

## Appendix A

### Montgomery Flex Charter School Language Arts Curriculum

#### Course: 7th Grade Language Arts

#### Textbooks:

- **Glencoe Literature, Course 2, Glencoe, 2007**
- **Writing with Power, Perfection Learning Corporation**

**The student's goal is to read a wide variety of works: informational texts, short fiction, poetry, speeches, biographies, folktales, and myths. The activities in this course are designed to enable the student not only to read, comprehend, analyze, and critique text, but also to connect the writing process to the literature that is read. Students also work on activities that improve grammar and use the writing process to compose a variety of compositions.**

#### Units:

##### 1. Why Do We Read?

In this unit, you will explore the Big Question: Why do we read? You will consider different aspects of why you read and why other people read. You will learn how to read informational media by using skills such as setting a purpose, previewing, summarizing, and reviewing what you have read. You will examine the text features and structure of newspaper and magazine articles, as well as read short stories, poems, and an excerpt from an autobiography. You will distinguish between action and linking verbs, and learn ways to use context clues to help you understand unknown words.

##### 2. How Can We Become Who We Want to Be?

In this unit, you will explore the Big Question: How can we become who we want to be? You will consider different aspects of what makes people who they are and see how other people have worked to become who they want to be. You will learn about literary elements and examine how they influence the story. You will apply strategies such as connecting and inferring as you read biographies and autobiographies. You will learn how to use context to understand multiple-meaning words. You also will study nouns and pronouns.

##### 3. The Watsons Go to Birmingham—1963

This novel tells the story of the "Weird Watson" family and the humorous events that occur in Flint, Michigan, in 1963. After one too many "adventures" by their oldest son, Byron, the parents decide to take a family trip to Birmingham, Alabama, to visit the children's grandmother and hopefully encourage Byron to change his ways. On their

way to Alabama, and while there, the Watson children learn that life is different for African Americans in the South. You will identify literary elements and write an essay about an American hero.

## 4. Whom Can We Really Count On?

In this unit, you will explore the Big Question: Whom can we really count on? You will think about how the characters in the selections would answer the big question, and consider how you would answer it for yourself. You will apply skills such as drawing conclusions, responding, synthesizing, and determining the main idea as you read short stories. You will learn about adjectives, adverbs, prepositions, and interjections. You will examine the key literary elements and understand synonyms and antonyms.

## 5. Who Influences Us and How Do They Do So?

In this unit, you will explore the Big Question: Who influences us and how do they do so? You will learn about the persuasive arguments that influence people and analyze ways in which these arguments change people's lives. You will learn how persuasive writing influences readers. You will learn how to distinguish between fact and opinion, and how to identify the author's purpose and perspective. You will examine how style, tone, diction, and word choice strengthen arguments and influence the reader. You also will identify types of sentences.

## 6. Is Progress Always Good?

In this unit, you will explore the Big Question: Is progress always good? You will consider different aspects of progress and how progress affects you, your family, your community, and the world. You will apply the key reading skills for understanding science and technology writing—paraphrasing and summarizing, using text features, and taking notes. You will analyze word structure by identifying base words, suffixes, and prefixes. You will distinguish between main and subordinate clauses and learn how to use the correct punctuation.

## 7. Dragonwings

This Newbery Award-winning novel takes place in the San Francisco Bay Area at the turn of the century. It is the story of a Chinese boy, Moon Shadow, who moves to Chinatown to be with his father, Windrider, who is working on a flying machine at the same time the Wright Brothers are. An historical novel, it depicts not only the lives of and discrimination against San Francisco's Chinese immigrants in the early 1900s, but also the 1906 San Francisco earthquake. You will identify literary elements and write a newspaper article describing a major event in the novel.

## 8. Why Do We Share Our Stories?

In this unit, you will explore the Big Question: Why do we share our stories? You will consider different reasons for storytelling and learn how storytelling has helped connect generations throughout time. You will learn how to understand cause and effect, and use reading skills such as questioning, predicting, and analyzing. You will analyze the literary elements of folktales: theme, characterization, cultural allusions, and dialect. You will learn to distinguish between compound and complex sentences.

### 9. What Makes You Tick?

In this unit, you will explore the Big Question: What makes you tick? You will consider different aspects of who you are and examine the things that inspire you. You will learn how to read poetry by using skills such as evaluating, interpreting, connecting, and monitoring comprehension. You will examine sound devices, figurative language, symbolism, and rhythm in a variety of poems. You also will study word origins and learn correct subject and verb agreement.

### 10. What Is a Community?

In this unit, you will explore the Big Question: What is a community? You will read selections that allow you to visit communities in different places as well as in different times. You will consider how people and communities shape each other. You will learn how to read historical documents by using skills such as visualizing, skimming and scanning, clarifying, and predicting. You will examine descriptive writing by identifying imagery, figurative language, and how the text is organized. You will learn the correct way to use punctuation and identify compound words.

## Appendix A2: Language Arts Curriculum and Common Core Standards

Common Core State Standards English/Language Arts			
<i>Reading: Literature</i>		<b>Language Arts 7 Unit Name</b>	<b>Lesson Name or Topic</b>
Key Ideas and Details			
RL.7.1	Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	Why Do We Read?	To be addressed by teacher
RL.7.2	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.	Why Do We Read?	Identifying Theme In A Text; Summarizing Text; Using Graphic Organizers To Focus On Events Of A Story; Reviewing Text For Summary And Comprehension; Understanding Text Sequencing To Understand Events In A Story
RL.7.3	Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot).	The Watsons Go to Birmingham - 1963; Who Can We Really Count On?; Is Progress Always Good?	Applying Knowledge Of A Particular Time Period; Applying Prior Knowledge; Synthesizing Details From The Text And Real Life; Identifying Literary Elements And Interpreting Context; Making Connections; Using Sensory Details To Develop And Understand Text Elements Such As Setting
Craft and Structure			

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RL.7.4	Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of rhymes and other repetitions of sounds (e.g., alliteration) on a specific verse or stanza of a poem or section of a story or drama.	Why Do We Read?	Recognizing And Understanding Word Structure; Identifying Prefixes And Suffixes; Understanding Content-Area Words; Using Context Clues To Determine Word Meaning; Identifying And Using Parts Of Speech; Understanding Connotative And Denotative Words
RL.7.5	Analyze how a drama's or poem's form or structure (e.g., soliloquy, sonnet) contributes to its meaning.	To be addressed by teacher	To Be Addressed By Teacher
RL.7.6	Analyze how an author develops and contrasts the points of view of different characters or narrators in a text.	The Watsons Go to Birmingham - 1963	Analyzing Characterization; Identifying And Synthesizing Character Details; Using Inference To Understand Character Motivation; Identifying Narrator; Identifying Point Of View; Identifying Sensory Details To Draw Conclusions
<b>Integration of Knowledge and Ideas</b>			
RL.7.7	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).	To be addressed by teacher	To be addressed by teacher
RL.7.9	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.	The Watsons Go to Birmingham - 1963	Learning About A Time Period To Understand The Historical Context And Characters Of A Novel
<b>Range of Reading and Level of Text Complexity</b>			
RL.7.10	By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.	Why Do We Read?; How Can We Become Who We Want to Be?; The Watsons Go to Birmingham - 1963	Reading And Comprehending Works From Various Genres

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<i>Reading: Informational Text</i>			
Key Ideas and Details			
RI.7.1	Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	Why Do We Read?	Using Contextual Clues; Making Inferences; Identifying Supporting Details; Analyzing Text
RI.7.2	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.	Why Do We Read?	Identifying Main Idea In A Text; Summarizing Text; Reviewing Text For Summary And Comprehension
RI.7.3	Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).	How Can We Become Who We Want to Be?; Who Influences Us and How Do They Do So?; Is Progress Always Good?	Identifying Persuasive Techniques; Distinguishing Fact From Opinion; Identifying Literary Elements Such As Characterization And Sequence; Understanding Cause And Effect
Craft and Structure			
RI.7.4	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of a specific word choice on meaning and tone.	Why Do We Read?; How Can We Become Who We Want to Be?	Using Contextual Clues; Making Inferences; Identifying Word Structures; Identifying Word Choice; Understanding Connotative And Denotative Words
RI.7.5	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to the development of the ideas.	Why Do We Read?; How Can We Become Who We Want to Be?	Identifying Text Structure; Using Text Features; Previewing Text; Recognizing Distinctive Features; Understanding Sequence; Making Connections; Activating Prior Knowledge

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RI.7.6	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.	Who Influences Us and How Do They Do So?; Is Progress Always Good?	Identifying Author's Purpose And Perspective; Identifying Literary Devices And Word Choice; Analyzing Persuasive Techniques; Distinguishing Fact And Opinion; Identifying Literary Elements; Identifying Author's Craft
<b>Integration of Knowledge and Ideas</b>			
RI.7.7	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).	Who Influences Us and How Do They Do So?; Is Progress Always Good?	To be addressed by teacher
RI.7.8	Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.	Who Influences Us and How Do They Do So?; Is Progress Always Good?	To be addressed by teacher
RI.7.9	Analyze how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts.	Who Influences Us and How Do They Do So?; Is Progress Always Good?	Recognizing Persuasive Techniques; Identifying Author's Perspective; Understanding Word Choice; Identifying Literary Elements; Understanding Context Clues; Making Connections, Interpreting Text; Identifying Point Of View
<b>Range of Reading and Level of Text Complexity</b>			
RI.7.10	By the end of the year, read and comprehend literary nonfiction in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.	Why Do We Read?; How Can We Become Who We Want to Be?; Who Influences Us and How Do They Do So?	Reading Nonfiction Works
<b>Writing</b>			
<b>Text Types and Purposes</b>			

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W.7.1	<p>Write arguments to support claims with clear reasons and relevant evidence:</p> <ul style="list-style-type: none"> <li>--Introduce claim(s), acknowledge alternate or opposing claims, and organize the reasons and evidence logically.</li> <li>--Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.</li> <li>--Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence.</li> <li>--Establish and maintain a formal style.</li> <li>--Provide a concluding statement or section that follows from and supports the argument presented.</li> </ul>	<p>Who Influences Us and How Do They Do So?</p>	<p>Writing Opinion Pieces; Using Persuasive Techniques; Using Sequencing; Using Text Structure; Using The Writing Process; Using Literary Elements; Developing Voice</p>
W.7.2	<p>Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content:</p> <ul style="list-style-type: none"> <li>--Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.</li> <li>--Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.</li> <li>--Use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts.</li> <li>--Use precise language and domain-specific vocabulary to inform about or explain the topic.</li> <li>--Establish and maintain a formal style.</li> <li>--Provide a concluding statement or section that follows from and supports the information or explanation presented.</li> </ul>	<p>Why Do We Read?; The Watsons Go to Birmingham - 1963</p>	<p>Writing Essays; Using Sequencing; Using Text Structure; Using The Writing Process; Using Literary Elements</p>



