pacific Northwest
 Child's History of Art: Architecture</p> |
| <p>9.2.3.J: Identify, explain and analyze historical and cultural differences as they relate to works in the arts (e.g., PLAYS BY Shakespeare, works by Michelangelo, ethnic dance and music).</p> | <p>Lessons/Activities:
 Architecture - Three orders of columns
 Totem Poles
 Aboriginal Dot Painting</p> <p>Books:
 Arrow to the Sun: A Pueblo Indian Tale
 Raven: A Trickster Tale from the Pacific Northwest
 Child's History of Art: Architecture</p> |
| <p>9.2.3.K: Identify, explain and analyze traditions as they relate to works in the arts (e.g., story telling – plays, oral histories- poetry, work songs- blue grass).</p> | <p>Lessons/Activities:
 Aboriginal Dot Painting
 Totem Poles</p> <p>Books:
 Arrow to the Sun: A Pueblo Indian Tale
 Raven: A Trickster Tale from the Pacific Northwest</p> |
| <p>9.2.3.L: Identify, explain and analyze common themes, forms and techniques from works in the arts (e.g., Copland and Graham's <i>Appalachian Spring</i> and Millet's <i>The Gleaners</i>).</p> | <p>Lessons/Activities:
 Horace Pippin: Imagination Drawings</p> <p>Books:
 A Splash of Red: The Life and Art of Horace Pippin</p> |

Standard Area - 9.3: Critical Response

| Grade Level - 9.3.3-4: GRADES 3-4 | Books/Activities Used |
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| <p>9.3.3.A: Recognize critical processes used in the examination of works in the arts and humanities.</p> | <p>Lessons/Activities:
 Horace Pippin: Imagination Drawings
 Monet Poplar Trees</p> <p>Books:
 A Splash of Red: The Life and Art of Horace Pippin
 What Makes a Monet a Monet?</p> |
| <p>9.3.3.B: Know that works in the arts can be described by using the arts elements, principles and concepts (e.g., use of color, shape and pattern in Mondrian's <i>Broadway Boogie-Woogie</i>; use of dynamics, tempo, texture in Ravel's <i>Bolero</i>).</p> | <p>Lessons/Activities:
 Horace Pippin: Imagination Drawings
 Monet Poplar Trees
 Modigliani Self Portraits</p> <p>Books:
 A Splash of Red: The Life and Art of Horace Pippin
 What Makes a Monet a Monet?</p> |
| <p>9.3.3.C: Know classification skills with materials and processes used to create works in the arts (e.g., sorting and matching textiles, musical chants, television comedies).</p> | <p>Lessons/Activities:
 Totem Poles
 Aboriginal Dot Paintings
 Architectural Mashup</p> <p>Books:
 Arrow to the Sun: A Pueblo Indian Tale
 Raven: A Trickster Tale from the Pacific Northwest
 From Mud Huts to Skyscrapers</p> |

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| <p>9.3.3.D: Explain meanings in the arts and humanities through individual works and the works of others using a fundamental vocabulary of critical response.</p> | <p>Lessons/Activities:
Paper Mache Poppies
Modigliani Self Portraits</p> |
| <p>9.3.3.E: Recognize and identify types of critical analysis in the arts and humanities.</p> | <p>Lessons/Activities:
Totem Poles
Calder Sculptures
Architectural Mashup - Inspired by James Rizzi</p> <p>Books:
Sandy's Circus
Raven: A Trickster Tale from the Pacific Northwest
From Mud Huts to Skyscrapers</p> |
| <p>9.3.3.F: Know how to recognize and identify similar and different characteristics among works in the arts (e.g., Amish and Hawaiian quilts, Navaho weavings and Kente cloth from West Africa).</p> | <p>Lessons/Activities:
Aboriginal Dot Paintings
Totem Poles</p> <p>Books:
Arrow to the Sun: A Pueblo Indian Tale
Raven: A Trickster Tale from the Pacific Northwest</p> |
| <p>9.3.3.G: Know and demonstrate what a critic's position or opinion is related to works in the arts and humanities (e.g., I like patriotic songs because...; The movie was enjoyed for its exceptional special effects).</p> | <p>Lessons/Activities:
Paper Mache Poppies
Monet Poplar Trees
Calder Sculptures
Flocks, Herds, Swarms: Warm/Cool Fish</p> <p>Books:
What Makes a Monet a Monet?
Sandy's Circus</p> |

Standard Area - 9.4: Aesthetic Response

| Grade Level - 9.4.3-4: GRADES 3-4 | Books/Activities Used |
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| <p>9.4.3.A: Know how to respond to a philosophical statement about works in the arts and humanities (e.g., “Can artworks that depict or are about ugly or unpleasant things ever be beautiful?”).</p> | <p>Lessons/Activities:
 Modigliani Self-Portraits
 Surrealist Activities - Exquisite Corpse and Decalcomania</p> <p>Books:
 Salvador Dali and the Surrealists: Their Lives & Ideas</p> |
| <p>9.4.3.B: Know how to communicate an informed individual opinion about the meaning of works in the arts (e.g., works of an artist of the month).</p> | <p>Lessons/Activities:
 Modigliani Self-Portraits
 Architectural Mashup</p> <p>Books:
 From Mud Huts to Skyscrapers</p> |
| <p>9.4.3.C: Recognize that the environment of the observer influences individual aesthetic responses to works in the arts (e.g., the effect of live music as opposed to listening to the same piece on a car radio).</p> | <p>Lessons/Activities:
 Monet poplar trees
 Totem Poles</p> <p>Books:
 What Makes a Monet a Monet?
 Raven: A Trickster Tale from the Pacific Northwest</p> |
| <p>9.4.3.D: Recognize that choices made by artists regarding subject matter and themes communicate ideas through works in the arts and humanities (e.g., artist’s interpretation through the use of classical ballet of the American West in Agnes De Mille’s <i>Rodeo</i>).</p> | <p>Lessons/Activities:
 Flocks, Herds, Swarms: Warm/Cool Fish</p> |

Pennsylvania State Standards
CURRICULUM MAPPING
Grade K-9
Subject Family and Consumer Sciences

Standard Area - 11.1: Financial and Resource Management

| Grade Level - 11.1.3: GRADE 3 | Books/Activities Used |
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| 11.1.3.A: Identify money denominations, services and material resources available as trade-offs within the home,school and community. | Field Study to Local Bank*
Singapore Math |
| 11.1.3.B: Define the components of a spending plan (e.g., income, expenses, savings). | Singapore Math
Book in grade 2 A Chair for My Mother by Vera Williams
Field Study to a Local Bank*
<i>Uncle Jed's Barbershop</i> by Mitchell** |
| 11.1.3.C: Explain the need for shelter for the purpose of safety, warmth and comfort. | <i>Freedom Train</i> by Dorothy Sterling
<i>Bunches and Bunches, How Bananas Grow in Rwanda</i> by TEACH Rwanda
Whole Group Discussions
In grade 2 students discuss how the fire in the family apartment affected the family in book <i>A Chair for My Mother</i> by Vera Williams**
SARCC Assemblies and Classroom Presentations
Discussion of Climate Effects |
| 11.1.3.D: Explain consumer rights and responsibilities.
To be safe
To be informed
To be heard | Visits from:
State Representative
State Senator
County Commissioners |

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| To choose
To redress | County Sheriff*

Assembly presented by speaker from S.A.R.C.C. |
| 11.1.3.E: Explain the relationship between work and income | School Wide Career Day
Whole Group Discussions
Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
Presentations by local business owners |
| 11.1.3.F: Describe criteria needed to identify quality in consumer goods and services (e.g., food, clothing, furniture, home, technology, health care, transportation, services). | Whole Group Discussions:
Relationship between climate and food
Relationship between climate and clothing |
| 11.1.3.G: Identify the services that communities provide for individuals and families. | Assembly presented by speaker from S.A.R.C.C.
Assembly presented by speaker from Pottsville Public Library
School Wide Involvement in "Blankets of Love" |

Standard Area - 11.2: Balancing Family, Work, and Community Responsibility

| Grade Level - 11.2.3: GRADE 3 | Books/Activities Used |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11.2.3.A: Examine consequences of family, work or career decisions. | Assembly presented by speaker from S.A.R.C.C.
Whole Group Discussions
Peer Modeling
<i>Uncle Jed's Barbershop</i> by Mitchell**
Presentations by local business owners
Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners |

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| 11.2.3.B: Identify the importance of routines and schedules while differentiating between short and long term goals. | Whole Group Discussions
Behavior Charts - Long Term/Short Term Goals

Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
Presentations by local business owners

Capitalism For Kids, Chapter 6 |
| 11.2.3.C: Indicate the benefits and costs of working as an individual or as a team member and of being a leader or follower. | Whole Group Discussions
Classroom and Schoolwide Student Chores

Assembly Presented by Young Entrepreneurs Academy (YEA!) Winners
Presentations by local business owners
Presentations by local authors

Capitalism For Kids, Chapter 6 |
| 11.2.3.D: Explain the importance of organizing space for efficiency and a sense of comfort (e.g., desk space, classroom space). | Whole Group Discussions
Classroom and Schoolwide Student Chores
Students' use of space in small classrooms/hallways in the schoolhouse |
| 11.2.3.E: Analyze the effectiveness of technology used for school and home in accomplishing the work of the family (e.g., security, entertainment, communication, education) | <i>Capitalism for Kids</i> , Chapter 5 |
| 11.2.3.F: Explain daily activities that fulfill family functions in meeting responsibilities (e.g., economic, emotional support, childcare and guidance, housekeeping, maintaining kinship, providing recreation). | Whole Group Discussions
School Wide Collaboratives - focused on connection home life to school life
SARCC Assemblies and Classroom Presentations |

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| | <i>Capitalism for Kids</i> , Chapter 6 |
| 11.2.3.G: Identify the life stages by identifying their developmental task (e.g., infant, pre-schooler, school age, teen-age, adult, senior citizen). | Whole Group Discussions
Opportunities to work with children outside of their grade level
<i>Loop the Loop</i> by Margaret Dugan in grade 5 (seniors) |
| 11.2.3.H: Identify how to resolve conflict using interpersonal communications skills.
Speaking and listening
I messages
Active listening
Checking for understanding
Following directions
Empathy Feedback | Restorative Circle Practices
Whole Group Discussions
Peer Modeling |

Standard Area - 11.3: Food Science and Nutrition

| Grade Level - 11.3.3: GRADE 3 | Books/Activities Used |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11.3.3.A: Know the production steps that a food travels from the farm to the consumer | Cooking handwork
Whole group discussion
Field Study to Hershey, PA (life cycle of the cocoa bean) (Grade 1/2)*
Field Study to Dairy Farm (Grade K)
<i>The Farm in Colonial PA</i> (Grade 1/2) |

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| 11.3.3.B: Describe personal hygiene techniques in food handling (e.g., handwashing, sneeze control, signs of food spoilage). | Whole Group Discussions
Peer Modeling |
| 11.3.3.C: Explain the importance of eating a varied diet in maintaining health. | Whole Group Discussions
School-wide Health Program |
| 11.3.3.D: Classify foods by food group within the food guide pyramid including the serving size and nutrient function within the body. | Cooking Handwork (Grade 1/2)
Winnie the Pooh and Abigail Adams Cookbooks |
| 11.3.3.E: Define energy-yielding nutrients and calories. | Cooking Handwork (Grade 1/2)
Winnie the Pooh and Abigail Adams Cookbooks |
| 11.3.3.F: Identify components of a basic recipe (e.g., volume, weight, fractions, recipe ingredients, recipe directions, safety techniques). | Cooking Handwork (Grade 1/2)
Winnie the Pooh and Abigail Adams Cookbooks |
| 11.3.3.G: Classify foods according to senses (e.g., taste, touch, smell, mouth feel, sight, sound). | Cooking Handwork (Grade 1/2)
Winnie the Pooh and Abigail Adams Cookbooks |