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W.7.3	<p>Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences:</p> <ul style="list-style-type: none"> <li>--Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically.</li> <li>--Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters.</li> <li>--Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another.</li> <li>--Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events.</li> <li>--Provide a conclusion that follows from and reflects on the narrated experiences or events.</li> </ul>	<p>How Can We Become Who We Want to Be?; The Watsons Go to Birmingham - 1963; Who Can We Really Count On?</p>	<p>Writing For Various Purposes And Genres; Using Sequencing; Using Text Structure; Using The Writing Process; Using Literary Elements</p>
<b>Production and Distribution of Writing</b>			
W.7.4	<p>Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)</p>	<p>Why Do We Read?; Is Progress Always Good?</p>	<p>Writing; Using Sequencing; Using Text Structure; Using The Writing Process; Using Literary Elements</p>
W.7.5	<p>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.</p>	<p>Why Do We Read?; How Can We Become Who We Want to Be?; The Watsons Go to Birmingham - 1963; Who Can We Really Count On?</p>	<p>Revising And Editing As Part Of The Writing Process</p>
W.7.6	<p>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.</p>	<p>How Can We Become Who We Want to Be?; The Watsons Go to Birmingham - 1963</p>	<p>Using An Online Tool To Produce Writing; Citing Sources For Research Papers And Essays; Conducting Research Of Print And Online Sources</p>
<b>Research to Build and Present Knowledge</b>			

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W.7.7	Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.	The Watsons Go to Birmingham - 1963; Is Progress Always Good?	Conducting Research Of Print And Online Sources; Creating A Research And Writing Plan
W.7.8	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.	Is Progress Always Good?	Evaluating Sources; Gathering And Recording Information
W.7.9	Draw evidence from literary or informational texts to support analysis, reflection, and research: --Apply grade 7 Reading standards to literature (e.g., "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"). --Apply grade 7 Reading standards to literary nonfiction (e.g. "Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims").	The Watsons Go to Birmingham - 1963	Making Connections
<b>Range of Writing</b>			
W.7.10	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.	Why Do We Read?; How Can We Become Who We Want to Be?	Writing For Various Purposes And Genres
<b>Speaking and Listening</b>			
<b>Comprehension and Collaboration</b>			

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SL.7.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly: --Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. --Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. --Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. --Acknowledge new information expressed by others and, when warranted, modify their own views.	Who Influences Us and How Do They Do So?	To Be Addressed By Teacher
SL.7.2	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.	Who Influences Us and How Do They Do So?	Using Text Structure; Using Content Clues; Identifying Author's Perspective And Purpose
SL.7.3	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.	To be addressed by teacher	To Be Addressed By Teacher
<b>Presentation of Knowledge and Ideas</b>			
SL.7.4	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.	How Can We Become Who We Want to Be?; Who Influences Us and How Do They Do So?	Delivering An Oral Presentation
SL.7.5	Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.	Who Influences Us and How Do They Do So?	To Be Addressed By Teacher
SL.7.6	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.	How Can We Become Who We Want to Be?; Who Influences Us and How Do They Do So?	Composing A Speech; Using The Writing Process
<i>Language</i>			

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Conventions of Standard English			
L.7.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking: --Explain the function of phrases and clauses in general and their function in specific sentences. --Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas. --Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.	Who Can We Really Count On?; Who Influences Us and How Do They Do So?; Is Progress Always Good?	Using The Writing Process; Editing For Use Of Standard English Grammar, Usage, And Mechanics
L.7.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing: --Use a comma to separate coordinate adjectives (e.g., It was a fascinating, enjoyable movie but not He wore an old[,] green shirt). --Spell correctly.	Why Do We Read?; How Can We Become Who We Want to Be?; Is Progress Always Good?	Using The Writing Process; Editing For Use Of Standard English Grammar, Usage, And Mechanics
Knowledge of Language			
L.7.3	Use knowledge of language and its conventions when writing, speaking, reading, or listening: --Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.	Is Progress Always Good?	Editing For Use Of Standard English Grammar, Usage, And Mechanics
Vocabulary Acquisition and Use			
L.7.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 7 reading and content, choosing flexibly from a range of strategies: --Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. --Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., belligerent, bellicose, rebel). --Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.	Why Do We Read?	Using Context Clues; Using Word References Such As Dictionary And Thesaurus

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	<p>--Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).</p>		
L.7.5	<p>Demonstrate understanding of figurative language, word relationships, and nuances in word meanings:            --Interpret figures of speech (e.g., literary, biblical, and mythological allusions) in context.            --Use the relationship between particular words (e.g., synonym/antonym, analogy) to better understand each of the words.            --Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., refined, respectful, polite, diplomatic, condescending).</p>	<p>Who Can We Really Count On?; Who Influences Us and How Do They Do So?</p>	<p>Identifying And Using Synonyms;            Identifying Literary Elements;            Distinguishing Between Denotation And Connotation; Understanding Word Choice; Making Inferences</p>
L.7.6	<p>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.</p>	<p>Why Do We Read?; How Can We Become Who We Want to Be?</p>	<p>Using Context Clues; Using Modifiers; Using Synonyms; Using Prefixes, Using Articles</p>

## **Course: 8th Grade Language Arts**

### **Textbooks:**

- **Glencoe Literature, Course 3, Glencoe, 2007**
- **Writing with Power (Red), Perfection Learning Corporation**

**The aim for students this year is to delve more deeply into literature and writing, and to prepare for high school coursework. Students read a variety of award-winning novels and literary works to hone their skills such as predicting, clarifying, summarizing, analyzing, and understanding plot development, and to strengthen their writing skills by composing works of fiction and nonfiction.**

### **Units:**

#### **1. Reading: What's in It for You?**

In this unit, you will explore the Big Question: What's in it for you? You will read selections that help you think about the role that reading plays in your life. You will read autobiographies and biographies and examine how this genre affects you by learning from the experiences of others. The ultimate goal is to apply this knowledge to your life. You will use skills such as connecting, setting a purpose, activating prior knowledge, and identifying author's purpose. You will learn how to use context clues to understand unknown words. You also will learn about nouns and pronouns.

#### **2. Which Is More Important: Journey or Destination?**

In this unit, you will explore the Big Question: Which is more important, the journey or the destination? You will read about the journeys of real and imagined people and consider how they might answer the Big Question. You will learn how to read folktales by using skills such as analyzing, making inferences, predicting, and comparing and contrasting. You will examine literary elements and apply them to folktales. You will learn about modifying phrases and clauses, and misplaced and dangling modifiers.

#### **3. Johnny Tremain**

Johnny Tremain is a Newbery Award–winning historical novel about a young boy in colonial Boston. Johnny is a talented but arrogant silversmith's apprentice whose life is turned upside-down when he injures his hand. In time, he becomes a messenger boy on horseback for the Sons of Liberty and meets several famous Founding Fathers. He later becomes a spy for the Sons of Liberty, takes part in the Boston Tea Party, and struggles with loss at the battles of Lexington and Concord. Throughout the unit, you will identify literary elements and create an illustrated map of Boston during Revolutionary times.

#### **4. What Do You Do When You Don't Know What to Do?**

In this unit, you will explore the Big Question: What do you do when you don't know what to do? You will read about how other people have dealt with situations that seemed overwhelming, and you will consider strategies for coping with problems that seem too big to handle. You will learn how to read poetry by using skills such as connecting, evaluating, interpreting, and monitoring comprehension. You will examine how writers use metaphor, simile, and alliteration in a variety of poems (narrative, lyric, free verse). You also will learn about the importance of using correct subject-verb agreement.

### 5. How Do You Stay True to Yourself?

In this unit, you will explore the Big Question: How do you stay true to yourself? You will read and consider a variety of perspectives that address the Big Question. You will learn how to read short stories by using skills such as analyzing, questioning, predicting, and making inferences. You will examine how short stories are organized and study theme, setting, characterization, and imagery. You will learn how to analyze words by identifying the base word and any prefixes and suffixes.

### 6. When Is the Price Too High?

In this unit, you will explore the Big Question: When is the price too high? You will consider how people weigh the costs and benefits of their decisions, and you will develop criteria for weighing your own decisions. You will learn how to read informational articles by using skills such as previewing, skimming and scanning, understanding text structures, and identifying main idea and supporting details. You will examine how tone, humor, irony, and foreshadowing influence the reader. You will learn about multiple-meaning words and use simple sentences in your writing.

### 7. How to Keep from Giving Up When Bad Things Happen

In this unit, you will explore the Big Question: How do you keep from giving up when bad things happen? You will read about people who endure hardships but persevere with optimism and determination. You will learn how to read dramatic pieces by using skills such as drawing conclusions, interpreting, paraphrasing and summarizing, and visualizing. You will examine the structure of a play and study the historical influences on the English language.

### 8. What's Worth Fighting For? What's Not?

In this unit, you will explore the Big Question: What's worth fighting for? What's not? You will learn what other people find important, how they act on those values, and how they seek to persuade others. You will learn how to read persuasive writing by using skills such as distinguishing fact from opinion, questioning, reviewing, and clarifying.

### 9. The Giver

Eleven-year-old Jonas lives in a seemingly ideal world. There is no war or pain, and there are no choices. Every person is assigned a role in the community. When Jonas turns 12, he is chosen to receive special training from The Giver himself—a man who alone holds the key to the true pain and pleasure of life: memories. Now it is time for Jonas to receive the truth. What will Jonas do once he experiences the power of deep emotions? This gripping and provocative Newbery Award–winning novel keeps readers turning the pages and exploring the special qualities that make each of us human. You will identify literary elements and write a personal response to the novel's ambiguous ending.

### 10. What Is the American Dream?

In this unit, you will explore the Big Question: What is the American dream? You will consider what the American dream has meant to different people in different times and places and how the American dream is still being redefined and reinvented today. You will learn how to read historical text by using skills such as analyzing, understanding cause and effect, identifying main idea and supporting details, and identifying author's purpose. You will study irregular verbs and consider English as a changing language. You will examine text structure and identify how the writing is organized.