Standard Area - 11.4: Child Development

| Grade Level - 11.4.3: GRADE 3 | Books/Activities Used |
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| 11.4.3.A: Identify characteristics in each stage of child development.
Infancy/BIRTH TO 1 YEAR
Early childhood/1 TO 6 YEARS
Middle childhood/6 TO 9 YEARS
Late childhood/NINE – 13 YEARS
Adolescence/13 – 18 YEARS | Stages-of-Development Picture Sort, followed by Group Discussions (Grade 1)* |

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| 11.4.3.B: Identify health and safety needs for children at each stage of child development. | Stages-of-Development Picture Sort, followed by Group Discussions (Grade 1)* |
| 11.4.3.C: Identify the characteristics of a learning environment. | Whole Group Discussions - including what habits are needed in a classroom |
| 11.4.3.D: Identify community resources provided for children | Assembly presented by speaker from Pottsville Public Library
Assembly presented by speaker from S.A.R.C.C. |
| 11.4.3.E: Explain how the home and community help a person learn to read, write and compute | Assembly presented by speaker from Pottsville Public Library |

Pennsylvania State Standards
CURRICULUM MAPPING
Grade 6th
Subject Family and Consumer Sciences

Standard Area - 11.1: Financial and Resource Management

| <u>Grade Level - 11.1.6: GRADE 6</u> | Books/Activities Used |
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| 11.1.6.A: Justify the decision to use or not use resources based on scarcity | Assembly on recycling
Visit to Cogle's Recycling Incorporated
<i>Heidi</i> (6th), <i>Johnny Tremain</i> , <i>Amos Fortune Free Man</i> (6th), <i>Growing Up in Coal Country</i> |
| 11.1.6.B: Know the relationship of the components of a simple spending plan and how that relationship allows for managing income, expenses and savings | <i>Heidi</i> (6th), <i>Growing Up in Coal Country</i> , <i>Johnny Tremain</i> , <i>Little House</i> series (4th) |
| 11.1.6.C: Describe the adaptability to meet basic human needs of the different types of housing available (e.g., single home, apartment, mobile home, shelter, recreational vehicle, public housing) | <i>Johnny Tremain</i> , <i>Heidi</i> , <i>Amos Fortune Free Man</i> (6th), <i>Little House</i> series (4th) |
| 11.1.6.D: Analyze information in care instructions, safety precautions and the use of consumable goods as a demonstration of understanding of consumer rights and responsibilities. | Soap Carving Handwork
<i>Growing Up in Coal Country</i> , <i>Breaker Boys</i> |
| 11.1.6.E: Explain the principles of child labor laws and the opportunity cost of working by evaluating the advantages and disadvantages of holding a job while a teenager. | <i>Johnny Tremain</i> , <i>Growing Up in Coal Country</i> , <i>Eckly Miners Village</i> , <i>Breaker Boys</i> , <i>Little House</i> series (4th) |
| 11.1.6.F: Explain practices to maintain and/or repair consumer goods and services. | <i>Breaker Boys</i> , <i>Eckly Miners</i> , <i>Growing Up in Coal Country</i> , <i>Johnny Tremain</i> , <i>Little House</i> series (4th) |
| 11.1.6.G: Identify the public and nonpublic services that are available to serve families within the community. | <i>Heidi</i> , <i>Johnny Tremain</i> , <i>Amos Fortune Free Man</i> , <i>Growing up in Coal Country</i> , <i>Little House</i> series (4th) |

Standard Area - 11.2: Balancing Family, Work, and Community Responsibility

| Grade Level - 11.2.6: Grade 6 | Books/Activities Used |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| 11.2.6.A: Contrast the solutions reached through the use of a simple decision making process that includes analyzing consequences of alternative solutions against snap decision making methods. | <i>Carry on Mr. Bowditch</i>
<i>The Secret Garden</i> (5th)
<i>Pedro's Journal</i> (5th)
Origami Handwork |
| 11.2.6.B: Deduce the importance of time management skills (e.g. home, school, recreational activities). | Soap Making Handwork, Card Making Handwork, Quilling Handwork, Stick Weaving Handwork, <i>Plutarch's Lives</i> |
| 11.2.6.C: Classify the components of effective teamwork and leadership. | <i>Carry on Mr. Bowditch</i>
<i>George Washington's World</i>
<i>Pedro's Journal</i> (5th) |
| 11.2.6.D: Identify the concepts and principles used in planning space for activities. | Soap Making Handwork
Origami Handwork |
| 11.2.6.E: Describe the role of technology within a community in maintaining a safe and healthy living environment (e.g., safety, hospitals, waste treatment, water quality, schools). | <i>Breaker Boys</i> , <i>Carry on Mr. Bowditch</i> |

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| 11.2.6.F: Compare and contrast how different cultures meet family responsibilities within differing configurations (e.g., new parent, just married, single adult living alone, “empty nest”, retired, senior citizen). | <i>Breaker Boys, Heidi, Johnny Tremain, Amos Fortune Free Man, Growing up in Coal Country</i> |
| 11.2.6.G: Identify the characteristics of the stages of the family life cycle (e.g., beginning, expanding, developing, launching, middle years, retirement, variations). | <i>Loop the Loop</i> by Dugan in grade 5 (aging)**, <i>Little House</i> series (4th), <i>The Secret Garden</i> (5th) |
| 11.2.6.H: Describe positive and negative interactions within patterns of interpersonal communications.
Placating
Blaming
Distracting
Intellectualizing
Asserting | Relational Education Practices
Restorative Practices Model
Journal Entries (narration)
Grand Conversations and Classroom Discussions
<i>Little House</i> series, <i>Where the Red Fern Grows, Pedro's Journal</i> (5th) |

Standard Area - 11.3: Food Science and Nutrition

| Grade Level - 11.3.6: Grade 6 | Books/Activities Used |
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| 11.3.6.A: Demonstrate knowledge of techniques used to evaluate food in various forms (e.g., canned, frozen, dried, irradiated). | Whole groups discussions during lunch and snack
Cooking Handwork (Grade 6) |
| 11.3.6.B: Describe safe food handling techniques (e.g., storage, temperature control, food preparation, conditions that create a safe working environment for food production). | Whole group discussions
Cooking Handwork (Grade 6) |

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| 11.3.6.C: Analyze factors that effect food choices. | Cooking Handwork (Grade 6)
Whole Group Discussion
School-wide health program
<i>Heidi, Amos Fortune Free Man, Growing up in Coal Country</i> |
| 11.3.6.D: Describe a well-balanced daily menu using the dietary guidelines and the food guide pyramid | Cooking Handwork (Grade 6)
Whole Group Discussion |
| 11.3.6.E: Explain the relationship between calories, nutrient and food input versus energy output; describe digestion. | Cooking Handwork (Grade 6)
Whole Group Discussion |
| 11.3.6.F: Analyze basic food preparation techniques and food-handling procedures. | Cooking Handwork (Grade 6)
Whole Group Discussion |
| 11.3.6.G: Describe the physical, biological, and chemical changes that take place in food preparation. | Cooking Handwork (Grade 6)
Whole Group Discussion |

Standard Area - 11.4: Child Development

| Grade Level - 11.4.6: Grade 6 | Books/Activities Used |
|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| 11.4.6.A: Compare and contrast child development guided practices according to the stage of child development. | <i>Little House</i> series (Grade 4), Heidi |
| 11.4.6.B: Identify ways to keep children healthy and safe at each stage of child development. | Class discussions
School-wide health program, Heidi, <i>Little House</i> series |
| 11.4.6.C: Identify the role of the caregiver in providing a learning environment (e.g., babysitting, daycare, preschool). | <i>Little House</i> series (Grade 4), Heidi, Breaker Boys |

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| 11.4.6.D: Identify child-care provider considerations. | Group discussions, Little House on the Prairie |
| 11.4.6.E: Identify characteristics of quality literature for children and other literacy enhancing activities. | Group discussions on Living Books and the school Book List |

Pennsylvania State Standards
CURRICULUM MAPPING
Grade 7-9th
Subject Family and Consumer Sciences

Standard Area - 11.1: Financial and Resource Management

| Grade Level - 11.1.9: GRADE 9 | Books/Activities |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| 11.1.9.A: Analyze current conservation practices and their effect on future renewable and non-renewable resources: Refuse Reduce Reuse Recycle | Lyddie, Blogging with Current Events class |
| 11.1.9.B: Explain the responsibilities associated with managing personal finances (e.g., savings, checking, credit, non- cash systems, investments, insurance). | Foundations in Personal Finance by Dave Ramsey |
| 11.1.9.C: Delineate and assess the factors affecting the availability of housing (e.g., supply and demand, market factors, geographical location, community regulations). | Lyddie, Watership Down |
| 11.1.9.D: Explain how consumer rights and responsibilities are protected (e.g., government agencies, consumer protection agencies, consumer action groups). | Lyddie |
| 11.1.9.E: Compare the influences of income and fringe | Foundations in Personal Finance by Dave Ramsey |

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| benefits to make decisions about work. | |
| 11.1.9.F: Evaluate different strategies to obtain consumer goods and services. | Foundations in Personal Finance by Dave Ramsey |
| 11.1.9.G: Analyze how public, nonpublic and for-profit service providers serve the family | annual SWIC assembly |

Standard Area - 11.2: Balancing Family, Work, and Community Responsibility

| Grade Level - 11.2.9: Grade 9 | Books/Activities |
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| 11.2.9.A: Solve dilemmas using a practical reasoning approach: Identify situation Identify reliable information List choices and examine the consequences of each Develop a plan of action Draw conclusions Reflect on decisions | Career and College Club: Explorations |
| 11.2.9.B: Know FCCLA action planning procedure and how to apply it to family, work and community decisions. | Career and College Club: Explorations, Lyddie, Watership Down |
| 11.2.9.C: Assess the effectiveness of the use of teamwork and leadership skills in accomplishing the work of the family | Career and College Club: Explorations, Watership Down |
| 11.2.9.D: Analyze the space requirements for a specified activity to meet a given need (e.g., family room, home office, kitchen). | Handwork Projects, Odyssey of the Mind, Watership Down |
| 11.2.9.E: Evaluate the impact of technology and justify the use or nonuse of it (e.g., safety, cost/budget, appearance, efficiency). | Lyddie, Watership Down |

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| 11.2.9.F: Contrast past and present family functions and predict their probable impact on the future of the family. | Lyddie
Watership Down |
| 11.2.9.G: Explain the influences of family life cycle stages on the needs of families and communities (e.g., a large number of young families needing day care, fixed income senior citizens, school age children). | Lyddie Watership Down |
| 11.2.9.H: Justify the significance of interpersonal communication skills in the practical reasoning method of decision making. | Career and College Club: Explorations |

Standard Area - 11.3: Food Science and Nutrition

| Grade Level - 11.3.9: Grade 9 | Books/Activities |
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| 11.3.9.A: Explain how scientific and technological developments enhance our food supply (e.g., food preservation techniques, packaging, nutrient fortification). | The Omnivore's Dilemma |
| 11.3.9.B: Identify the cause, effect and prevention of microbial contamination, parasites and toxic chemicals in food. | The Omnivore's Dilemma |
| 11.3.9.C: Analyze the impact of food addictions and eating disorders on health. | The Omnivore's Dilemma |
| 11.3.9.D: Analyze relationship between diet and disease and risk factors (e.g., calcium and osteoporosis; fat, cholesterol and heart disease; folate and birth defects; sodium and | The Omnivore's Dilemma |

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| hypertension). | |
| 11.3.9.E: Analyze the energy requirements, nutrient requirements and body composition for individuals at various stages of the life cycle. | The Omnivore's Dilemma |
| 11.3.9.F: Hypothesize the effectiveness of the use of meal management principles (e.g., time management, budgetary considerations, sensory appeal, balanced nutrition, safety, sanitation). | The Omnivore's Dilemma |
| 11.3.9.G: Analyze the application of physical and chemical changes that occur in food during preparation and preservation. | The Omnivore's Dilemma |

Standard Area - 11.4: Child Development

| Grade Level - 11.4.9: Grade 9 | Books/Activities |
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| 11.4.9.A: Analyze physical, intellectual and social/emotional development in relation to theories of child development. | Thunder Rolling in the Mountains by Scott O'Dell
A Tree Grows in Brooklyn |
| 11.4.9.B: Evaluate health and safety hazards relating to children at each stage of child development. | A Tree Grows in Brooklyn |
| 11.4.9.C: Evaluate various environments to determine if they provide the characteristics of a proper learning environment. | A Tree Grows in Brooklyn
Thunder Rolling in the Mountains by Scott O'Dell |
| 11.4.9.D: Analyze the roles, responsibilities and opportunity for family involvement in schools. | A Tree Grows in Brooklyn |

11.4.9.E: Explain how storytelling, story reading and writing enhance literacy development in children.