<b>Common Core State Standards English/Language Arts</b>			
<b>Reading: Literature</b>		<b>Language Arts 8 Unit Name</b>	<b>Lesson Name or Topic</b>
<b>Key Ideas and Details</b>			
RL.8.1	Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.	How to Keep from Giving Up When Bad Things Happen	Identifying Details; Identifying Evidence To Analyze Text
RL.8.2	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.	Which is More Important: Journey or Destination?; How Do You Stay True to Yourself?	Identifying Theme; Summarizing Text; Identifying Main Idea
RL.8.3	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.	Which is More Important: Journey or Destination?; Johnny Tremain	Identifying Literary Elements; Identifying Literary Devices; Analyzing Text
<b>Craft and Structure</b>			
RL.8.4	Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.	Reading: What's in It for You?	Using Context Clues; Identifying Literary Elements; Distinguishing Between Denotative And Connotative Meanings; Identifying Figurative Language
RL.8.5	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.	Reading: What's in It for You?; Which is More Important: Journey or Destination?; What Do You Do When You Don't Know What to Do?	Identifying Literary Elements; Comparing And Contrasting; Analyzing Text
RL.8.6	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.	The Giver	Identifying Literary Elements; Analyzing Text; Analyzing Point Of View
<b>Integration of Knowledge and Ideas</b>			
RL.8.7	Analyze the extent to which a filmed or live production of a story or drama stays faithful to or departs from the text or	Johnny Tremain	To be addressed by teacher

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	script, evaluating the choices made by the director or actors.		
RL.8.9	Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new.	Johnny Tremain	Making Connections; Distinguishing Fact; Analyzing Features Of Genres; Recognizing Distinctive Features Of Writing
<b>Range of Reading and Level of Text Complexity</b>			
RL.8.10	By the end of the year, read and comprehend literature, including stories, dramas, and poems, at the high end of grades 6–8 text complexity band independently and proficiently.	Reading: What's in It for You?; Which is More Important: Journey or Destination?	Reading And Comprehending Works From Various Genres
<b>Reading: Informational Text</b>			
<b>Key Ideas and Details</b>			
RI.8.1	Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.	Which is More Important: Journey or Destination?;	Identifying Details; Identifying Evidence To Analyze Text
RI.8.2	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.	When Is the Price Too High?; What is the American Dream?	Identifying Main Ideas And Supporting Details; Identifying Evidence; Identifying Literary Elements; Summarizing Text
RI.8.3	Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).	Reading: What's in It for You?; What's Worth Fighting For? What's Not?; What is the American Dream?	Making Connections
<b>Craft and Structure</b>			
RI.8.4	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.	Reading: What's in It for You?	Using Context Clues; Identifying Literary Elements; Distinguishing Between Denotative And Connotative Meanings; Identifying Figurative Language

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RI.8.5	Analyze in detail the structure of a specific paragraph in a text, including the role of particular sentences in developing and refining a key concept.	When Is the Price Too High?; What is the American Dream?	Understanding Text Structures; Making Inferences; Identifying Literary Elements; Paraphrasing And Summarizing; Analyzing Point Of View; Identifying Supporting Details
RI.8.6	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.	Reading: What's in It for You?; What's Worth Fighting For? What's Not?	Analyzing Point Of View; Analyzing Arguments And Techniques; Recognizing Author Bias
<b>Integration of Knowledge and Ideas</b>			
RI.8.7	Evaluate the advantages and disadvantages of using different mediums (e.g., print or digital text, video, multimedia) to present a particular topic or idea.	Reading: What's in It for You?	To be addressed by teacher
RI.8.8	Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.	What's Worth Fighting For? What's Not?	Distinguishing Logical Arguments; Distinguishing Between Fact And Opinion; Asking Questions; Analyzing Point Of View; Recognizing Author Bias
RI.8.9	Analyze a case in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation.	When Is the Price Too High?; What's Worth Fighting For? What's Not?; What is the American Dream?	Connecting, Comparing And Contrasting Across Texts; Identifying Sources; Making Inferences
<b>Range of Reading and Level of Text Complexity</b>			
RI.8.10	By the end of the year, read and comprehend literary nonfiction at the high end of the grades 6–8 text complexity band independently and proficiently.	When Is the Price Too High?; What's Worth Fighting For? What's Not?	Reading And Comprehending Works From Various Genres
<b>Writing</b>			
<b>Text Types and Purposes</b>			

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W.8.1	<p>Write arguments to support claims with clear reasons and relevant evidence.</p> <ul style="list-style-type: none"> <li>--Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically:</li> <li>--Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.</li> <li>--Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.</li> <li>--Establish and maintain a formal style.</li> <li>--Provide a concluding statement or section that follows from and supports the argument presented.</li> </ul>	<p>When Is the Price Too High?; How to Keep From Giving Up When Bad Things Happen; Johnny Tremain</p>	<p>Using The Prewriting Process; Using The Writing Process; Using References To Support Statements; Using Primary And Secondary Sources; Evaluating Reliability Of Sources; Using Standard English; Using Literary Elements; Understanding Text Structures; Using Persuasive Techniques</p>
W.8.2	<p>Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content:</p> <ul style="list-style-type: none"> <li>--Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.</li> <li>--Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.</li> <li>--Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.</li> <li>--Use precise language and domain-specific vocabulary to inform about or explain the topic.</li> <li>--Establish and maintain a formal style.</li> <li>--Provide a concluding statement or section that follows from and supports the information or explanation presented.</li> </ul>	<p>Reading: What's in It for You?</p>	<p>To be addressed by teacher</p>

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W.8.3	<p>Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences:</p> <ul style="list-style-type: none"> <li>--Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically.</li> <li>--Use narrative techniques, such as dialogue, pacing, description, and reflection, to develop experiences, events, and/or characters.</li> <li>--Use a variety of transition words, phrases, and clauses to convey sequence, signal shifts from one time frame or setting to another, and show the relationships among experiences and events.</li> <li>--Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events.</li> <li>--Provide a conclusion that follows from and reflects on the narrated experiences or events.</li> </ul>	<p>Reading: What's in It for You?; Which is More Important: Journey or Destination?</p>	<p>Using The Prewriting Process; Using The Writing Process; Using Standard English; Using Literary Elements; Understanding Text Structures</p>
<b>Production and Distribution of Writing</b>			
W.8.4	<p>Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)</p>	<p>Reading: What's in It for You?; Which is More Important: Journey or Destination?; Johnny Tremain</p>	<p>Using The Prewriting Process; Using The Writing Process; Developing Voice; Using Literary Elements; Using Text Structures; Using Standard English And Punctuation</p>
W.8.5	<p>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.</p>	<p>Reading: What's in It for You?; Which is More Important: Journey or Destination?; Johnny Tremain; How to Keep From Giving Up When Bad Things Happen</p>	<p>Using Feedback To Revise Writing; Using The Writing Process</p>
W.8.6	<p>Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.</p>	<p>How to Keep From Giving Up When Bad Things Happen</p>	<p>To Be Addressed By Teacher</p>

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<b>Research to Build and Present Knowledge</b>			
W.8.7	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.	When Is the Price Too High?; How to Keep From Giving Up When Bad Things Happen	Writing Research Projects; Identifying And Using Primary And Secondary Sources
W.8.8	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.	When Is the Price Too High?	Identifying And Using Primary And Secondary Print And Online Sources; Using Prewriting Strategies; Using References To Support Statements; Using Standardized Citation System
W.8.9	Draw evidence from literary or informational texts to support analysis, reflection, and research: --Apply grade 8 Reading standards to literature (e.g., "Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new"). --Apply grade 8 Reading standards to literary nonfiction (e.g., "Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced").	When Is the Price Too High?	Using References To Support Statements; Using Primary And Secondary Sources; Evaluating Reliability Of Sources; Analyzing Evidence; Making Inferences; Writing A Research Paper
<b>Range of Writing</b>			
W.8.10	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 tasks, purposes, and audiences.	Reading: What's in It for You?; Which is More Important: Journey or Destination?	Writing Various Pieces Of Texts To Conform To Various Genres
<b>Speaking and Listening</b>			
<b>Comprehension and Collaboration</b>			

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SL.8.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly: --Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. --Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. --Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. --Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.	How to Keep From Giving Up When Bad Things Happen	To be addressed by teacher
SL.8.2	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.	How to Keep From Giving Up When Bad Things Happen	To be addressed by teacher
SL.8.3	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.	How to Keep From Giving Up When Bad Things Happen	To be addressed by teacher
<b>Presentation of Knowledge and Ideas</b>			
SL.8.4	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.	How to Keep from Giving Up When Bad Things Happen; What's Worth Fighting For? What's Not?	Delivering An Oral Presentation Based On A Researched Topic
SL.8.5	Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.	What's Worth Fighting For? What's Not?	Creating Visual Aids For Oral Presentation

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SL.8.6	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.	Reading: What's in It for You?; The Giver; How to Keep from Giving Up When Bad Things Happen; What's Worth Fighting For? What's Not?	Presenting Writing Examples From Various Genres
<b>Language</b>			
<b>Conventions of Standard English</b>			
L.8.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking: --Explain the function of verbals (gerunds, participles, infinitives) in general and their function in particular sentences. --Form and use verbs in the active and passive voice. --Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood. --Recognize and correct inappropriate shifts in verb voice and mood.	Reading: What's in It for You?	Using Subject-Verb Agreement; Identifying And Using Different Kinds Of Verbs
L.8.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing: --Use punctuation (comma, ellipsis, dash) to indicate a pause or break. --Use an ellipsis to indicate an omission. --Spell correctly.	How Do You Stay True to Yourself?	Editing And Using Standard English Grammar, Usage, And Mechanics; Editing For Spelling; Editing For Punctuation
<b>Knowledge of Language</b>			
L.8.3	Use knowledge of language and its conventions when writing, speaking, reading, or listening: --Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).	What is the American Dream?	Using Standard English Grammar, Usage, And Mechanics; Using Different Kinds Of Verbs
<b>Vocabulary Acquisition and Use</b>			



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L.8.4	<p>Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on grade 8 reading and content, choosing flexibly from a range of strategies:</p> <ul style="list-style-type: none"> <li>--Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.</li> <li>--Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., precede, recede, secede).</li> <li>--Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.</li> <li>--Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).</li> </ul>	Reading: What's in It for You?	Using Context Clues; Distinguishing Between Denotative And Connotative Meanings; Learning And Using New Vocabulary; Using Word References Such As A Dictionary And Thesaurus; Understanding Roots Of Words
L.8.5	<p>Demonstrate understanding of figurative language, word relationships, and nuances in word meanings:</p> <ul style="list-style-type: none"> <li>--Interpret figures of speech (e.g. verbal irony, puns) in context.</li> <li>--Use the relationship between particular words to better understand each of the words.</li> <li>--Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., bullheaded, willful, firm, persistent, resolute).</li> </ul>	What Do You Do When You Don't Know What to Do?; How to Keep From Giving Up When Bad Things Happen	Using Word Choice And Figurative Language; Distinguishing Between Denotative And Connotative Meanings
L.8.6	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.	Reading: What's in It for You?	Learning And Using New Vocabulary; Activating Prior Knowledge;

## Course: English 9

### Textbooks:

- **Pathways: Literature for Readers and Writers, Perfection Learning Corporation, 2008**
- **The Essential Guide to Language, Writing & Literature, Perfection Learning Corporation, 2007**
- **Romeo and Juliet, Prestwick House, 2004**
- **The Call of the Wild, Simon and Brown, 2011**
- **Writing with Power (Gold), Perfection Learning Corporation**

**Classic and contemporary works of American, British, and world literature in a variety of genres are introduced in English 9. Students analyze short fiction, nonfiction, and poetry selections. Students also read and analyze novels and other major literary works such as Romeo and Juliet. Reading and writing assignments strengthen students' understanding of literary elements in poetry, fiction, and drama; the characteristics of narrative, expository, and persuasive writing; correct grammar and usage; and research skills.**

### Units:

#### 1. Growing Up

In this unit, you will analyze fiction, nonfiction, and poetry selections focused on the theme of growing up. As you read, you will apply active reading strategies, such as making inferences and forming personal connections with the text. You also will learn to understand and analyze elements of prose and poetry, such as point of view, character, setting, symbolism, and metaphor. Throughout the unit, you also will learn strategies for learning new vocabulary, such as understanding word roots, prefixes, and suffixes. Grammar instruction will focus on reviewing the eight parts of speech. Finally, you will develop your writing skills as you create a personal narrative.

#### 2. The Forces of Nature

In this unit, you will analyze fiction, nonfiction, and poetry selections about the natural world, with a focus on nonfiction selections. As you read, you will apply active reading strategies such as analyzing details and using text features and graphics to understand informational texts. You also will learn to understand and analyze elements of prose and poetry such as imagery, irony, figurative language, and text structure. Throughout the unit, you also will learn strategies for learning new vocabulary, with a focus on using context clues and understanding multiple-meaning words. Grammar instruction will focus on understanding the components of a sentence and using different sentence types. Finally, you will develop your writing skills as you create a descriptive essay.

## 3. The Call of the Wild

Jack London's *The Call of the Wild* follows the journey of Buck, a magnificent St. Bernard/Scotch shepherd dog, as he is kidnapped from comfortable surroundings and thrown into the harsh frontier life of the 1897 gold rush in the arctic North. You will read of how he not only adapts to new conditions but also awakens to ancient instincts as he triumphs despite and amidst the new challenges of his changing environment. In this unit, you will identify and analyze literary elements, discover new vocabulary terms, and use comprehension strategies to make connections and draw conclusions.

## 4. Other Worlds

In this unit, you will read and analyze works of science fiction that depict imaginary worlds. Additionally, you will read essays that explore how science fiction and video games have influenced our culture. As you read, you will continue to apply active reading strategies, such as analyzing details and summarizing, to help prepare you to critique these texts. You will analyze how the elements of short stories are used in the science-fiction genre and compare stories within this genre before writing a critical response to a short story. Throughout the unit, you also will learn strategies for understanding scientific and technical vocabulary in context. Grammar instruction will focus on using punctuation correctly and following standard conventions for using italics and quotation marks.

## 5. Crossing Borders

In this unit, you will read and analyze works of fiction and nonfiction that explore the theme of crossing borders. These borders may be physical—for instance, the geographical borders between two countries—or psychological. You will apply active reading strategies such as making predictions, understanding text structures, and understanding the author's purpose. You will analyze writers' use of figurative language, dialect, and tone, as well as their techniques for developing conflict. As part of your exploration of the theme of crossing borders, you will write an informational essay about a cultural tradition. Throughout the unit, you also will practice the strategies for understanding vocabulary that you have learned throughout the semester. Grammar instruction will focus on phrases and clauses.

## 6. Echoes from the Past

In this unit, you will analyze fiction, nonfiction, and poetry selections focused on ancient myths and literature. As you read, you will apply active reading strategies, such as making inferences and forming personal connections with the text. You also will learn to understand and analyze elements of epic poetry such as myth, figurative language, character, and tone. Throughout the unit, you also will learn strategies for learning new vocabulary, such as understanding multiple-meaning words and using a dictionary.

Grammar instruction will focus on reviewing the use of pronouns. Finally, you will develop your writing skills as you create a summary for one of the selections in this unit.

## 7. Romeo and Juliet

William Shakespeare's classic tragedy *Romeo and Juliet* tells the story of two youths desperately in love with each other despite the feud that exists between their two families. They are secretly married, but on the same day as their marriage, Romeo is banished for killing Juliet's kinsman. While he is gone, Juliet fakes her death by taking a poisonous potion to avoid an arranged marriage. Romeo does not learn in time that she is not really dead, and kills himself as a result. Upon waking, Juliet discovers Romeo and joins him in death.

Through Shakespeare's timeless story, you will identify and analyze literary and dramatic elements, discover new vocabulary terms, and use comprehension strategies to make connections and draw conclusions.

## 8. The Dark Side

In this unit, you will analyze fiction, nonfiction, and poetry selections belonging to the suspense and horror genres. As you read, you will apply active reading strategies, such as making predictions and asking questions to better understand the text. You also will learn to understand and analyze elements of suspense and horror narratives such as foreshadowing, stock characters and archetypes, and the role of unreliable narrators. You also will examine literary elements such as poetic devices and tone. Throughout the unit, you also will learn strategies for learning new vocabulary, such as understanding denotation and connotation and the use of archaic language. Grammar instruction will focus on reviewing the rules of subject-verb agreement and the use of adjectives and adverbs.

## 9. The Research Paper

In this unit, you will develop important reading and analytical writing skills as you research and write about a topic of your choice. The lessons in the unit are planned to guide you through the challenging but rewarding process of writing a research paper. You will complete this project in three main phases:

- Forming research questions
- Gathering information
- Organizing and analyzing your research findings

In the third stage, you will combine your own ideas with information from your research to create an effective, well-supported research paper. This unit differs from other units in the English 9 course in that it includes fewer reading assignments from your textbooks.

Most of the reading you complete will be conducted as part of your research. Please note that it is especially important that you complete and turn in writing assignments consistently throughout this unit, since each new assignment builds on the work completed previously. Completing assignments on time and in order will help provide adequate time to develop and refine your ideas and to incorporate feedback from your teacher.

## 10. What Has Value?

In this unit, you will read fiction and poetry selections that analyze people's differing values. As you read, you will apply active reading strategies, such as comparing texts and differentiating between fact and opinion. You also will learn to understand and analyze literary elements such as theme, tone, plot twist, and repetition. Throughout the unit, you also will review strategies for learning new vocabulary, such as understanding multiple-meaning words and using a dictionary. Finally, grammar instruction will focus on reviewing the skills taught earlier in the semester.

## **Course: English 10**

### **Textbooks:**

- **Reading the World, Perfection Learning Corporation, 2010**
- **Writing with Power (Yellow), Perfection Learning Corporation, 2012**
- **The Adventures of Huckleberry Finn, Dover Publications, 1994**
- **The Importance of Being Earnest, Simon & Brown, 2012**

**The timeless themes in world literature are emphasized in English 10, which includes literature of the Americas, Europe, the Middle East, Asia, and the Pacific Rim. A classic world literature selection introduces each region followed by contemporary short fiction, poetry, and drama. Students explore the cultures from which each piece of literature derives and consider the similarities that unite the human family. The survey of world literature includes Margaret Atwood, Pablo Neruda, and Eugene Ionesco. Students continue to strengthen their mastery of the writing process and compose for various purposes. Skills are further developed, including the research process and oral communication.**

### Units:

#### 1. The Literature of the Americas

In this unit, you will not only read a selection of literary works from the Western hemisphere, but you also will analyze literary concepts such as theme, tone, mood, and dramatic irony. You will explore fictional stories, drama, and poetry as well as nonfiction

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essays and famous United States historical documents. During your study of grammar, you will review the eight parts of speech and apply your knowledge of those as you compose summaries, multi-paragraph essays and an informal letter. You will use a wide variety of study skills to master the concepts covered in this unit.

## 2. The Literature of the Americas II

In Unit 1, you read selections from several writers in the Americas. You learned about literary techniques such as tone, theme, imagery, and stage direction. In Unit 2, you will continue reading short stories and poems written by authors from the Americas.

Selections in this unit include writings by authors from St. Lucia, Trinidad and Tobago, Jamaica, Puerto Rico, Brazil, Argentina, and Chile. The stories cover topics such as reconciliation, death, acceptance, anger, and relationships. There is a wealth of insight and emotion in the writings. As you read, you will learn new literary elements such as paradox, personification, and situational irony. You also will become familiar with additional techniques such as magical realism and repetition, which enable literature to engage an audience from beginning to end. In this unit, you will write a compare and contrast essay on a topic of your choice. You will select a topic, create a rough draft, revise, and edit your essay over the course of the unit. Additionally, you will review and apply your knowledge on the components of sentences and common sentence errors.

## 3. Adventures of Huckleberry Finn

Mark Twain's *Adventures of Huckleberry Finn* is the story of a free-thinking kid, Huck Finn, and a slave named Jim, both of whom choose to flee their oppressive lives. The two set out on a trip down the Mississippi River that is filled with adventures and experiences unique to the particular class of characters and setting of the mid-nineteenth century. The novel's title is sometimes extended to include *Tom Sawyer's Comrade* to indicate to readers that this is a companion novel to *The Adventures of Tom Sawyer*, told as a first-person narrative from Huck's point of view. Prior knowledge of *Tom Sawyer* is not required. In this unit, you will identify literary elements, analyze characters, use comprehension strategies to make connections and draw conclusions, and define unfamiliar vocabulary words. You also will create a multimedia presentation for Unit 3's portfolio assessment.

## 4. Europe I

Europe has endured many conflicts that have influenced its literature—world wars, the Holocaust, and the collapse of the Soviet Union are examples. Writers are among the first targets of totalitarian regimes. Aleksandr Solzhenitsyn, who was twice sent to Siberia, is one of many European authors who were exiled, imprisoned, or silenced. However, he refused to stop criticizing Russia's Communist regime, believing that "literature that is not the breath of contemporary society, that dares not transmit the pains and fears of that society, that does not warn in time against threatening moral and

social dangers—such literature does not deserve the name of literature; it is only a façade. Such literature loses the confidence of its own people, and its published works are used as wastepaper instead of being read.” In this unit, you will read, analyze, and interpret selections that express some of the hopes, disappointments, and fears of the writers and of the citizens of the European states, including W.H. Auden and Graham Greene. You will continue to develop your writing skills as you compose an expository essay.

Selections include writings such as the following:

- “from Ten Songs”, a poem by W. H. Auden, which looks at his perceptions of what was happening in Germany during the time of Hitler
- The Destructors, a story by Graham Greene, which offers an English man’s perspective on the effects of World War II

As you read, you will learn new literary terms, such as rhyme scheme and allusion. You will be introduced to different character types, such as round characters, flat characters, and stock characters. You also will write an expository essay—and other types of writing that you can add to your growing portfolio. Additionally, you will review and apply your knowledge of a variety of grammatical phrases, such as prepositional, appositive, participial, gerund, and infinitive.

### 5. Europe II

In this unit, you will continue to read selections that express some of the hopes, disappointments, and fears of the writers and of the citizens of the European states. Selections you will read include a fable, short stories, one short story adapted from a play, and poetry from European writers. As you read, you will learn literary devices used to create compelling stories or poems such as: allegory, author’s purpose, character development, dialogue, and hyperbole. You also will practice using various clauses and different kinds of sentence structures to enhance your writing. Additionally, you will create a personal narrative about a subject of your choice and have the opportunity to draft a couple of different business communications in the form of a letter of complaint and a letter of application.

### 6. Africa

The African continent includes more than 50 countries and more than 800 languages. The writers you will study in this unit, who come from various regions of Africa, faced the challenge of telling their stories in languages that honor their heritage while reaching a wide audience.

Most authors write in French and English, the languages spoken by European colonizers. But one, Kenyan author Ngugi wa Thiong’o, writes primarily in his native language, Gikuyu. You will read stories that reflect the authors’ analyses of life before and after colonization. They deal with subjects such as the griot storytelling tradition, the



clash of European and African cultures, and the pervasive effects of apartheid. Selections you will read include an epic poem, a first-person narrative, and several short stories.

As you read, you will learn about literary devices that writers use to create interesting stories and poems. These devices include personification, plot, tone, characterization, humor, theme, and setting. You also will practice using various verb forms and learn how to strengthen your writing through the use of vivid verbs. Additionally, you will learn elements of poetry such as sound devices, rhythm, meter, and figurative language; you also will explore various forms that poems can take. Finally, you will use the information you learned about poetry to create a poem.

### 7. The Importance of Being Earnest

In this unit, you will read and analyze *The Importance of Being Earnest*, a play in which the characters hold the pursuit of pleasure above all other goals. As you read, you will relate the play to the Victorian culture in which the playwright, Oscar Wilde, lived, as well as to the comedies of the Restoration era. You also will analyze characterization, symbolism, and irony in the play.