**A Tree Grows in Brooklyn
Wolves and Paws Program (reading buddies)**

**Pennsylvania [Common Core or State] Standards
CURRICULUM MAPPING**

Subject Subject Area - 12: World Languages

Standard Area - 12.1: COMMUNICATION in a Target Language (CONTENT STANDARDS)

Performance Indicator - 12.1.1: COMMUNICATION in a Target Language (PERFORMANCE INDICATORS)

Performance Level - 12.1.1.S1: STAGE 1

| Standard | Books/Activities Used |
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| 12.1.1.S1.A: Recite target language alphabet and associated sounds and basic words with proper accentuation. | Alphabet Song
Taco Song (Spanish Vowels)
Spanish Nursery Rhymes
Diez Deditos , by José-Luis Orozco |
| 12.1.1.S1.B: Speak and write common vocabulary, phrases and structures during activities with the teacher, classmates and family. (Interpersonal Skills) | Various games, brain break activities
TPRS: Personalized Question and Answer (PQA) activities: question and answer conversations involving whole class participation

TPRS: Personalized Statements and Answers (PSA): statements with follow-up questions involving whole class and individual students

Teaching Proficiency through Reading and Storytelling (TPRS) activities, dictation, readings, oral stories |

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| | <p>Whole Group Discussions</p> <p><i>¡Hola Niños!</i>, Carol Gaab
 <i>¡Cuéntame!</i> Student Textbook & Mini-Lecturas, Carol Gaab, Teri Abelaira</p> |
| 12.1.1.S1.C: Comprehend simple spoken conversations and written sentences in dialogs and short paragraphs. | <p>TPRS: PQA/PSA Activities
 TPRS activities: oral stories, readings, Dictation</p> <p><i>¡Hola Niños!</i>, Carol Gaab
 <i>¡Cuéntame!</i> Student Textbook & Mini-Lecturas, Carol Gaab, Teri Abelaira</p> |
| 12.1.1.S1.D: Use simple sentence and question structures in speaking and writing. | <p>Total Physical Response (TPR) activities</p> <p>Various games, songs, brain break activities</p> <p>TPRS: PQA/PSA Activities</p> <p>TPRS activities: oral stories, readings, timed writing, dictation</p> <p><i>¡Hola Niños!</i>, Carol Gaab
 <i>¡Cuéntame!</i> Student Textbook & Mini-Lecturas, Carol Gaab & Teri Abelaira
 <i>Berto y sus buenas ideas</i>, Magalay Rodríguez
 <i>Brandon Brown quiere un perro</i>, Carol Gaab</p> |
| 12.1.1.S1.E: Find words used in magazines, commercials and advertisements influenced by the target language. | <p>TPRS: PQA/PSA Activities</p> <p>TPRS activities: embedded readings with mottoes, famous quotes</p> <p>Dictation and copywork activities involving mottoes, famous</p> |

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| | quotes, popular songs
<i>¡Hola Niños!</i> , Carol Gaab
<i>¡Cuéntame!</i> Student Textbook & Mini-Lecturas, Carol Gaab & Teri Abelaira |
| 12.1.1.S1.F: Discuss with classmates and the teacher how the target language has influenced other areas of the school curriculum. | TPRS: PQA/PSA Activities

Whole class discussions

TPRS activities: Spanish stories involving cross-curricular content

<i>¡Hola Niños!</i> , Carol Gaab
<i>¡Cuéntame!</i> Student Textbook & Mini-Lecturas, Carol Gaab & Teri Abelaira |

Performance Level - 12.1.1.S2: STAGE 2

| Standard | Books/Activities Used |
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| 12.1.1.S2.A: Speak and model phrases and sentences with accepted pronunciation, rhythm and intonation with survival level proficiency. | Question Word Song
Lunes es Monday
Weather Song
¿Puedo ir al baño? Song
I am yo song

TPR activities

TPRS: PQA/PSA Activities |

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| | <p>TPRS activities: oral stories, readings, narration, retells</p> <p><i>Look, I Can Talk!</i>, Blaine Ray
 <i>¡Cuéntame más!</i>, Student Textbook & Mini-Lecturas, Carol Gaab
 <i>Immediate Immersion</i>, Scott Benedict</p> |
| 12.1.1.S2.B: Speak and write expanded vocabulary phrases and structures in dialogs of short essays. | <p>TPR activities
 TPRS: PQA/PSA Activities
 TPRS activities: oral stories, readings, dictation, retells, narration, timed writings</p> <p><i>Look, I Can Talk!</i>, Blaine Ray
 <i>¡Cuéntame más!</i>, Student Textbook & Mini-Lecturas, Carol Gaab
 <i>Immediate Immersion</i>, Scott Benedict</p> |
| 12.1.1.S2.C: Comprehend simple spoken and written sentences using an expanded vocabulary in dialogs and short essays. | <p>TPRS: PQA/PSA activities</p> <p>TPRS activities: oral stories, readings</p> <p>Various songs, brain breaks, activities</p> <p><i>Look, I Can Talk!</i>, Blaine Ray
 <i>¡Cuéntame más!</i>, Student Textbook & Mini-Lecturas, Carol Gaab
 <i>Immediate Immersion</i>, Scott Benedict
 <i>Pobre Ana</i>, Blaine Ray
 <i>Patricia va a California</i>, Blaine Ray</p> |
| 12.1.1.S2.D: Use simple sentence and question structures to communicate about daily activities, social amenities and personal information. | <p>TPRS: PQA/PSA activities</p> <p>TPRS activities: oral stories, readings, retells, narration, timed writings</p> |

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| | Pop-up Grammar explanations
<i>Look, I Can Talk!</i> , Blaine Ray
<i>¡Cuéntame más!</i> , Student Textbook & Mini-Lecturas, Carol Gaab
<i>Immediate Immersion</i> , Scott Benedict |
| 12.1.1.S2.E: Use an English dictionary to find the meanings and origins of target language words. | Whole Class Discussions
Spanish/English Dictionary |
| 12.1.1.S2.F: Model and represent the cross-curriculum connections in other subject areas for classmates and language teacher through the target language. | TPRS: PQA/PSA activities

TPRS activities: oral stories and embedded readings with cross-curriculum content |

Performance Level - 12.1.1.S3: STAGE 3

| Standard | Books/Activities Used |
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| 12.1.1.S3.A: Speak and model phrases and sentences with refined pronunciation, rhythm and intonation with accuracy and cultural understanding. | TPRS: PQA/PSA Activities

TPRS activities: oral stories, readings

Songs:
¿Cómo es?
Question Song
No Voy a levantarme
¿Dónde está mi gato?
<i>Look, I Can Talk More!</i> , Blaine Ray
<i>¡Cuéntame mucho!</i> , Student Textbook & Mini-Lecturas, Carol |

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| | Gaab |
| 12.1.1.S3.B: Speak and write advanced vocabulary and idiomatic expressions used by native speaking students of the target language. | <p>TPR activities
 TPRS: PQA/PSA Activities
 TPRS activities: oral stories, readings, dictation, retells, narration, timed writings</p> <p><i>Look, I Can Talk More!</i>, Blaine Ray
 <i>¡Cuéntame mucho!</i>, Student Textbook & Mini-Lecturas, Carol Gaab</p> |
| 12.1.1.S3.C: Comprehend spoken and written sentences and paragraphs using advanced vocabulary terms from textbooks, newspapers, student readers and magazines. | <p>TPRS: PQA/PSA activities
 TPRS activities: oral stories, readings
 Various songs, brain breaks, activities</p> <p><i>Look, I Can Talk More!</i>, Blaine Ray
 <i>¡Cuéntame mucho!</i>, Student Textbook & Mini-Lecturas, Carol Gaab
 <i>¿Dónde está Eduardo?</i>, Lisa Ray Turner & Blaine Ray
 <i>Mi propio auto</i>, Lisa Ray Turner & Blaine Ray</p> |
| 12.1.1.S3.D: Develop and use simple, compound and complex sentence and question structures to communicate and comprehend. | <p>TPRS: PQA/PSA activities
 TPRS activities: oral stories, readings, retells, narration, timed writings
 Pop-up Grammar explanations</p> <p><i>Look, I Can Talk More!</i>, Blaine Ray
 <i>¡Cuéntame mucho!</i>, Student Textbook & Mini-Lecturas, Carol Gaab</p> |
| 12.1.1.S3.E: Discuss two paragraphs: one in English and | Whole class discussions |

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| one in the target language. Select words from different origins. Compare their use in English and in the target language. | Pop-up grammar |
| 12.1.1.S3.F: Make a presentation or write a paragraph in the target language about another subject area explaining the connections. | Timed writings
Group Presentations |

Performance Level - 12.1.1.S4: STAGE 4

| Standard | Books/Activities Used |
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| 12.1.1.S4.A: Listen to, model, interpret and discuss distinct regional accents as heard in conversation by native speakers. | Authentic Listening Activities

<i>Look, I Can Really Talk!</i> , Blaine Ray
<i>¡Cuánto me cuentas!</i> , Student Textbook & Mini-Lecturas, Carol Gaab |
| 12.1.1.S4.B: Speak and write enhanced vocabulary and idiomatic expressions for complex oral and written communication. | TPRS: PQA/PSA Activities

TPRS activities: oral stories, readings, narration, retells, timed writings

<i>Look, I Can Really Talk!</i> , Blaine Ray
<i>¡Cuánto me cuentas!</i> , Student Textbook & Mini-Lecturas, Carol Gaab |
| 12.1.1.S4.C: Comprehend complex spoken and written sentences and paragraphs using enhanced vocabulary terms from selected textbooks, student readers and short | TPRS activities: oral stories, readings, dictation

<i>Look, I Can Really Talk!</i> , Blaine Ray |

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| stories. | <i>¡Cuánto me cuentas!</i> , Student Textbook & Mini-Lecturas, Carol Gaab
<i>Los ojos de Carmen</i> , Veronica Moscoso
<i>Todo lo que brilla</i> , Chris Mercer |
| 12.1.1.S4.D: Discuss how speakers and writers use various sentence structures to convey meanings. | TPRS activities: oral stories, readings, dictation, retells, narration
Pop-up grammar explanations