### 8. Middle East and South Asia I

The literature of the Middle East and South Asia—including Algeria, Armenia, Egypt, India, Iraq, Israel, Palestine, Syria, and Turkey—provides rich insight into a culture marked by diverse traditions, religions, and languages, as well as a long history of conflicts. Today the region grapples with both ancient and modern ways of life as people balance preserving tradition with adopting new attitudes and customs influenced by Western culture.

In this unit, you will read literature that investigates the values, perspectives, and everyday experiences of people in the Middle East and South Asia. You will explore traditional and contemporary cultural attitudes about family roles, marriage, gender, and religious devotion, as well as the conflicts that arise as people navigate old and new ways of doing things. As you read and analyze the short stories and poems in this unit, you will consider the cultural contexts of the texts and identify and analyze symbolism, humor, and sensory details. After learning about descriptive writing, you will write a descriptive portrait. Throughout the unit, you will continue to develop and practice strategies for understanding vocabulary. Grammar will focus on using pronouns correctly.

### 9. Middle East and South Asia II

In this unit, you'll continue your study of the literature of the Middle East and South Asia and continue to make comparisons between cultures while you come to appreciate the similarities among all people. Grammar instruction will focus on subject and verb



agreement in a number of different cases. Finally, you'll work on a research proposal to submit to your portfolio.

### 10. The Research Paper

In Unit 3, you prepared a research proposal that focused on some cultural aspect of one of the countries (Turkey, Armenia, Iraq, India, or Sri Lanka) that was the focus of that unit. You limited your topic and researched and evaluated sources. In Unit 4, you will learn the process of creating a research paper based on that proposal. You will cover the steps from prewriting to editing as you work to create a final draft. In addition, you will learn about properly using adverbs and adjectives and begin a review of common usage issues.

### 11. Nonfiction: Persuasion

In Unit 5, you will explore persuasive techniques used in nonfiction writing and create your own nonfiction persuasive speech. You'll work on using persuasive techniques to develop arguments and learn how to speak in a public forum. Your grammar focus will be capitalization, end marks, and commas.

### 12. East Asia and the Pacific Rim

In Unit 6, you will study literature from East Asia and the Pacific Rim, which includes such countries as Japan, China, Korea, Vietnam, Australia, and New Zealand. As you read, you will learn that the main theme of the literature from this region of the world is the region's relationship with the West. During this unit, you will compose a literary analysis that explores an author's purpose in a piece of literature of your choice. Finally, you'll study the use of italics, quotation marks, hyphens, and semicolons for your grammar review.

Common Core State Standards			
English/Language Arts			
<i>Reading: Literature</i>		<b>English 9 Unit Name</b>	<b>Lesson Name or Topic</b>
Key Ideas and Details			
RL.9-10.1	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	Growing Up; The Call of the Wild	Making Inferences While Reading; Analyzing Text; Developing Comprehension
RL.9-10.2	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.	The Call of the Wild	Defining Elements; Identifying Theme; Summarizing
RL.9-10.3	Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.	Growing Up; The Call of the Wild	Analyzing Character Development; Analyzing Conflict And How It Develops Plot; Understanding Characterization; Analyzing Character Motivation
Craft and Structure			
RL.9-10.4	Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).	Growing Up; The Forces of Nature	Reviewing Strategies For Learning New Vocabulary; Using Context Clues; Understanding Connotative And Denotative Meanings Of New Vocabulary; Understanding Effects Of Tone
RL.9-10.5	Analyze how an author's choices concerning how to structure a text, order events within it (e.g., parallel plots), and manipulate time (e.g., pacing, flashbacks) create such effects as mystery, tension, or surprise.	Growing Up; The Forces of Nature; The Call of the Wild	Analyzing Tone; Understanding The Relationship Between Word Choice And Voice; Understanding Structure
RL.9-10.6	Analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States, drawing on a wide reading of world literature.	Growing Up; The Call of the Wild	Understanding Point Of View; Making Inferences; Identifying Point Of View; Making Connections; Exploring Literature From Global Writers

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Integration of Knowledge and Ideas			
RL.9-10.7	Analyze the representation of a subject or a key scene in two different artistic mediums, including what is emphasized or absent in each treatment (e.g., Auden’s “Musée des Beaux Arts” and Breughel’s Landscape with the Fall of Icarus).	The Call of the Wild; Other Worlds; Crossing Borders	Comparing the Development of Related Themes in Different Mediums; Comparing the Ways in Which Works from Different Genres Address Similar Themes
RL.9-10.9	Analyze how an author draws on and transforms source material in a specific work (e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare).	Growing Up; The Call of the Wild; Other Worlds; Crossing Borders	Comparing Works By Different Authors That Address Related Topics
Range of Reading and Level of Text Complexity			
RL.9-10.10	By the end of grades 9–10 , read and comprehend literature, including stories, dramas, and poems, in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range.	Growing Up	Reading And Analyzing Various Genres
<i>Reading: Informational Text</i>			
Key Ideas and Details			
RI.9-10.1	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	Growing Up; The Forces of Nature; Other Worlds	Making Inferences While Reading; Analyzing Text; Developing Comprehension
RI.9-10.2	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.	The Forces of Nature; The Call of the Wild; Other Worlds	Defining Elements; Identifying Theme; Summarizing
RI.9-10.3	Analyze how the 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.	The Forces of Nature; The Call of the Wild	Understanding How An Author Develops A Theme; Identifying Techniques And Devices An Author Uses To Develop Theme; Understanding How Chronological Order Is Used To Organize Events
Craft and Structure			

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RI.9-10.4	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).	Growing Up; The Forces of Nature	Reviewing Strategies For Learning New Vocabulary; Using Context Clues; Understanding Connotative And Denotative Meanings Of New Vocabulary; Understanding Effects Of Tone
RI.9-10.5	Analyze in detail how an author's ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text (e.g., a section or chapter).	The Forces of Nature; The Call of the Wild; Crossing Borders	Using Details To Understand Author's Point Of View; Differentiating Between Fact And Opinion
RI.9-10.6	Determine an author's point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.	Growing Up; The Forces of Nature; Romeo and Juliet	Using Details To Understand Author's Point Of View; Differentiating Between Fact And Opinion
<b>Integration of Knowledge and Ideas</b>			
RI.9-10.7	Analyze various accounts of a 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.	The Forces of Nature; The Call of the Wild	Using Text Features And Graphical Features To Analyze Information; Comparing How The Same Subject Is Treated In A News Article And A Feature Article; Enriching Reading By Visualizing
RI.9-10.8	Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.	The Dark Side; What Has Value?	Understanding Unreliable Narrator; Differentiating Between Fact And Opinion
RI.9-10.9	Analyze seminal U.S. documents of historical and literary significance (e.g., Washington's Farewell Address, the Gettysburg Address, Roosevelt's Four Freedoms speech, King's "Letter from Birmingham Jail"), including how they address related themes and concepts.	Nonfiction: Persuasion	To be addressed by teacher
<b>Range of Reading and Level of Text Complexity</b>			
RI.9-10.10	By the end of grades 9–10, read and comprehend literary nonfiction in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of	The Forces of Nature; The Call of the Wild	Reading And Analyzing Various Works

	the range.		
<i>Writing</i>			
Text Types and Purposes			
W.9-10.1	<p>Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence:</p> <ul style="list-style-type: none"> <li>--Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence.</li> <li>--Develop claim(s) and counterclaims 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.</li> <li>--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.</li> <li>--Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</li> <li>--Provide a concluding statement or section that follows from and supports the argument presented.</li> </ul>	<p>The Forces of Nature; Romeo and Juliet</p>	<p>Writing A Persuasive Essay; Reviewing Key Traits Of Effective Writing</p>

W.9-10.2	<p>Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content:</p> <ul style="list-style-type: none"> <li>--Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</li> <li>--Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</li> <li>--Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</li> <li>--Use precise language and domain-specific vocabulary to manage the complexity of the topic.</li> <li>--Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</li> <li>--Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</li> </ul>	<p>Growing Up; The Forces of Nature; Other Worlds</p>	<p>Reviewing Key Traits Of Effective Writing; Using Specific Nouns And Verbs In Writing; Using Vocabulary Words Correctly; Applying Sentence Variation In Writing; Writing An Informational Essay; Using Transitional Phrases To Improve Organization</p>
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W.9-10.3	<p>Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences:</p> <ul style="list-style-type: none"> <li>--Engage and orient the reader by setting out a problem, situation, or observation, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events.</li> <li>--Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.</li> <li>--Use a variety of techniques to sequence events so that they build on one another to create a coherent whole.</li> <li>--Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters.</li> <li>--Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.</li> </ul>	Growing Up; The Forces of Nature	Reviewing Key Traits Of Effective Writing; Writing A Narrative; Using Specific Nouns And Verbs In Writing; Using Vocabulary Words Correctly; Applying Sentence Variation In Writing; Applying Narrative Techniques; Using Transitional Phrases To Improve Organization
<b>Production and Distribution of Writing</b>			
W.9-10.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)	Growing Up; The Forces of Nature; Other Worlds	
W.9-10.5	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.	Growing Up	
W.9-10.6	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.	Growing Up; The Research Paper	
<b>Research to Build and Present Knowledge</b>			

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W.9-10.7	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.	Crossing Borders; The Research Paper	Conducting Preliminary Research; Identifying Primary and Secondary Sources; Critically Evaluating Sources
W.9-10.8	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 ideas, avoiding plagiarism and following a standard format for citation.	The Forces of Nature; Crossing Borders; The Research Paper	Synthesizing Ideas and Details; Using Information to Begin to Formulate Research Questions
W.9-10.9	Draw evidence from literary or informational texts to support analysis, reflection, and research: --Apply grades 9–10 Reading standards to literature (e.g., “Analyze how an author draws on and transforms source material in a specific work [e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare]”). --Apply grades 9–10 Reading standards to literary nonfiction (e.g., “Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning”).	Other Worlds; Crossing Borders; The Research Paper	Integrating Original Ideas with Information from Outside Sources;
<b>Range of Writing</b>			
W.9-10.10	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 tasks, purposes, and audiences.	The Forces of Nature; The Research Paper	Composing Original Work Regularly to Master a Variety of Genres
<b><i>Speaking and Listening</i></b>			
<b>Comprehension and Collaboration</b>			



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SL.9-10.1	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively:</p> <ul style="list-style-type: none"> <li>--Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</li> <li>--Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.</li> <li>--Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.</li> <li>--Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.</li> </ul>	Nonfiction: Persuasion	To be addressed by teacher
SL.9-10.2	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.	Nonfiction: Persuasion	To be addressed by teacher
SL.9-10.3	Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.	Romeo and Juliet	Identifying and Analyzing Point of View
<b>Presentation of Knowledge and Ideas</b>			
SL.9-10.4	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.	Growing Up	Using Prewriting Strategies to Organize Ideas

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SL.9-10.5	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.	The Research Paper	Developing a Multimedia Presentation Based on a Research Project
SL.9-10.6	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.	To be addressed by teacher	To be addressed by teacher
<b>Language</b>			
<b>Conventions of Standard English</b>			
L.9-10.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking: --Use parallel structure. --Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations.	Growing Up	Learning Elements of Grammar and Usage, Focusing on Parts of Speech; Using Nouns and Pronouns Correctly; Understanding Characteristics of Action Verbs
L.9-10.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing: --Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses. --Use a colon to introduce a list or quotation. --Spell correctly.	Growing Up	Learning Elements of Spelling, Capitalization, and Punctuation
<b>Knowledge of Language</b>			
L.9-10.3	Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening: --Write and edit work so that it conforms to the guidelines in a style manual (e.g., MLA Handbook, Turabian's Manual for Writers) appropriate for the discipline and writing type.	The Forces of Nature; Other Worlds; Crossing Borders	Understanding the Importance of Following Standard Conventions in Academic Writing
<b>Vocabulary Acquisition and Use</b>			

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L.9-10.4	<p>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9–10 reading and content, choosing flexibly from a range of strategies: Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word’s position or function in a sentence) as a clue to the meaning of a word or phrase. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., analyze, analysis, analytical; advocate, advocacy). Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).</p>	Growing Up; The Forces of Nature	Learning Suffixes as a Strategy for Understanding Unfamiliar Vocabulary; Using Context Clues to Understand New Vocabulary
L.9-10.5	<p>Demonstrate understanding of figurative language, word relationships, and nuances in word meanings:          --Interpret figures of speech (e.g., euphemism, oxymoron) in context and analyze their role in the text.          --Analyze nuances in the meaning of words with similar denotations.</p>	Growing Up; The Forces of Nature; Other Worlds; Crossing Borders	Understanding the Use of Figurative Language; Identifying and Evaluating Figurative Language; Understanding the Use of Metaphor
L.9-10.6	<p>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.</p>	Growing Up	Using Vocabulary Words Correctly

Common Core State Standards			
English/Language Arts			
<i>Reading: Literature</i>		<i>English 10 Unit Name</i>	<i>Lesson Name or Topic</i>
<b>Key Ideas and Details</b>			
RL.9-10.1	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	The Literature of the Americas; Adventures of Huckleberry Finn; Europe I	Identifying Metaphors; Making Inferences
RL.9-10.2	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.	The Literature of the Americas I	Analyzing Theme in a Literary Work; Comparing Themes in Literature
RL.9-10.3	Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.	The Literature of the Americas	Analyzing Characters; Identifying How Dialogue Reveals Information About a Character; Examining How an Author Develops a Character
<b>Craft and Structure</b>			
RL.9-10.4	Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).	The Literature of the Americas	Analyzing How an Author Creates Mood; Identifying Patterns of Imagery; Exploring Word Origins; Identifying a Paradox and Explaining its Meaning
RL.9-10.5	Analyze how an author's choices concerning how to structure a text, order events within it (e.g., parallel plots), and manipulate time (e.g., pacing, flashbacks) create such effects as mystery, tension, or surprise.	The Literature of the Americas	Analyzing How an Author Creates Mood

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RL.9-10.6	Analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States, drawing on a wide reading of world literature.	The Literature of the Americas II; Adventures of Huckleberry Finn	Making Cultural Comparisons; Identifying Point of View; Applying the Definition of Regionalism; Analyzing the Use of Dialect; Analyzing the Attitudes on Race Prevalent When a Work of Literature Was Published
<b>Integration of Knowledge and Ideas</b>			
RL.9-10.7	Analyze the representation of a subject or a key scene in two different artistic mediums, including what is emphasized or absent in each treatment (e.g., Auden’s “Musée des Beaux Arts” and Breughel’s Landscape with the Fall of Icarus).	Adventures of Huckleberry Finn; Europe II	Analyzing Text; Analyzing Illustrations
RL.9-10.9	Analyze how an author draws on and transforms source material in a specific work (e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare).	Adventures of Huckleberry Finn; Europe I; East Asia and the Pacific Rim	Identifying Examples of Historical Background in a Literary Work
<b>Range of Reading and Level of Text Complexity</b>			
RL.9-10.10	By the end of grades 9–10 , read and comprehend literature, including stories, dramas, and poems, in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range.	The Literature of the Americas	Reading a Variety of Literary Works; Identifying Main Idea; Producing an Objective Summary; Analyzing the Development of Theme
<b><i>Reading: Informational Text</i></b>			
<b>Key Ideas and Details</b>			
RI.9-10.1	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	The Literature of the Americas I; Europe II; Nonfiction: Persuasion	Interpreting Author's Purpose; Identifying Relevant Details; Making Inferences

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RI.9-10.2	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.	The Literature of the Americas I; Europe II	Identifying Main Idea; Producing an Objective Summary
RI.9-10.3	Analyze how the 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.	Nonfiction: Persuasion	Analyzing a Newspaper Article
<b>Craft and Structure</b>			
RI.9-10.4	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).	The Literature of the Americas; Adventures of Huckleberry Finn	Exploring Word Origins; Analyzing the Effect of Word Choice; Defining New Vocabulary; Explaining the Difference Between Denotation and Connotation
RI.9-10.5	Analyze in detail how an author's ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text (e.g., a section or chapter).	Nonfiction: Persuasion	Analyzing the Elements of Persuasive Writing; Analyzing Informational Text; Distinguishing Between Fact and Opinion; Analyzing a Newspaper Article
RI.9-10.6	Determine an author's point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.	Adventures of Huckleberry Finn; Nonfiction: Persuasion; East Asia and the Pacific Rim	Identifying Point of View; Determining the Author's Purpose; Analyzing Persuasive Techniques
<b>Integration of Knowledge and Ideas</b>			
RI.9-10.7	Analyze various accounts of a 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.	Nonfiction: Persuasion	To be addressed by teacher

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RI.9-10.8	Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.	Europe II	Analyzing the Elements of Persuasive Writing; Distinguishing Between Fact and Opinion
RI.9-10.9	Analyze seminal U.S. documents of historical and literary significance (e.g., Washington’s Farewell Address, the Gettysburg Address, Roosevelt’s Four Freedoms speech, King’s “Letter from Birmingham Jail”), including how they address related themes and concepts.	The Literature of the Americas I; Adventures of Huckleberry Finn; Europe II	Analyzing Historically Significant Documents
<b>Range of Reading and Level of Text Complexity</b>			
RI.9-10.10	By the end of grades 9–10, read and comprehend literary nonfiction in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range.	The Literature of the Americas I; Europe I	Identifying Main Idea; Analyzing Nonfiction Literary Works; Creating Writing Samples that Demonstrate an Understanding of Various Literary Works
<b>Writing</b>			
<b>Text Types and Purposes</b>			
W.9-10.1	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence: --Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence. --Develop claim(s) and counterclaims 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. --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. --Establish and maintain a formal style and objective tone	Nonfiction: Persuasion	Distinguishing Between Fact and Opinion; Analyzing the Elements of Persuasive Writing; Developing Counterarguments for Persuasive Writing; Developing Arguments; Drafting a Persuasive Speech Based on Reasoned Arguments

<p>while attending to the norms and conventions of the discipline in which they are writing.          --Provide a concluding statement or section that follows from and supports the argument presented.</p>		
<p>Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content:          --Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.          --Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.          --Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.          --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 and conventions of the discipline in which they are writing.          --Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p>	<p>Europe I; The Research Paper</p>	<p>Organizing an Expository Essay; Synthesizing Information; Composing an Introduction; Analyzing Informational Text for Development and Refinement of Claims and Ideas; Drafting a Body and Conclusion</p>

W.9-10.2



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W.9-10.3	<p>Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences:</p> <ul style="list-style-type: none"> <li>--Engage and orient the reader by setting out a problem, situation, or observation, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events.</li> <li>--Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.</li> <li>--Use a variety of techniques to sequence events so that they build on one another to create a coherent whole.</li> <li>--Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters.</li> <li>--Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.</li> </ul>	Europe II	Selecting a Topic for a Personal Narrative; Writing a Personal Narrative
<b>Production and Distribution of Writing</b>			
W.9-10.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)	Literature of the Americas II; Adventures of Huckleberry Finn; Europe I	Identifying an Audience for a Writing Piece; Composing an Essay
W.9-10.5	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.	Literature of the Americas II; Adventures of Huckleberry Finn; Europe I	Revising an Essay for Varied Sentence Length; Editing an Essay to Produce a Final Draft
W.9-10.6	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.	Adventures of Huckleberry Finn; Europe; Middle East and South Asia II	Composing a Multimedia Project; Writing a Complaint E-mail Following Conventions
<b>Research to Build and Present Knowledge</b>			

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W.9-10.7	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.	Europe I; The Importance of Being Earnest	Organizing Information for a Research Paper; Synthesizing Research on a Given Topic; Synthesizing Information from Various Sources;
W.9-10.8	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 ideas, avoiding plagiarism and following a standard format for citation.	The Importance of Being Earnest; Middle East and South Asia II; The Research Paper	Developing Sources to Use in a Research Proposal; Researching and Evaluating Online and Print Sources; Summarizing Information in Note Form to Avoid Plagiarism; Synthesizing Research on a Given Topic
W.9-10.9	Draw evidence from literary or informational texts to support analysis, reflection, and research: --Apply grades 9–10 Reading standards to literature (e.g., “Analyze how an author draws on and transforms source material in a specific work [e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare]”). --Apply grades 9–10 Reading standards to literary nonfiction (e.g., “Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning”).	Europe I; Middle East and South Asia II; The Research Paper	Analyzing Informational Texts; Synthesizing Research
<b>Range of Writing</b>			
W.9-10.10	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 tasks, purposes, and audiences.	Europe II; Africa	Applying Strategies for Timed Writing
<b>Speaking and Listening</b>			
<b>Comprehension and Collaboration</b>			

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SL.9-10.1	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively:</p> <ul style="list-style-type: none"> <li>--Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</li> <li>--Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.</li> <li>--Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.</li> <li>--Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.</li> </ul>	The Research Paper	To be addressed by teacher
SL.9-10.2	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.	The Research Paper	To be addressed by teacher
SL.9-10.3	Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.	Nonfiction: Persuasion; East Asia and the Pacific Rim	Applying Critical Listening Skills; Developing Counterarguments; Identifying Point of View
<b>Presentation of Knowledge and Ideas</b>			

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SL.9-10.4	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.	Adventures of Huckleberry Finn; Nonfiction: Persuasion; East Asia and the Pacific Rim	Incorporating the Use of Imagery When Giving a Speech; Analyzing the Impact of Word Choice on Tone and Meaning; Making an Audio Recording of an Oral Presentation; Using a Rubric to Present a Speech
SL.9-10.5	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.	Adventures of Huckleberry Finn; Nonfiction: Persuasion	Finding Audiovisual Aids for a Speech; Composing a Multimedia Presentation
SL.9-10.6	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.	Nonfiction: Persuasion	Analyzing the Impact of Word Choice on Tone and Meaning
<b>Language</b>			
<b>Conventions of Standard English</b>			
L.9-10.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking: --Use parallel structure. --Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations.	The Literature of the Americas I	Identifying Various Parts of Speech; Identifying and Using Verbs, Nouns, and Pronouns Correctly
L.9-10.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing: --Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses. --Use a colon to introduce a list or quotation. --Spell correctly.	The Literature of the Americas II; Europe I	Identifying the Components of a Sentence; Identifying Common Sentence Errors; Identifying and Revising Sentence Fragments; Applying Knowledge of Developing a Correct Sentence Base
<b>Knowledge of Language</b>			