<i>Look, I Can Really Talk!</i> , Blaine Ray
<i>¡Cuánto me cuentas!</i> , Student Textbook & Mini-Lecturas, Carol Gaab
<i>Los ojos de Carmen</i> , Veronica Moscoso
<i>Todo lo que brilla</i> , Chris Mercer |
| 12.1.1.S4.E: Select a specific historical event that occurred in the target language/culture and the English/American culture. Demonstrate comparisons and/or contrasts of how target language vocabulary is used in describing the bicultural event. | Whole class discussions

TPRS: PQA/PSA Activities

<i>Look, I Can Really Talk!</i> , Blaine Ray
<i>¡Cuánto me cuentas!</i> , Student Textbook & Mini-Lecturas, Carol Gaab
<i>La guerra sucia</i> , Nathaniel Kirby |
| 12.1.1.S4.F: Demonstrate mastery of certain target language skills by connecting influences of target language in another subject area. | Whole Group Discussions
TPRS: PQA/PSA Activities
TPRS activities: oral stories, readings, dictation, retells, narration

<i>Look, I Can Really Talk!</i> , Blaine Ray
<i>¡Cuánto me cuentas!</i> , Student Textbook & Mini-Lecturas, Carol Gaab |

Standard Area - 12.2: COMMUNICATION in a Classical World Language (CONTENT STANDARDS)

Performance Indicator - 12.2.1: COMMUNICATION in a Classical World Language (PERFORMANCE INDICATORS)

Performance Level - 12.2.1.S1: STAGE 1

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| <p>12.2.1.S1.A: Recite the classical Latin or Greek alphabet and associated sounds and words with proper accentuation.</p> | <p>Learning and singing alphabet song</p> <p>Various TPR games, brain break activities</p> <p>TPRS: Personalized Question and Answer (PQA) activities: question and answer conversations involving whole class participation</p> <p>TPRS: Personalized Statements and Answers (PSA): statements with follow-up questions involving whole class and individual students</p> <p>Teaching Proficiency through Reading and Storytelling (TPRS) activities, dictation, readings, oral stories</p> <p>Learning and singing Latin nursery rhymes</p> <p><i>Look, I Can Talk!, Blaine Ray</i></p> |
| <p>12.2.1.S1.B: Comprehend written sentences and spoken conversations using simple vocabulary and verbs of being, saying, seeing.</p> | <p>TPRS: PQA/PSA Activities</p> <p>TPRS activities: oral stories, readings</p> <p>Latin fables</p> |

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| | <i>Look, I Can Talk!</i> , Blaine Ray |
| 12.2.1.S1.C: Write and speak common vocabulary phrases and structures during activities with teacher and classmates. | <p>Total Physical Response (TPR) activities</p> <p>Various TPR games, songs, brain break activities</p> <p>TPRS: PQA/PSA Activities</p> <p>TPRS activities: oral stories, readings, timed writing</p> <p><i>Look, I Can Talk!</i>, Blaine Ray</p> |
| 12.2.1.S1.D: Use simple sentence and question structures to comprehend simple written sentences and conversations. | <p>TPRS: PQA/PSA Activities</p> <p>TPRS activities: oral stories, readings</p> <p><i>Look, I Can Talk!</i>, Blaine Ray</p> <p>Pop-up grammar explanations</p> |
| 12.2.1.S1.E: Find words used in magazines, commercials and advertisements influenced by classical Latin or Greek. | <p>TPRS: PQA/PSA Activities</p> <p>TPRS activities: embedded readings with mottoes, famous quotes</p> <p>Dictation and copywork activities involving mottoes, famous quotes</p> <p><i>Latin via Proverbs</i>, Laura Gibbs</p> |
| 12.2.1.S1.F: Discuss with classmates and the teacher how classical Latin or Greek has influenced other areas of the school curriculum. | <p>TPRS: PQA/PSA Activities</p> <p>Whole class discussions about influence of Latin on other</p> |

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| | <p>curricular areas</p> <p>TPRS activities: Latin stories involving cross-curricular content</p> |
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Performance Level - 12.2.1.S2: STAGE 2

| Standard | Books/Activities Used |
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| 12.2.1.S2.A: Speak and model phrases and sentences with accepted pronunciation, rhythm and intonation. | <p>TPR activities</p> <p>TPRS: PQA/PSA Activities</p> <p>TPRS activities: oral stories, readings</p> <p>Various Latin songs</p> <p><i>Look, I Can Talk More!</i>, Blaine Ray</p> |
| 12.2.1.S2.B: Comprehend simple written and spoken sentences using an expanded vocabulary and verbs of sending, remaining and moving in dialogs and short paragraphs. | <p>TPRS: PQA/PSA Activities</p> <p>TPRS activities: oral stories, readings</p> <p>Latin fairy tales, Beatrix Potter stories in Latin, Dr. Seuss in Latin</p> <p><i>Look, I Can Talk More!</i>, Blaine Ray</p> |
| 12.2.1.S2.C: Write and speak expanded vocabulary phrases and structures in basic dialogs and short sentences. | <p>TPRS: PQA/PSA Activities</p> |

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| | <p>Various TPR games, songs, brain break activities</p> <p>TPRS activities: oral stories, readings, timed writing</p> <p><i>Look, I Can Talk More!</i>, Blaine Ray</p> |
| 12.2.1.S2.D: Use simple sentence and question structures in order to comprehend dialogs and short paragraphs | <p>TPRS: PQA/PSA Activities</p> <p>TPRS activities: oral stories, readings</p> <p><i>Look, I Can Talk More!</i>, Blaine Ray</p> <p>Pop-up grammar explanations</p> |
| 12.2.1.S2.E: Use an English dictionary to find the meanings and origins of classical Latin or Greek words. | <p>Whole class discussions on etymology and cognates</p> <p>English dictionary</p> <p>Latin dictionary/lexicon</p> <p>Pop-up grammar explanations of word origins</p> |
| 12.2.1.S2.F: Model and represent the cross-curriculum connections in other subject areas for classmates and language teacher through classical Latin or Greek. | <p>TPRS: PQA/PSA Activities</p> <p>TPRS activities: oral stories, and embedded readings</p> <p>Map study of Mediterranean world and Roman Empire</p> <p>*Field study to a museum with an ancient Roman collection</p> <p>*Assembly of performance of sung Latin</p> |

Performance Level - 12.2.1.S3: STAGE 3

| Standard | Books/Activities Used |
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| 12.2.1.S3.A: Speak and model phrases and sentences with refined pronunciation, rhythm and intonation with accuracy and understanding. | TPRS: PQA/PSA Activities

Various Latin songs

TPRS activities: oral stories, readings

<i>Look, I'm Really Talking!</i> , Blaine Ray |
| 12.2.1.S3.B: Comprehend written sentences and paragraphs using vocabulary terms and verbs of wanting, thinking, believing, and liking from simple classical texts. | TPRS: PQA/PSA Activities

TPRS activities: oral stories, readings

<i>Look, I'm Really Talking!</i> , Blaine Ray

Latin myths, children's books translated into Latin: e.g. <i>Regulus (Little Prince)</i>, <i>Arbor Alma (Giving Tree)</i>, <i>Ferdinandus Taurus (Ferdinand the Bull)</i>

Selections from various classical Latin authors: e.g. Cicero, Vergil, Ovid, Caesar, Livy, Aulus Gellius |
| 12.2.1.S3.C: Write and speak vocabulary used to construct phrases and sentences in Latin or Greek. | TPRS: PQA/PSA Activities

Various TPR games, songs, brain break activities

<i>Look, I'm Really Talking!</i> , Blaine Ray

TPRS activities: oral stories, readings, timed writing |
| 12.2.1.S3.D: Use simple, compound and complex sentence | TPRS: PQA/PSA Activities |

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| structures to comprehend reading passages from classical authors. | <p>TPRS activities: oral stories, readings</p> <p><i>Look, I'm Really Talking!</i>, Blaine Ray</p> <p>Pop-up grammar explanations</p> <p>Selections from various classical Latin authors: e.g. Cicero, Vergil, Ovid, Caesar, Livy, Aulus Gellius</p> |
| 12.2.1.S3.E: Discuss families of words that are derived from Latin and Greek | <p>Pop-up grammar explanations of common roots</p> <p>Whole class discussions on word families derived from Latin</p> |
| 12.2.1.S3.F: Make a presentation or write a paragraph (in English) about another subject area explaining the connections | <p>Selections from various ancient authors: e.g. Ovid, Aulus Gellius - myths referenced in later literature</p> <p>*Nature study</p> <p>Timed writing</p> |

Performance Level - 12.2.1.S4: STAGE 4

| Standard | Books/Activities Used |
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| <p>12.2.1.S4.A: Read prose and poetry aloud with attention to such features as metrical structure, meaningful phrase groupings, and appropriate voice inflections</p> | <p>TPRS activities: embedded readings</p> <p>Pop-up grammar explanations on meter in poetry</p> <p>Recitation, with training in proper delivery</p> <p>Readings from various ancient authors: e.g. Cicero, Livy, Vergil, Catullus, Horace, Martial - focusing on well-known passages to be committed to memory</p> |
| <p>12.2.1.S4.B: Comprehend complex written sentences and paragraphs using enhanced vocabulary terms and verbs of using, enjoying, understanding from selected classical authors.</p> | <p>TPRS: PQA/PSA Activities</p> <p>TPRS activities: oral stories, readings</p> <p><i>Look, I'm Still Talking!</i>, Blaine Ray</p> <p>Various works of English literature translated into Latin: e.g. <i>Winnie Ille Pu (Winnie the Pooh)</i>, <i>Alicia in Terra Mirabili (Alice in Wonderland)</i>, <i>Aurae inter Salices (Wind in the Willows)</i></p> <p><i>Gesta Romanorum</i></p> <p>Readings from various ancient authors: e.g. Cicero, Livy, Lucretius, Aulus Gellius, Sallust</p> |
| <p>12.2.1.S4.C: Write and speak vocabulary used to construct connected sentences in Latin or Greek.</p> | <p>TPRS: PQA/PSA Activities</p> <p><i>Look, I'm Still Talking!</i>, Blaine Ray</p> <p>TPRS activities: oral stories, readings, timed writing</p> |
| <p>12.2.1.S4.D: Use simple, compound and complex sentence structures to comprehend advanced passages from ancient</p> | <p><i>Look, I'm Still Talking!</i>, Blaine Ray</p> |

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| authors. | <p>TPRS activities: oral stories, readings, timed writing</p> <p>Pop-up grammar explanations</p> <p>Readings from various ancient authors: e.g. Cicero, Caesar, Livy, Vergil, Horace</p> |
| 12.2.1.S4.E: Discuss a Greek or Roman event or cultural phenomenon that has influenced English. | <p><i>The Book of the Ancient Romans</i>, Dorothy Mills - with narrations and grand conversations on readings</p> <p>TPRS: PQA/PSA Activities</p> |
| 12.2.1.S4.F: Demonstrate mastery of classical language skills by connecting influences of classical language or culture in another subject area. | <p><i>The Book of the Ancient Romans</i>, Dorothy Mills - with narrations and grand conversations on readings</p> <p><i>City</i>, David Macaulay - with narrations and grand conversations on readings</p> |

Standard Area - 12.3: The Role of CULTURE in World Language Acquisition (CONTENT STANDARDS)

Performance Indicator - 12.3.1: The Role of CULTURE in World Language Acquisition (PERFORMANCE INDICATORS)

Performance Level - 12.3.1.S1: STAGE 1

| Standard | Books/Activities Used |
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| 12.3.1.S1.A: Discuss the fundamental products and customs of the target culture in the target language. | <p><i>¡Hola Niños!</i>, Carol Gaab</p> <p><i>¡Cuéntame!</i> Student Textbook & Mini-Lecturas, Carol Gaab, Teri Abelaira</p> |