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L.9-10.3	<p>Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening:            --Write and edit work so that it conforms to the guidelines in a style manual (e.g., MLA Handbook, Turabian's Manual for Writers) appropriate for the discipline and writing type.</p>	The Literature of the Americas II; The Research Paper; Nonfiction: Persuasion	Listing Different Style Guides and Their Uses; Following a Variety of Style Guides
<b>Vocabulary Acquisition and Use</b>			
L.9-10.4	<p>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9–10 reading and content, choosing flexibly from a range of strategies:            Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.            Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., analyze, analysis, analytical; advocate, advocacy).            Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology.            Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).</p>	The Literature of the Americas; Adventures of Huckleberry Finn	Exploring Word Origins; Defining Idioms, Colloquialisms, Slang, and Jargon; Defining Vocabulary Words; Identifying Words in Context
L.9-10.5	<p>Demonstrate understanding of figurative language, word relationships, and nuances in word meanings:            --Interpret figures of speech (e.g., euphemism, oxymoron) in context and analyze their role in the text.            --Analyze nuances in the meaning of words with similar denotations.</p>	The Literature of the Americas; Adventures of Huckleberry Finn	Analyzing Symbolism; Identifying Patterns of Imagery; Identifying and Interpreting Metaphors; Analyzing Irony
L.9-10.6	<p>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.</p>	The Research Paper	To be addressed by teacher

## Course: English 11

### Textbooks:

- **American Short Stories, Perfection Learning Corporation, 2010**
- **A Multicultural Reader, Collection 2, Perfection Learning Corporation, 2008**
- **Writing with Power (Green), Perfection Learning Corporation, 2012**

**Students focus on the literary movements that comprise American literature, and trace the chronology of national literature from the early American and colonial period through the contemporary period, in English 11. Students read selections from the Native American oral tradition, seminal historical documents, and essays, in addition to fiction, nonfiction, poetry, and drama. The survey of American authors includes Mark Twain, Ralph Ellison, and Julia Alvarez. Students continue to strengthen their critical reading, literary analysis, and research skills through the use of visual organizers, note-taking strategies, and higher-level applications of skills.**

### Units:

#### 1. Early American and Colonial Literature

In Unit 1, Early American and Colonial Literature, you will examine the concept of a national literature and read different genres that comprise the national literary heritage of the United States. You will read and explore the ideas and writing of the New World's earliest inhabitants, visitors, and settlers. You also will analyze strategies for persuasive writing as well as the denotative and connotative meanings of vocabulary words in context. Additionally, this unit will give you practice in composing timed writings.

#### 2. American Romanticism

In Unit 2, American Romanticism (1820s–1850s), you will read and analyze the short stories of Nathaniel Hawthorne and Edgar Allan Poe as well as the poetry of Walt Whitman. You also will study the subgenre of Transcendentalism. Henry David Thoreau's "Walden" will model the descriptive writing you will compose for your first portfolio assessment.

#### 3. The Night Thoreau Spent in Jail

In Unit 3, you will read and analyze an American drama. *The Night Thoreau Spent in Jail* is a play in two acts written in 1970 by Jerome Lawrence and Robert E. Lee. The play is composed of shifting scenes from the real and imagined life of American writer and philosopher Henry David Thoreau (1817–1862). Arrested on July 23, 1846, for failure to pay his taxes, Henry David Thoreau spent one night in jail. The play dramatizes that night, intercutting scenes in which Henry interacts with his cellmate with flashbacks to events from the years leading up to the date of his arrest.

For the second portfolio assessment, you will compose a dramatic scene.

## 4. Realism and Regionalism

In Unit 4, Realism and Regionalism (1860–1914), you will read, analyze, and interpret the short stories of American Realist and Regionalist authors, as well as the poetry of Emily Dickinson. As you examine of this literature, you will consider dialect, flashback, characterization, figurative language, and other devices used by Realist authors. During this unit, you will gain practice correctly using apostrophes and possessive pronouns. For your third portfolio assessment, you will select an American short story from Unit 2 or 4 and compose an alternate ending in the style of the original author.

## 5. Voices of Modernism (1920s–1940s)

In this unit, you will study the modernism movement, which occurred from the 1920s to the 1940s. You will read and analyze the short stories of authors such as John Steinbeck and F. Scott Fitzgerald and the poetry of authors such as Robert Frost. You also will practice identifying and using different types of verb forms and clauses, as well as independent and subordinate clauses. For your portfolio assessment, you will apply your research and writing capabilities to compose a literary analysis showcasing your analytical and synthesizing skills.

## 6. Post War Voices Emerge (1950s–1960s)

In this unit, you will enter the tumultuous times of post-World War II, during which time many people fought for change and rights were being demanded. This time in history saw the emergence of literature that voiced people’s discontent with the mundane life of traditionalism and a desire for a break in conventional living. In this unit, you will read and analyze the short stories of Kurt Vonnegut and John Updike as well as Martin Luther King Jr.’s “I Have a Dream” speech and poetry by writers of the Beat Generation. You also will identify elements of adjectival clauses. Your portfolio assessment for this unit will be a comparison-and-contrast essay in which you analyze the work of two authors.

## 7. The Great Gatsby

In this unit, you will examine the narrative structure of *The Great Gatsby*, a novel that depicts life among the rich during the Roaring Twenties in New York. As you read, you will analyze point of view as well as how such literary devices as symbols and allusions enhance the meaning of the novel. For your portfolio project, you will write a self-improvement plan for the narrator of the novel.

## 8. Contemporary Postmodernism

In this unit, you will study a variety of voices from contemporary postmodernism movement. The fight against racial and ethnic injustices took center stage during this literary movement that took place from the 1960s to the 1980s. You will read poetry and prose from authors of several different backgrounds whose writings contributed to the mosaic of the American culture. In this unit, you also will practice identifying the principal parts of verbs and using the six verb tenses as well as different voices and moods of verbs. For your portfolio assignment, you will compose a memoir.

## 9. The Research Paper

In Unit 10, you will have the opportunity to become an authority on a subject by creating your own research report. Working through the writing process, you will select a topic, evaluate sources and conduct research, cite sources properly, draft a report, and revise and edit the report before publishing it and submitting it for your portfolio. You also will read and analyze several nonfiction essays by writers of diverse backgrounds. In addition, you will continue to learn about verb forms and tenses.

## Course: English 12

### Textbooks:

- **British Literature, Perfection Learning Corporation, 2010**
- **Writing with Power, Perfection Learning Corporation, 2012**
- **Frankenstein, Dover Publications, 1994**

**Students study classical and contemporary British literature from the Anglo-Saxon period to the modern era in English 12. They examine how the historical, social, and cultural contexts of each period influence writers. Particular attention is given to the form and function of different types of literature, including epic poetry, allegory, poetry, fiction, nonfiction, and drama. The survey of British literature includes excerpts from Geoffrey Chaucer, William Shakespeare, and Virginia Woolf. Students write creative and analytical compositions and participate in collaborative discussions to refine their writing products.**

## 1. The Anglo-Saxon Period: 449–1066

In this unit, you will read the earliest works of English literature. More than a millennium old, many of these works were passed down orally for centuries before they were written down. Anglo-Saxon literature includes lyric poems that express emotion, as well as the earliest epic poem of the English language, Beowulf, which presents the adventures of a hero who is larger than life. Additionally, you will read poems from The Exeter Book, a collection of Anglo-Saxon poetry preserved in manuscript form and



dating back to the middle of the tenth century. Finally, you will use the writing process to compose a description based on a scene from Beowulf.

## 2. The Middle Ages: 1066–1485

In this unit, you will read literary works composed during the medieval era. These include Chaucer's narrative poem *The Canterbury Tales*, which presents various figures of medieval English society and the tales they tell while traveling on a long journey, and *Sir Gawain and the Green Knight*, a narrative poem based on the legends of King Arthur and his court. As you read, you will learn to analyze such literary elements as character, the narrator's voice and perspective, and tone. You also will learn about and examine the historical, social, and cultural climate of the Middle Ages by identifying causes and effects. Finally, you will use the writing process to write an allegory, an extended metaphor in the form of a short story.

## 3. Macbeth

In Unit 3, you will read Shakespeare's tragic tale of the rise and fall of Macbeth, a fierce and loyal Scottish warrior is tempted by the prophecies of several witches and by his own ambitions to become king. Macbeth and his wife alternately collaborate and contend over the proper approach to achieve their ambitions. Macbeth, the tragic hero, discovers too late the dangers of unchecked ambition. As you read, you will analyze and interpret the dramatic structure of *Macbeth*, define words in context, and compose a persuasive essay.

## 4. The Renaissance: 1485–1660

In this unit, you will read literary works composed during the English Renaissance. These include a variety of poetic genres, including sonnets and lyric, pastoral, metaphysical, and epic poetry. As you read, you will learn to analyze such poetic elements as speaker, figurative language, and tone. You also will learn about and examine the historical, social, and cultural climate of the Renaissance by making generalizations about that period. Finally, you will use the writing process to write an expository essay on a subject of your choice.

## 5. The Restoration and the Enlightenment: 1660–1798

In this unit, you will read literary works composed during the Restoration and the Enlightenment periods. These include a variety of fiction, nonfiction, and poetic genres including diaries, mock epics, satires, and elegies. As you read, you will learn to analyze elements such as point of view, irony, and imagery. You also will learn about and examine the historical, social, and cultural climate of the Restoration and the Enlightenment by classifying information, or arranging ideas into fitting categories. Finally, you will use the writing process to write a poem using a specified form.

## 6. The Romantic Period: 1798–1832

This unit explores element of dialect poetry and lyrical poetry during the Romantic period, and the Romantic sensibility expressed in the poems of the time.

## 7. Frankenstein

Frankenstein is the story of a young man, Victor Frankenstein, who becomes obsessed with studying anatomy and determined to understand how life is created. Passionate about science and dedicated to his dream, he creates a living being; however, his success dramatically affects his life and the lives of his family and friends. The details of Victor's life are shared through letters from Robert Walton, an English explorer on an expedition to the North Pole, to his sister Margaret Seville in England. Robert learns Victor's tragic tale when he rescues Victor, who is traveling by himself in the Arctic.

In this unit, you will identify literary elements, analyze characters, use comprehension strategies to make connections and draw conclusions, and define unfamiliar vocabulary words.

## 8. Writing a Research Paper

The unit guides student through the process of developing a research paper. Students are asked to create a multimedia presentation based on their paper and learn to interpret and implement feedback from peers and teacher.

## 9. The Victorian Age (1832–1901)

The unit explores elements, genres, and structure of Victorian poetry.

## 10. The Modern Era (1901–Present)

This unit explores the historical, social, and cultural context of the twentieth century, connecting it to the literary works of the time. You will read and analyze a variety of selections, including short stories, poems, and essays. You also will develop a literary analysis based on an aspect of the modern era.