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| 12.3.1.S1.B: Use culturally appropriate memorized expressions and gestures for basic social interactions. | <p>Whole class discussions
TPRS: PQA/PSA Activities
Pop-up grammar explanations</p> <p>TPRS activities: Spanish stories with cross-curricular content, readings, dictation, retells, narration</p> |
| 12.3.1.S1.C: Model life skills and social interactions in the target language culture and in one's own culture. | <p>Whole Class Discussions
TPRS activities: oral stories, readings, dictation, retells, narration</p> <p><i>¡Hola Niños!</i>, Carol Gaab
<i>¡Cuéntame!</i> Student Textbook & Mini-Lecturas, Carol Gaab, Teri Abelaira</p> |
| 12.3.1.S1.D: List and relate content subject words used in English that have origins in the target language. | <p>Whole Class Discussions</p> <p><i>¡Hola Niños!</i>, Carol Gaab
<i>¡Cuéntame!</i> Student Textbook & Mini-Lecturas, Carol Gaab, Teri Abelaira</p> |

Performance Level - 12.3.1.S2: STAGE 2

| Standard | Books/Activities Used |
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| 12.3.1.S2.A: Discuss the products and customs of the target culture in simple sentences in the target language. | <p>Whole class discussions
TPRS: PQA/PSA Activities</p> <p>TPRS activities: Spanish stories with cross-curricular content,</p> |

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| | <p>readings, dictation, retells, narration, movie talk, picture study, visual PQA/PSA</p> <p><i>Look, I Can Talk!</i>, Blaine Ray
 <i>¡Cuéntame más!</i>, Student Textbook & Mini-Lecturas, Carol Gaab
 <i>Immediate Immersion</i>, Scott Benedict</p> |
| 12.3.1.S2.B: Write and perform simple role-plays reflecting daily life in a culturally competent manner. | <p>TPRS: PQA/PSA Activities</p> <p>TPRS activities: Spanish stories with cross-curricular content, readings, dictation, retells, narration</p> <p><i>Look, I Can Talk!</i>, Blaine Ray
 <i>¡Cuéntame más!</i>, Student Textbook & Mini-Lecturas, Carol Gaab
 <i>Immediate Immersion</i>, Scott Benedict</p> |
| 12.3.1.S2.C: Write about and dramatize cultural similarities and differences in daily activities in the target language. | <p>TPRS: PQA/PSA Activities</p> <p>TPRS activities: Spanish stories with cross-curricular content, readings, dictation, retells, narration</p> <p>Group Presentations</p> <p><i>Look, I Can Talk!</i>, Blaine Ray
 <i>¡Cuéntame más!</i>, Student Textbook & Mini-Lecturas, Carol Gaab
 <i>Immediate Immersion</i>, Scott Benedict</p> |
| 12.3.1.S2.D: Read and comprehend simple sentences from the target language/culture in other school content areas. | <p>Whole Class Discussions</p> <p><i>Look, I Can Talk!</i>, Blaine Ray
 <i>¡Cuéntame más!</i>, Student Textbook & Mini-Lecturas, Carol</p> |

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| | Gaab
<i>Immediate Immersion</i> , Scott Benedict |
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Performance Level - 12.3.1.S3: STAGE 3

| Standard | Books/Activities Used |
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| 12.3.1.S3.A: Speak and write about cultural aspects of services, products and customs in the target language. | <p>Whole class discussions
TPRS: PQA/PSA Activities</p> <p>TPRS activities: Spanish stories with cross-curricular content, readings, dictation, retells, narration, movie talk, picture study, visual PQA/PSA
<i>Look, I Can Talk More!</i>, Blaine Ray
<i>¡Cuéntame mucho!</i>, Student Textbook & Mini-Lecturas, Carol Gaab</p> |
| 12.3.1.S3.B: Generate spontaneous oral and written role-plays and interviews in a culturally competent manner. | <p>TPRS: PQA/PSA Activities</p> <p>TPRS activities: Spanish stories with cross-curricular content, readings, dictation, retells, narration, movie talk, picture study, visual PQA/PSA</p> <p>Group/Partner Activities</p> <p><i>Look, I Can Talk More!</i>, Blaine Ray
<i>¡Cuéntame mucho!</i>, Student Textbook & Mini-Lecturas, Carol Gaab</p> |

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| 12.3.1.S3.C: Read, interpret, discuss and write about cultural similarities and differences in specific social interactions in two cultures. | <i>Look, I Can Talk More!</i> , Blaine Ray
<i>¡Cuéntame mucho!</i> , Student Textbook & Mini-Lecturas, Carol Gaab

<i>¿Dónde está Eduardo?</i> , Lisa Ray Turner & Blaine Ray
<i>Mi propio auto</i> , Lisa Ray Turner & Blaine Ray
<i>Felipe Alou: Desde las valles a las montañas</i> , Carol Gaab |
| 12.3.1.S3.D: Research and select culturally competent information from multiple sources for presentation (e.g., written, oral, visual in the target language). | Group/Partner Presentations

<i>Look, I Can Talk More!</i> , Blaine Ray
<i>¡Cuéntame mucho!</i> , Student Textbook & Mini-Lecturas, Carol Gaab |

Performance Level - 12.3.1.S4: STAGE 4

| Standard | Books/Activities Used |
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| 12.3.1.S4.A: Speak, write and read about unfamiliar products, customs and institutions of the target culture. | Whole class discussions
TPRS: PQA/PSA Activities

TPRS activities: Spanish stories with cross-curricular content, readings, dictation, retells, narration, movie talk, picture study, visual PQA/PSA

<i>Look, I Can Really Talk!</i> , Blaine Ray
<i>¡Cuánto me cuentas!</i> , Student Textbook & Mini-Lecturas, Carol Gaab |
| 12.3.1.S4.B: Interpret, write about and dramatize | TPRS: Movie talk, picture study |

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| cross-cultural situations occurring in the local community in order to explain varied cultural traditions and customs. | <i>Look, I Can Really Talk!</i> , Blaine Ray
<i>¡Cuánto me cuentas!</i> , Student Textbook & Mini-Lecturas, Carol Gaab |
| 12.3.1.S4.C: Read, discuss, write and make a presentation about a culture's traditions, customs and lifestyles that represent its perspectives, beliefs and assumptions. | <i>Look, I Can Really Talk!</i> , Blaine Ray
<i>¡Cuánto me cuentas!</i> , Student Textbook & Mini-Lecturas, Carol Gaab |
| 12.3.1.S4.D: Use the target language to synthesize topics and events from other subject areas. | Group Discussions
TPRS: Movie talk, picture study

<i>Look, I Can Really Talk!</i> , Blaine Ray
<i>¡Cuánto me cuentas!</i> , Student Textbook & Mini-Lecturas, Carol Gaab |

Standard Area - 12.4: The Role of CULTURE in Classical World Language Acquisition (CONTENT STANDARDS)

Performance Indicator - 12.4.1: The Role of CULTURE in Classical World Language Acquisition (PERFORMANCE INDICATORS)

Performance Level - 12.4.1.S1: STAGE 1

| Standard | Books/Activities Used |
|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12.4.1.S1.A: Discuss the fundamental products and customs of Greco-Roman culture. | <i>The Book of the Ancient Romans</i> , Dorothy Mills - with narrations and grand conversations

<i>City</i> , David Macaulay - with narrations and grand conversations |

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| | Selected readings from ancient authors: e.g. Ovid's <i>Metamorphoses</i> , Livy, Caesar, Sallust - with narrations and grand conversations |
| 12.4.1.S1.B: List and relate content subject words used in English that have origins in classical Latin or Greek. | Whole class discussions on etymology and cognates

Pop-up grammar explanations on root words appearing in other content areas

TPRS activities: Latin stories with cross-curricular content |
| 12.4.1.S1.C: Model social interaction in the Roman or Greek culture and in one's own culture. | <i>The Book of the Ancient Romans</i> , Dorothy Mills - with narrations and grand conversations

TPRS activities: oral stories with cultural content acted out |
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Performance Level - 12.4.1.S2: STAGE 2

| Standard | Books/Activities Used |
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| 12.4.1.S2.A: Discuss the main products and customs of Greco-Roman culture. | Whole class discussions on products and customs of classical culture

<i>The Book of the Ancient Romans</i> , Dorothy Mills - with narrations and grand conversations

TPRS: PQA/PSA Activities |
| 12.4.1.S2.B: Read and comprehend simple sentences in | TPRS activities: readings in Latin with cross-curricular |

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| classical Latin or Greek related to other school content areas. | <p>content</p> <p>Map study of Mediterranean world and Roman Empire</p> <p>Picture study: e.g. the Colosseum, the Pantheon, Roman bridges/aqueducts, Roman mosaics</p> |
| 12.4.1.S2.C: Write about and dramatize cultural similarities and differences in daily activities in Roman or Greek culture. | <p><i>The Book of the Ancient Romans</i>, Dorothy Mills - with written and dramatic narrations, and grand conversations</p> <p>TPRS activities: oral stories with cultural content acted out, timed writings</p> <p>*Production and performance of a Latin drama</p> <p>*Class project: developing and running an ancient Roman style restaurant in class</p> |

Performance Level - 12.4.1.S3: STAGE 3

| Standard | Books/Activities Used |
|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12.4.1.S3.A: Speak and write about a variety of historical events, products and customs of Greco-Roman culture. | <p><i>The Book of the Ancient Romans</i>, Dorothy Mills - with narrations and grand conversations</p> <p>TPRS: PQA/PSA Activities</p> <p>TPRS activities: Latin stories involving cultural content, adapted selections from Latin literature, timed writings</p> |
| 12.4.1.S3.B: Research and select culturally competent | Picture study: e.g. Colosseum, Pantheon, Roman |

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| information from multiple sources relevant to other subjects. | bridges/aqueducts, Roman mosaics

Map study of Mediterranean world, Roman Empire

TPRS activities: embedded readings in Latin with cultural content |
| 12.4.1.S3.C: Read, interpret, discuss and write about cultural similarities and differences in Greco Roman culture and another culture. | <i>The Book of the Ancient Romans</i> , Dorothy Mills - with narrations and grand conversations

Whole class discussions on similarities and differences between Roman culture and American culture

TPRS activities: embedded readings in Latin with cultural content, timed writings |

Performance Level - 12.4.1.S4: STAGE 4

| Standard | Books/Activities Used |
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| 12.4.1.S4.A: Speak, write and read about unfamiliar products, customs, institutions and historical events in the Greco-Roman cultures. | <i>The Book of the Ancient Romans</i> , Dorothy Mills - with narrations and grand conversations

Map study of Mediterranean world, Roman Empire

Readings from various classical authors with narrations and grand conversations

TPRS activities: stories with cultural and historical content, adapted from authentic sources, timed writings |

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| 12.4.1.S4.B: Synthesize topics and events from Greco-Roman culture relevant to other subject areas. | <p><i>The Book of the Ancient Romans</i>, Dorothy Mills - with narrations and grand conversations</p> <p>Picture study: e.g. the Colosseum, Pantheon, Roman bridges/aqueducts, Roman mosaics</p> <p>*Assembly: performance of Latin musical pieces</p> <p>TPRS activities: stories and readings with cultural content</p> |
| 12.4.1.S4.C: Read, discuss, write and make a presentation about Greco-Roman culture's traditions, customs and lifestyles that represent their perspectives, beliefs and assumptions. | <p>TPRS activities: readings with cultural content, timed writings</p> <p>Readings from various ancient authors: e.g. Cicero, Pliny the Younger, Aulus Gellius, Roman comedy, Livy, Horace - with narrations and grand conversations</p> |

Standard Area - 12.5: World Languages in the COMMUNITY (CONTENT STANDARDS)

Performance Indicator - 12.5.1: World Languages in the COMMUNITY (PERFORMANCE INDICATORS)

Performance Level - 12.5.1.S1: STAGE 1

| Standard | Books/Activities Used |
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| 12.5.1.S1.A: Introduce one's self and respond to simple questions in the local and regional community. | <p>TPR activities</p> <p>TPRS: PQA/PSA Activities</p> <p>TPRS activities: oral stories, readings, dictation, retells, narration, timed writings</p> |

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| | <p><i>¡Hola Niños!</i>, Carol Gaab
 <i>¡Cuéntame!</i> Student Textbook & Mini-Lecturas, Carol Gaab, Teri Abelaira</p> |
| <p>12.5.1.S1.B: Respond to simple questions and interpret simple messages on a national level.</p> | <p>TPR activities
 TPRS: PQA/PSA Activities
 TPRS activities: oral stories, readings, dictation, retells, narration, timed writings</p> <p><i>¡Hola Niños!</i>, Carol Gaab
 <i>¡Cuéntame!</i> Student Textbook & Mini-Lecturas, Carol Gaab, Teri Abelaira</p> |
| <p>12.5.1.S1.C: Introduce one's self, respond to simple questions and interpret simple messages on a global level.</p> | <p>TPR activities
 TPRS: PQA/PSA Activities
 TPRS activities: oral stories, readings, dictation, retells, narration, timed writings</p> <p><i>¡Hola Niños!</i>, Carol Gaab
 <i>¡Cuéntame!</i> Student Textbook & Mini-Lecturas, Carol Gaab, Teri Abelaira</p> |
| <p>12.5.1.S1.D: Use speaking, writing and reading to compare and connect the uses of English with the target language spoken in the local, national and global communities.</p> | <p>TPR activities
 TPRS: PQA/PSA Activities
 TPRS activities: oral stories, readings, dictation, retells, narration, timed writings</p> <p><i>¡Hola Niños!</i>, Carol Gaab
 <i>¡Cuéntame!</i> Student Textbook & Mini-Lecturas, Carol Gaab, Teri Abelaira</p> |

Performance Level - 12.5.1.S2: STAGE 2

| Standard | Books/Activities Used |
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| 12.5.1.S2.A: Use target language skills to communicate interactively for practical purposes and for personal enjoyment of the resources in the local community. | TPR activities
TPRS: PQA/PSA Activities
TPRS activities: oral stories, readings, dictation, retells, narration, timed writings

<i>Look, I Can Talk!</i> , Blaine Ray
<i>¡Cuéntame más!</i> , Student Textbook & Mini-Lecturas, Carol Gaab
<i>Immediate Immersion</i> , Scott Benedict |
| 12.5.1.S2.B: Use target language skills to communicate interactively for practical purposes and for personal enjoyment in the national community. | TPR activities
TPRS: PQA/PSA Activities
TPRS activities: oral stories, readings, dictation, retells, narration, timed writings

<i>Look, I Can Talk!</i> , Blaine Ray
<i>¡Cuéntame más!</i> , Student Textbook & Mini-Lecturas, Carol Gaab
<i>Immediate Immersion</i> , Scott Benedict |
| 12.5.1.S2.C: Use target language skills to communicate interactively for practical purposes and for personal enjoyment in the global community. | TPR activities
TPRS: PQA/PSA Activities
TPRS activities: oral stories, readings, dictation, retells, narration, timed writings

<i>Look, I Can Talk!</i> , Blaine Ray
<i>¡Cuéntame más!</i> , Student Textbook & Mini-Lecturas, Carol Gaab
<i>Immediate Immersion</i> , Scott Benedict |

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| 12.5.1.S2.D: Use speaking, writing and reading to compare and connect local, national and global resources in English speaking communities with the target language resources in those communities. | TPR activities
TPRS: PQA/PSA Activities
TPRS activities: oral stories, readings, dictation, retells, narration, timed writings

<i>Look, I Can Talk!</i> , Blaine Ray
<i>¡Cuéntame más!</i> , Student Textbook & Mini-Lecturas, Carol Gaab
<i>Immediate Immersion</i> , Scott Benedict |
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Performance Level - 12.5.1.S3: STAGE 3

| Standard | Books/Activities Used |
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| 12.5.1.S3.A: Name local employment areas in which language skills may be used. Use the language at the necessary language proficiency level to interact with local community members in their occupations. | TPR activities
TPRS: PQA/PSA Activities
TPRS activities: oral stories, readings, dictation, retells, narration, timed writings

<i>Look, I Can Talk More!</i> , Blaine Ray
<i>¡Cuéntame mucho!</i> , Student Textbook & Mini-Lecturas, Carol Gaab |
| 12.5.1.S3.B: Name national employment areas in which world language skills may be used. Use target language at the necessary language proficiency level to interact with national community members in their occupations. | TPR activities
TPRS: PQA/PSA Activities
TPRS activities: oral stories, readings, dictation, retells, |

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| | <p>narration, timed writings</p> <p><i>Look, I Can Talk More!</i>, Blaine Ray
 <i>¡Cuéntame mucho!</i>, Student Textbook & Mini-Lecturas, Carol Gaab</p> |
| 12.5.1.S3.C: Name global employment areas in which world language skills may be used. Use target language to interact at the necessary language proficiency level with global community members in their occupations. | <p>TPR activities
 TPRS: PQA/PSA Activities
 TPRS activities: oral stories, readings, dictation, retells, narration, timed writings</p> <p><i>Look, I Can Talk More!</i>, Blaine Ray
 <i>¡Cuéntame mucho!</i>, Student Textbook & Mini-Lecturas, Carol Gaab</p> |
| 12.5.1.S3.D: Use speaking, writing and reading to compare and connect local, national and global employment opportunities for those who speak English and those who speak English and a target language. | <p>TPR activities
 TPRS: PQA/PSA Activities
 TPRS activities: oral stories, readings, dictation, retells, narration, timed writings</p> <p><i>Look, I Can Talk More!</i>, Blaine Ray
 <i>¡Cuéntame mucho!</i>, Student Textbook & Mini-Lecturas, Carol Gaab</p> |

Performance Level - 12.5.1.S4: STAGE 4

| Standard | Books/Activities Used |
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| 12.5.1.S4.A: Research, select and use local authentic materials to determine career opportunities, enrichment activities and personal enjoyment. | <p>TPR activities
 TPRS: PQA/PSA Activities
 TPRS activities: oral stories, readings, dictation, retells, narration, timed writings</p> |

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| | <p><i>Look, I Can Really Talk!</i>, Blaine Ray</p> <p><i>¡Cuánto me cuentas!</i>, Student Textbook & Mini-Lecturas, Carol Gaab</p> |
| <p>12.5.1.S4.B: Research, select and use national authentic materials for career planning, personal enrichment and enjoyment.</p> | <p>TPR activities</p> <p>TPRS: PQA/PSA Activities</p> <p>TPRS activities: oral stories, readings, dictation, retells, narration, timed writings</p> <p><i>Look, I Can Really Talk!</i>, Blaine Ray</p> <p><i>¡Cuánto me cuentas!</i>, Student Textbook & Mini-Lecturas, Carol Gaab</p> |
| <p>12.5.1.S4.C: Research, select and use global authentic materials for career planning, personal enrichment and enjoyment.</p> | <p>TPR activities</p> <p>TPRS: PQA/PSA Activities</p> <p>TPRS activities: oral stories, readings, dictation, retells, narration, timed writings</p> <p><i>Look, I Can Really Talk!</i>, Blaine Ray</p> <p><i>¡Cuánto me cuentas!</i>, Student Textbook & Mini-Lecturas, Carol Gaab</p> |
| <p>12.5.1.S4.D: Use speaking, writing and reading to compare and connect available opportunities in the local, national and global English speaking communities with the target language opportunities to continue involvement for lifelong learning and personal enjoyment.</p> | <p>TPR activities</p> <p>TPRS: PQA/PSA Activities</p> <p>TPRS activities: oral stories, readings, dictation, retells, narration, timed writings</p> <p><i>Look, I Can Really Talk!</i>, Blaine Ray</p> <p><i>¡Cuánto me cuentas!</i>, Student Textbook & Mini-Lecturas, Carol Gaab</p> |

Standard Area - 12.6: Classical World Languages in the COMMUNITY (CONTENT STANDARDS)

Performance Indicator - 12.6.1: Classical World Languages in the COMMUNITY (PERFORMANCE INDICATORS)

Performance Level - 12.6.1.S1: STAGE 1

| Standard | Books/Activities Used |
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| 12.6.1.S1.A: Present and exchange information about classical language experience to others in the school and the community. | <p>*Partnership with lower school classes, in which students in Latin class teach younger students some of what they have acquired</p> <p>*Performance of Latin drama as assembly for school community</p> <p>Creation and display of materials showing Latin language and cultural acquisition in classroom and around schoolhouse</p> |
| 12.6.1.S1.B: Discuss the reasons for studying Latin or Greek in a national and global perspective. | <p>Whole class discussion on reasons for studying Latin</p> <p>*Cross-curricular exchange with Spanish and English language classes to explore cognate words</p> |

Performance Level - 12.6.1.S2: STAGE 2

| Standard | Books/Activities Used |
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| 12.6.1.S2.A: Use knowledge of classical language and culture to communicate interactively for practical purposes and for personal enjoyment of the resources in the local community. | *Field study to museum to explore and study collection of classical artifacts

TPRS activities: stories with cultural content acted out by students

Performance of Latin songs |
| 12.6.1.S2.B: Use resources available nationally and globally for studying classical culture. | *Field study to museum to explore and study collection of classical artifacts

PQA and TPRS activities centered around Latin-related media: e.g. new archaeological discoveries, classical themes in contemporary films and books

Whole class discussions of resources available for studying classical culture |

Performance Level - 12.6.1.S3: STAGE 3

| Standard | Books/Activities Used |
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| 12.6.1.S3.A: Identify local employment areas in which knowledge of classical language and culture may be used; interact with their employees. | Whole class discussions of local employment areas in which knowledge of classical language and culture may be used

*Guest speakers from local community: e.g. physician, lawyer |

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| 12.6.1.S3.B: Explain national or global employment areas in which knowledge of classical language and culture may be used. | <p>Whole class discussions of national and global employment areas in which knowledge of classical language and culture may be used</p> <p>TPRS activities: stories involving biographical information about well-known individuals influenced by classical language and culture</p> |
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Performance Level - 12.6.1.S4: STAGE 4

| Standard | Books/Activities Used |
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| 12.6.1.S4.A: Research career opportunities and enrichment activities related to classical language and culture. | <p>Whole class discussions of career opportunities and enrichment activities related to classical language and culture</p> <p>*Cross-curricular exchange, exploring influence of Latin language and classical culture in other subject areas</p> |
| 12.6.1.S4.B: Research, select and use materials relating to classical language and culture to be used for career planning, personal enrichment and enjoyment. | <p>*Participate in the National Latin Exam</p> <p>Provide access for students to Latin literature and other materials relating to classical culture, especially for use in voluntary reading</p> |

**Pennsylvania State Standards
CURRICULUM MAPPING**

**Gillingham Charter School
Family and Consumer Science**

Grade Level - 9-12

Standard Area - 11.1: Financial and Resource Management

| <u>Grade Level - 11.1.12: GRADES 9 - 12</u> | Books/Activities Used |
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| 11.1.12.A: Evaluate the impact of family resource management on the global community. | Foundations of Personal Finance, by Ramsey
A Tree Grows in Brooklyn by Betty Smith |
| 11.1.12.B: Analyze the management of financial resources across the lifespan. | Foundations of Personal Finance, by Ramsey
A Tree Grows in Brooklyn by Betty Smith |
| 11.1.12.C: Analyze the relationship among factors affecting consumer housing decisions (e.g., human needs, financial resources, location, legal agreements, maintenance responsibilities). | Foundations of Personal Finance, by Ramsey |
| 15.1.12.D: Evaluate the role of consumer rights and responsibilities in the resolution of a consumer problem through the practical reasoning process. | Foundations of Personal Finance, by Ramsey
Individual research project. |
| 15.1.12.E: Compare and contrast factors affecting annual gross and taxable income and reporting requirements (e.g., W-2 form, Income tax form). | Foundations of Personal Finance, by Ramsey |
| 15.1.12.F: Compare and contrast the selection of goods and services by applying effective consumer strategies. | Foundations of Personal Finance, by Ramsey
Made You Look: How Advertising Works and Why You Should Know by Graydon in middle school. |
| 15.1.12.G: Compare the availability, costs and benefits of accessing public, nonpublic and for-profit services to assist the family. | Foundations of Personal Finance, by Ramsey
Individual research project. |

Standard Area - 11.2: Balancing Family, Work and Community Responsibility

| <u>Grade Level - 11.2.12: GRADES 9 - 12</u> | Books/Activities Used |
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| 11.2.12.A: Justify solutions developed by using practical reasoning skills. | A Tree Grows in Brooklyn, by Betty Smith
Large Group Discussion |

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| 11.2.12.B: Evaluate the effectiveness of action plans that integrate personal, work, family and community responsibilities. | A Tree Grows in Brooklyn, by Betty Smith
Large Group Discussion |
| 11.2.12.C: Analyze teamwork and leadership skills and their application in various family and work situations. | A Tree Grows in Brooklyn, by Betty Smith
Large Group Discussion |
| 11.2.12.D: Based on efficiency, aesthetics and psychology, evaluate space plans (e.g., home, office, work areas) for their ability to meet a variety of needs including those of individuals with special needs. | A Tree Grows in Brooklyn, by Betty Smith
Large Group Discussion |
| 11.2.12.E: Assess the availability of emerging technology that is designed to do the work of the family and evaluate the impact of its use on individuals, families and communities. | Foundations of Personal Finance by Ramsey.
A Tree Grows in Brooklyn
Large Group Discussion |
| 11.2.12.F: Assess the relationship of family functions to human developmental stages. | A Tree Grows in Brooklyn
Large Group Discussion |
| 11.2.12.G: Hypothesize the impact of present family life-cycle trends on the global community (e.g., over population, increase in an aging population, economic base). | A Tree Grows in Brooklyn
Large Group Discussion |
| 11.2.12.H: Evaluate the effectiveness of using interpersonal communication skills to resolve conflict. | A Tree Grows in Brooklyn
Large Group Discussion |

Standard Area - 11.3: Food Science and Nutrition

BUDDY TOUCHINSKY& KIM MICHAUD

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| 11.3.12.A: Analyze how food engineering and technology trends will influence the food supply. | Science Net Links: The Ecology of your Skin. SAS Website.
Large Group Discussion |
| 11.3.12.B: Evaluate the role of Government agencies in safeguarding our food supply (e.g., USDA, FDA, EPA and CDC). | www.fightbac.org Partnership for Food Safety Education (SAS Website)
Large Group Discussion |
| 11.3.12.C: Evaluate sources of food and nutrition information. | EconedLink (Council for Economic Education)
Guess Who is Coming to Dinner. (SAS Website)
Large Group Discussion |
| 11.3.12.D: Critique diet modifications for their ability to improve nutritionally-related health conditions (e.g., diabetes, lactose-intolerance, iron deficiency). | Science Net Links: Changing Lifestyles and Heart Health. (SAS Website)
Large Group Discussion |
| 11.3.12.E: Analyze the breakdown of foods, absorption of nutrients and their conversion to | Science Net Links: Sensing Calories (SAS |

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| energy by the body. | Website)
Large Group Discussion |
| 11.3.12.F: Evaluate the application of nutrition and meal planning principles in the selection, planning, preparation and serving of meals that meet the specific nutritional needs of individuals across their lifespan. | Healthy Eating Made Easier (Dairy Council of California) www.healthyeating.org
Large Group Discussion |
| 11.3.12.G: Analyze the relevance of scientific principles to food processing, preparation and packaging. | Centers for Disease Control and Prevention, Food Preparation and Service Publication Number 2004-101. Checklist.
Handwork: Cooking |

Standard Area - 11.4: Child Development

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| 11.4.12.A: Analyze current research on existing theories in child development and its impact on parenting (e.g., Piaget, Erikson and prior findings versus new brain development research). | A Tree Grows in Brooklyn |
| 11.4.12.B: Analyze current issues in health and safety affecting children at each stage of child development. | Education.com Early Childhood Development by Jennifer Grisham-Brown Dec 2009.
A Tree Grows in Brooklyn |
| 11.4.12.C: Analyze practices that optimize child development (e.g., stimulation, safe environment, nurturing caregivers, reading to children). | A Tree Grows in Brooklyn |
| 11.4.12.D: Analyze plans and methods to blend work and family responsibilities to meet the needs of children. | A Tree Grows in Brooklyn |
| 11.4.12.E: Identify practices that develop the child's imagination, creativity and reading and writing skills through literature. | Large Group Discussion
Wolves and Pups (Reading Buddy Program) |

| Technology and Engineering Education Secondary Standards | |
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| Characteristics of Technology | |
| 3.4.10.A1. Illustrate how the development of technologies is often driven by profit and an economic market. | <u>Economics in One Lesson</u> By: Henry Hazlitt |
| 3.4.12.A1. Compare and contrast the rate of technological development over time. | <u>Renaissance and Reformation Times</u> By: Dorothy Mills |
| Core Concepts of Technology | |
| 3.4.10.A2. Interpret how systems thinking applies logic and creativity with appropriate comprises in complex real-life problems. | Physics Lab- Tower Design and Construction
Odyssey of the Mind Balsa Wood Project |
| 3.4.12.A2. Describe how management is the process of planning, organizing, and controlling work. | Physics Lab- Tower Design and Construction
Plutarch's Lives
<u>Economics in One Lesson</u> By: Henry Hazlitt
Odyssey of the Mind Balsa Wood Project |
| Technology Connections | |
| 3.4.10.A3. Examine how technology transfer occurs when a new user applies an existing innovation developed for one purpose in a different function. | <u>Killer Angels</u> By: Michael Shaara
<u>Story of America</u> By:
<u>The Story of Mankind</u> By: Hendrik Van Loon |
| 3.4.12.A3. Demonstrate how technological progress promotes the advancement of science, technology, engineering and mathematics (STEM). | <u>Killer Angels</u> By: Michael Shaara
<u>Story of America</u> By:
<u>The Story of Mankind</u> By: Hendrik Van Loon |
| Effects of Technology | |
| 3.4.10.B1. Compare and contrast how the use of technology involves weighing the trade-offs between the positive and negative effects. | <u>Killer Angels</u> By: Michael Shaara
<u>Story of America</u> By:
<u>The Story of Mankind</u> By: Hendrik Van Loon |
| 3.4.12.B1. Analyze ethical, social, economic, and cultural considerations as related to the development, selection, and use of technologies. | <u>Killer Angels</u> By: Michael Shaara
<u>Story of America</u> By:
<u>The Story of Mankind</u> By: Hendrik Van Loon |
| Technology and Environment | |

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| 3.4.10.B2. Demonstrate how humans devise technologies to reduce the negative consequences of other technologies. | Odyssey of the Mind Balsa Wood Project |
| 3.4.12.B2. Illustrate how, with the aid of technology, various aspects of the environment can be monitored to provide information for decision making. | Biology Research Project: Environmental Investigation |
| Society and Development of Technology | |
| 3.4.10.B3. Compare and contrast how a number of different factors, such as advertising, the strength of the economy, the goals of a company and the latest fads, contribute to shaping the design of and demand for various technologies | <u>Economics in One Lesson</u> By: Henry Hazlitt |
| Technology and History | |
| 3.4.10.B4. Recognize that technological development has been evolutionary, the result of a series of refinements to a basic invention. | <u>The Story of Inventions</u> by Michael J. McHugh and Frank P. Bachman

<u>Killer Angels</u> By: Michael Shaara
<u>Story of America</u> By:
<u>The Story of Mankind</u> By: Hendrik Van Loon |
| Design and Attributes | |
| 3.4.10.C1. Apply the components of the technological design process. | Physics Lab- Tower Design and Construction

Odyssey of the Mind Balsa Wood Project |
| Engineering and Design | |
| 3.4.10.C2. Analyze a prototype and/or create a working model to test a design concept by making actual observations and necessary adjustments. | YEA Leadership Presentation

Physics Lab- Tower Design and Construction

Odyssey of the Mind Balsa Wood Project |
| 3.4.12.C2. Apply the concept that engineering design is influenced by personal characteristics, such as creativity, resourcefulness, and the ability to visualize and think abstractly. | <u>The Story of Inventions</u> by Michael J. McHugh and Frank P. Bachman

Physics Lab- Tower Design and Construction

Odyssey of the Mind Balsa Wood Project |
| Research and Development. Invention and Innovation, Experimentation/ Problem Solving and Troubleshooting | |

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| 3.4.10.C3. Illustrate the concept that not all problems are technological and not every problem can be solved using technology. | <u>The Story of Inventions</u> by Michael J. McHugh and Frank P. Bachman

<u>Killer Angels</u> By: Michael Shaara
<u>Story of America</u> By:
<u>The Story of Mankind</u> By: Hendrik Van Loon |
| 3.4.12.C3. Apply the concept that many technological problems require a multi-disciplinary approach. | <u>Killer Angels</u> By: Michael Shaara
<u>Story of America</u> By:
<u>The Story of Mankind</u> By: Hendrik Van Loon |
| Applying the Design Process | |
| 3.4.10.D1. Refine a design by using prototypes and modeling to ensure quality, efficiency, and productivity of a final product. | Community Service Project

Graphic Design Class

Odyssey of the Mind Balsa Wood Project |
| Using and Maintaining Technological Systems | |
| 3.4.10.D2. Diagnose a malfunctioning system and use tools, materials, and knowledge to repair it. | Handwork class: puppet design/ skits, book-making, paper-making, jewelry-making, mosaic design, upcycling

Odyssey of the Mind Balsa Wood Project

Physics Lab- Tower Design and Construction |
| 3.4.12.D2. Verify that engineering design is influenced by personal characteristics, such as creativity, resourcefulness, and the ability to visualize and think abstractly. | <u>The Story of Inventions</u> by Michael J. McHugh and Frank P. Bachman

Handwork class: puppet design/ skits, book-making, paper-making, jewelry-making, mosaic design, upcycling

<u>Killer Angels</u> By: Michael Shaara
<u>Story of America</u> By:
<u>The Story of Mankind</u> By: Hendrik Van Loon

Odyssey of the Mind Balsa Wood Project |
| Assessing Impact of Products and Systems | |
| 3.4.10.D3. Synthesize data, analyze trends, and draw conclusions regarding the effect of technology on the individual, society, and the environment. | IMP, year 2, "Is There Really Difference?" |
| Medical Technologies | |

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| 3.4.10.E1. Assess how medical technologies over time have impacted prevention and rehabilitation, vaccines and pharmaceuticals, medical and surgical procedures, and genetic engineering. | <u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u>

<u>The Immortal Life of Henrietta Lacks By: Rebecca Skloot</u> |
| 3.4.12.E1. Compare and contrast the emerging technologies of telemedicine, nanotechnology, prosthetics, and biochemistry as they relate to improving human health. | <u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u>

<u>The Immortal Life of Henrietta Lacks By: Rebecca Skloot</u> |
| Agricultural and Related Biotechnologies | |
| 3.4.10.E2. Compare and contrast how the engineering design and management of agricultural systems require knowledge of artificial ecosystems and the effects of technological development on flora and fauna. | <u>The Omnivore's Dilemma By: Michael Pollan</u>

<u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u> |
| 3.4.12.E2. Compare and contrast the technologies of biotechnology, conservation, bio-fuels, and ecosystems as they relate to managing Earth's resources effectively. | <u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u> |
| Energy and Power Technologies | |
| 3.4.10.E3. Compare and contrast the major forms of energy: thermal, radiant, electrical, mechanical, chemical, nuclear and others. | <u>Chemistry: Matter and Change, Chapter 15, Energy</u> |
| 3.4.12.E3. Compare and contrast energy and power systems as they relate to pollution, renewable and non-renewable resources, and conservation. | Poconos Environmental Education Center Field Study

<u>Science Matters: Achieving Scientific Literacy by Robert M. Hazen</u> |
| Information and Communication Technologies | |
| 3.4.10.E4. Evaluate the purpose and effectiveness of information and communication systems. | <u>Short History of the 20th Century By: Geoffrey Blainey</u>

Blogging with Current Events |
| 3.4.12.E4 Synthesize the effects of information and communication systems and subsystems as an integral part of the development of the Information Age. | <u>Short History of the 20th Century By: Geoffrey Blainey</u>

Blogging with Current Events |
| Transportation Technologies | |

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| 3.4.10.E5. Analyze the development of transportation services and methods and their impact on society. | <u>Killer Angels</u> By: Michael Shaara
<u>Story of America</u> By:
<u>The Story of Mankind</u> By: Hendrik Van Loon |
| 3.4.12.E5. Explain how the design of intelligent and non-intelligent transportation systems depends on many processes and innovative techniques. | Handwork: Car Mechanics |
| Manufacturing Technologies | |
| 3.4.10.E6. Illustrate how manufacturing systems may be classified into types such as customized production, batch production, and continuous production. | <u>Killer Angels</u> By: Michael Shaara
<u>Story of America</u> By:
<u>The Story of Mankind</u> By: Hendrik Van Loon

<u>Economics in One Lesson</u> By: Henry Hazlitt |
| 3.4.12.E6. Compare and contrast the importance of science, technology, engineering and math (STEM) as it pertains to the manufactured world. | IMP, year 2, "Do Bees Build it Best?" |
| Construction Technologies | |
| 3.4.10.E7. Evaluate structure design as related to function, considering such factors as style, convenience, safety, and efficiency. | Community Service Project

Physics Lab- Tower Design and Construction

Odyssey of the Mind: balsa wood project |
| 3.4.12.E7. Analyze the technologies of prefabrication and new structural materials and processes as they pertain to constructing the modern world. | Physics Lab- Tower Design and Construction

Odyssey of the Mind: balsa wood project |

**Dogwood Charter School
Psychology Curriculum**

SEVEN DOMAINS AND STANDARD AREAS:

Scientific Inquiry Domain

Perspectives in Psychological Science Research Methods, Measurement, and Statistics

Biopsychology Domain

Biological Bases of Behavior, Sensation and Perception, Consciousness

Development and Learning Domain

Life Span Development, Learning, Language Development

Sociocultural Context Domain

Social Interactions, Sociocultural Diversity

Cognition Domain

Memory, Thinking, Intelligence

Individual Variations Domain

Motivation, Emotion, Personality, Psychological Disorders

Applications of Psychological Science Domain

Treatment of Psychological Disorders, Health, Vocational Application

OUTLINE FOR A COMPLETE COURSE:

| FOCUS | DOMAIN APPLIED |
|--------------------------------------------------|----------------------------------------------|
| Perspectives in Psychological Science | Scientific Inquiry |
| Research Methods, Measurement, Statistics | Scientific Inquiry |
| Life Span Development | Development and Learning |
| Biological Bases of Behavior | Biopsychology |
| Sensation and Perception | Biopsychology |
| Motivation | Individual Variations |
| Emotion | Individual Variations |
| Health | Applications of Psychological Science |
| Learning | Development and Learning |
| Memory | Cognition |
| Consciousness | Biopsychology |
| Thinking | Cognition |
| Language Development | Development and Learning |
| Personality | Individual Variations |
| Intelligence | Cognition |
| Psychological Disorders | Applications of Psychology |
| Treatment of Psychological Disorders | Applications of Psychological Science |
| Social Interactions | Sociocultural Context |
| Sociocultural Diversity | Sociocultural Context |
| Vocational Applications | Applications of Psychological Science |

| Standard | Curriculum |
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| <p>Standard Area: Perspectives in Psychological Science
 Content Standards - After concluding this unit, students understand:</p> <ol style="list-style-type: none"> 1. Development of psychology as an empirical science 2. Major subfields within psychology | <p><i>Pioneers of Psychology</i> by Raymond E. Fancher</p> |
| <p>Standard Area: Research Methods, Measurement, and Statistics
 Content Standards -After concluding this unit, students understand:</p> <ol style="list-style-type: none"> 1. Research methods and measurements used to study behavior and mental processes 2. Ethical issues in research with human and non-human animals 3. Basic concepts of data analysis | <p><i>Pioneers of Psychology</i> by Raymond E. Fancher</p> |
| <p>Standard Area: Biological Bases of Behavior
 Content Standards - After concluding this unit, students understand:</p> <ol style="list-style-type: none"> 1. Structure and function of the nervous system in human and non-human animals 2. Structure and function of the endocrine system 3. The interaction between biological factors and experience 4. Methods and issues related to biological advances | <p><i>Pioneers of Psychology</i> by Raymond E. Fancher</p> <p>The Story of Phineas Gage</p> |
| <p>Standard Area: Sensation and Perception
 Content Standards - After concluding this unit, students understand:</p> <ol style="list-style-type: none"> 1. The processes of sensation and perception 2. The capabilities and limitations of sensory processes 3. Interaction of the person and the environment in determining perception | <p><i>Pioneers of Psychology</i> by Raymond E. Fancher</p> <p><i>The Man Who Mistook His Wife for a Hat</i> by Oliver Saks</p> |

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| <p>Standard Area: Consciousness
 Content Standards - After concluding this unit, students understand:</p> <ol style="list-style-type: none"> 1. The relationship between conscious and unconscious processes 2. Characteristics of sleep and theories that explain why we sleep and dream 3. Categories of psychoactive drugs and their effects 4. Other states of consciousness | <p><i>Pioneers of Psychology</i> by Raymond E. Fancher</p> <p><i>The Man Who Mistook His Wife for a Hat</i> by Oliver Saks</p> |
| <p>Standard Area: Life Span Development
 Content Standards- After concluding this unit, students understand:</p> <ol style="list-style-type: none"> 1. Methods and issues in life span development 2. Theories of life span development 3. Prenatal development and the newborn 4. Infancy (i.e., the first two years of life) 5. Childhood 6. Adolescence 7. Adulthood and aging | <p><i>Pioneers of Psychology</i> by Raymond E. Fancher</p> |
| <p>Standard Area: Learning
 Content Standards - After concluding this unit, students understand:</p> <ol style="list-style-type: none"> 1. Classical conditioning 2. Operant conditioning 3. Observational and cognitive learning | <p><i>Pioneers of Psychology</i> by Raymond E. Fancher</p> <p><i>The Man Who Mistook His Wife for a Hat</i> by Oliver Saks</p> |
| <p>Standard Area: Language Development
 Content Standards - After concluding this unit, students understand:</p> <ol style="list-style-type: none"> 1. Structural features of language 2. Theories and developmental stages of language acquisition 3. Language and the brain | <p><i>Pioneers of Psychology</i> by Raymond E. Fancher</p> <p><i>The Man Who Mistook His Wife for a Hat</i> by Oliver Saks</p> <p>The Story of Phineas Gage</p> |
| <p>Standard Area: Social Interactions
 Content Standards - After concluding this unit, students understand:</p> <ol style="list-style-type: none"> 1. Social cognition 2. Social influence 3. Social relations | <p><i>The Man Who Mistook His Wife for a Hat</i> by Oliver Saks</p> |

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| Standard Area: Sociocultural Diversity
Content Standards- After concluding this unit, students understand:
1. Social and cultural diversity
2. Diversity among individuals | <i>Pioneers of Psychology</i> by Raymond E. Fancher |
| Standard Area: Memory
Content Standards - After concluding this unit, students understand:
1. Encoding of memory
2. Storage of memory
3. Retrieval of memory | <i>Pioneers of Psychology</i> by Raymond E. Fancher

<i>The Man Who Mistook His Wife for a Hat</i> by Oliver Saks |
| Standard Area: Thinking
Content Standards- After concluding this unit, students understand:
1. Basic elements comprising thought
2. Obstacles related to thought | <i>Pioneers of Psychology</i> by Raymond E. Fancher

<i>The Man Who Mistook His Wife for a Hat</i> by Oliver Saks |
| Standard Area: Intelligence
Content Standards- After concluding this unit, students understand:
1. Perspectives on intelligence
2. Assessment of intelligence
3. Issues in intelligence | <i>Pioneers of Psychology</i> by Raymond E. Fancher

Online I.Q. Test

<i>The Man Who Mistook His Wife for a Hat</i> by Oliver Saks |
| Standard Area: Motivation
Content Standards - After concluding this unit, students understand:
1. Perspectives on motivation
2. Domains of motivated behavior in humans and non-human animals | <i>Pioneers of Psychology</i> by Raymond E. Fancher |
| Standard Area: Emotion
Content Standards- After concluding this unit, students understand:
1. Perspectives on emotion
2. Emotional interpretation and expression
3. Domains of emotional behavior | <i>Pioneers of Psychology</i> by Raymond E. Fancher

<i>The Man Who Mistook His Wife for a Hat</i> by Oliver Saks |
| Standard Area: Personality
Content Standards - After concluding this unit, students understand:
1. Perspectives on personality
2. Assessment of personality
3. Issues in personality | <i>Pioneers of Psychology</i> by Raymond E. Fancher

<i>The Man Who Mistook His Wife for a Hat</i> by Oliver Saks

<i>Jekyll and Hyde</i> by Robert Louis Stevenson |

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| <p>Standard Area: Psychological Disorders
 Content Standards- After concluding this unit, students understand:</p> <ol style="list-style-type: none"> 1. Perspectives on abnormal behavior 2. Categories of psychological disorders | <p><i>Pioneers of Psychology</i> by Raymond E. Fancher</p> <p><i>The Man Who Mistook His Wife for a Hat</i> by Oliver Saks</p> |
| <p>Standard Area: Treatment of Psychological Disorders
 Content Standards - After concluding this unit, students understand:</p> <ol style="list-style-type: none"> 1. Perspectives on treatment 2. Categories of treatment and types of treatment providers 3. Legal, ethical, and professional issues in the treatment of psychological disorders | <p><i>Pioneers of Psychology</i> by Raymond E. Fancher</p> <p><i>The Man Who Mistook His Wife for a Hat</i> by Oliver Saks</p> |
| <p>Standard Area: Health
 Content Standards- After concluding this unit, students understand:</p> <ol style="list-style-type: none"> 1. Stress and coping 2. Behaviors and attitudes that promote health | <p><i>Pioneers of Psychology</i> by Raymond E. Fancher</p> |
| <p>Standard Area: Vocational Applications
 Content Standards - After concluding this unit, students understand:</p> <ol style="list-style-type: none"> 1. Career options 2. Educational requirements 3. Vocational applications of psychological science | <p><i>Pioneers of Psychology</i> by Raymond E. Fancher</p> |