Common Core State Standards English/Language Arts			
<i>Reading: Literature</i>		<b>English 11 Unit Name</b>	<b>Lesson Name or Topic</b>
<b>Key Ideas and Details</b>			
RL.11-12.1	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.	American Romanticism; The Night Thoreau Spent in Jail; Realism and Regionalism	Reading and Analyzing Text Thoroughly; Paraphrasing a Variety of Texts; Describing How a Piece of Text Illustrates a Particular Viewpoint
RL.11-12.2	Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.	Early American and Colonial Literature; American Romanticism	Reading, Analyzing, and Interpreting Text; Analyzing the Audience of Text; Defining the Author's Purposes for Writing
RL.11-12.3	Analyze the impact of the author's choices regarding how to develop and relate elements of a story or drama (e.g., where a story is set, how the action is ordered, how the characters are introduced and developed).	Early American and Colonial Literature; American Romanticism	Defining the Author's Purposes for Writing; Evaluating Whether Style and Content Match the Author's Purpose; Evaluating the Role Setting Plays in Literature
<b>Craft and Structure</b>			
RL.11-12.4	Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful. (Include Shakespeare as well as other authors.)	Early American and Colonial Literature; American Romanticism; The Night Thoreau Spent in Jail	Differentiating Between Denotation and Connotation; Defining and Determining the Connotative Meaning of Vocabulary Words

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RL.11-12.5	Analyze how an author's choices concerning how to structure specific parts of a text (e.g., the choice of where to begin or end a story, the choice to provide a comedic or tragic resolution) contribute to its overall structure and meaning as well as its aesthetic impact.	Early American and Colonial Literature; American Romanticism	Defining the Author's Purposes for Writing; Evaluating Whether Style and Content Match the Author's Purpose; Describing How Setting Contributes to the Author's Intended Effect
RL.11-12.6	Analyze a case in which grasping a point of view requires distinguishing what is directly stated in a text from what is really meant (e.g., satire, sarcasm, irony, or understatement).	Early American and Colonial Literature; American Romanticism	Differentiating Between Denotation and Connotation; Defining and Determining the Denotations and Connotations of Vocabulary Words
<b>Integration of Knowledge and Ideas</b>			
RL.11-12.7	Analyze multiple interpretations of a 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.)	Early American and Colonial Literature; American Romanticism; The Night Thoreau Spent in Jail	Comparing and Contrasting an Event Portrayed in a Play to the Original Event
RL.11-12.9	Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics.	Early American and Colonial Literature	Identifying the Characteristics of Early American Literature; Describing the Concerns and Ideas of Early American Writers; Comparing Early American Literature to Contemporary American Literature

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Range of Reading and Level of Text Complexity			
RL.11-12.10	By the end of grade 12, read and comprehend literature, including stories, dramas, and poems, in the grades 11–12 text complexity band proficiently, with scaffolding as needed at the high end of the range.	Early American and Colonial Literature; American Romanticism	Reading and Analyzing Literature; Paraphrasing a Variety of Texts
<i>Reading: Informational Text</i>			
Key Ideas and Details			
RI.11-12.1	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.	Early American and Colonial Literature; The Night Thoreau Spent in Jail; The Great Gatsby	Reading, Analyzing, and Interpreting Text; Determining the Denotative and Connotative Meanings of Words; Defining Direct and Indirect Characterization
RI.11-12.2	Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text.	Early American and Colonial Literature; The Night Thoreau Spent in Jail	Reading, Analyzing, and Interpreting Text; Defining Purposes for Writing; Summarizing Text
RI.11-12.3	Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.	Early American and Colonial Literature; American Romanticism	Reading, Analyzing, and Interpreting Text;
Craft and Structure			

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RI.11-12.4	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how Madison defines faction in Federalist No. 10).	Early American and Colonial Literature; American Romanticism; Contemporary Postmodernism	Comparing Denotative and Connotative Meanings of Words; Evaluating Denotative and Connotative Meanings in Descriptive Writing; Defining Vocabulary Words to Enhance Understanding of Text
RI.11-12.5	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.	Early American and Colonial Literature; American Romanticism	Reading, Analyzing, and Interpreting Text; Identifying What Elements Make Persuasive Writing Effective
RI.11-12.6	Determine an author's point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness or beauty of the text.	Early American and Colonial Literature	Describing Persuasive Techniques; Analyzing Persuasive Arguments; Defining Vocabulary Words In Order to Understand a Persuasive Argument; Identifying What Elements Make Persuasive Writing Effective
<b>Integration of Knowledge and Ideas</b>			
RI.11-12.7	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 address a question or solve a problem.	Early American and Colonial Literature; The Great Gatsby	Reading, Analyzing, and Interpreting Text; Evaluating Information from Primary Sources

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RI.11-12.8	Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning (e.g., in U.S. Supreme Court majority opinions and dissents) and the premises, purposes, and arguments in works of public advocacy (e.g., The Federalist, presidential addresses).	Early American and Colonial Literature; The Great Gatsby	Reading, Analyzing, and Interpreting Text; Describing the Concerns and Ideas of Early American Writers; Analyzing the Declaration of Independence
RI.11-12.9	Analyze seventeenth-, eighteenth-, and nineteenth-century foundational U.S. documents of historical and literary significance (including The Declaration of Independence, the Preamble to the Constitution, the Bill of Rights, and Lincoln’s Second Inaugural Address) for their themes, purposes, and rhetorical features.	Early American and Colonial Literature; The Great Gatsby	Reading, Analyzing, and Interpreting Text; Describing the Concerns and Ideas of Early American Writers; Analyzing the Declaration of Independence
<b>Range of Reading and Level of Text Complexity</b>			
RI.11-12.10	By the end of grade 12, read and comprehend literary nonfiction in the grades 11–12 text complexity band proficiently, with scaffolding as needed at the high end of the range.	The Night Thoreau Spent in Jail; Realism and Regionalism; Semester Review and Exam; The Great Gatsby	Reading, Analyzing, and Interpreting Text; Assessing Understanding of Literature, Vocabulary, Grammar, and Writing
<i>Writing</i>			
<b>Text Types and Purposes</b>			

W.11-12.1	<p>Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence:</p> <ul style="list-style-type: none"> <li>--Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence.</li> <li>--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.</li> <li>--Use words, phrases, and clauses as well as varied syntax 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.</li> <li>--Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</li> <li>--Provide a concluding statement or section that follows from and supports the argument presented.</li> </ul>	<p>Voices of Modernism (1920s-1940s); Post War Voices Emerge (1950s-1960s)</p>	<p>Identifying Techniques for Literary Analysis; Identifying Elements of Persuasion; Reading, Analyzing, and Interpreting a Persuasive Speech</p>
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W.11-12.2	<p>Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content:</p> <ul style="list-style-type: none"> <li>--Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</li> <li>--Develop 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.</li> <li>--Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</li> <li>--Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.</li> <li>--Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</li> <li>--Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</li> </ul>	<p>American Romanticism; Post War Voices Emerge (1950s-1960s)</p>	<p>Analyzing Descriptive Writing Styles; Composing a Descriptive Essay</p>
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W.11-12.3	<p>Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences:</p> <ul style="list-style-type: none"> <li>--Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events.</li> <li>--Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.</li> <li>--Use a variety of techniques to sequence events so that they build on one another to create a coherent whole and build toward a particular tone and outcome (e.g., a sense of mystery, suspense, growth, or resolution).</li> <li>--Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters.</li> <li>--Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.</li> </ul>	<p>The Night Thoreau Spent in Jail; Realism and Regionalism; Contemporary Postmodernism</p>	<p>Composing an Alternate Ending to a Story and Assessing it Using an Evaluation Checklist; Revising a Memoir Using an Evaluation Checklist</p>
<b>Production and Distribution of Writing</b>			
W.11-12.4	<p>Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)</p>	<p>American Romanticism; Voices of Modernism (1920s-1940s)</p>	<p>Identifying a Topic and Audience for a Descriptive Essay; Identifying Prewriting Strategies and Techniques for Literary Analysis; Identifying the Elements of a Literary Analysis; Developing the First Draft of a Literary Analysis</p>

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W.11-12.5	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.	Early American and Colonial Literature; American Romanticism	Identifying and Assessing Strategies for Timed Writing
W.11-12.6	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.	The Research Paper	To be addressed by teacher
<b>Research to Build and Present Knowledge</b>			
W.11-12.7	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.	Early American and Colonial Literature; Realism and Regionalism; The Research The Research Paper	Describing How to Begin a Research Report; Choosing a Subject for a Research Report; Developing Research Questions; Synthesizing Information from Different Sources
W.11-12.8	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.	Early American and Colonial Literature; American Romanticism; Voices of Modernism (1920s-1940s)	Gathering Information and Evaluating Sources; Comparing and Contrasting Print and Internet Research Sources; Describing How to Successfully Use the Internet for Research; Avoiding Plagiarism by Creating Note Cards; Synthesizing Information from Different Sources

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W.11-12.9	<p>Draw evidence from literary or informational texts to support analysis, reflection, and research:            --Apply grades 11–12 Reading standards to literature (e.g., “Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics”).            --Apply grades 11–12 Reading standards to literary nonfiction (e.g., “Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning [e.g., in U.S. Supreme Court Case majority opinions and dissents] and the premises, purposes, and arguments in works of public advocacy [e.g., The Federalist, presidential addresses]”).</p>	<p>Early American and Colonial Literature; Post War Voices Emerge (1950s-1960s); The Research Paper</p>	<p>Reading, Analyzing, and Interpreting Text; Composing a Compare-and-Contrast Essay; Documenting Quotations Correctly</p>
<b>Range of Writing</b>			
W.11-12.10	<p>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 tasks, purposes.</p>	<p>The Night Thoreau Spent in Jail</p>	<p>Identifying and Assessing Strategies for Timed Writing</p>
<i>Speaking and Listening</i>			
<b>Comprehension and Collaboration</b>			

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SL.11-12.1	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively:</p> <ul style="list-style-type: none"> <li>--Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</li> <li>--Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed.</li> <li>--Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.</li> <li>--Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.</li> </ul>	The Research Paper	To be addressed by teacher
SL.11-12.2	<p>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.</p>	Contemporary Postmodernism	Gathering Information and Evaluating Sources; Comparing and Contrasting Print and Internet Sources

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SL.11-12.3	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.	Early American and Colonial Literature; American Romanticism	Describing Persuasive Techniques; Analyzing Persuasive Arguments; Defining Vocabulary Words In Order to Understand a Persuasive Argument; Analyzing the Audience of a Persuasive Essay
<b>Presentation of Knowledge and Ideas</b>			
SL.11-12.4	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.	Early American and Colonial Literature; American Romanticism; The Night Thoreau Spent in Jail	Summarizing and Describing Information; Practicing Strategies for Developing a Description; Composing a Descriptive Essay
SL.11-12.5	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.	The Research Paper	To be addressed by teacher
SL.11-12.6	Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.	The Research Paper	To be addressed by teacher
<i>Language</i>			
<b>Conventions of Standard English</b>			

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L.11-12.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking: --Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested. --Resolve issues of complex or contested usage, consulting references (e.g., Merriam-Webster's Dictionary of English Usage, Garner's Modern American Usage) as needed.	Semester Review and Exam; Post War Voices Emerge (1950s-1960s)	Assessing Understanding of Grammar; Identifying Adjectival Clauses; Identifying Relative Pronouns in Adjectival Clauses; Correctly Punctuating Adjectival Clauses
L.11-12.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing: --Observe hyphenation conventions. --Spell correctly.	American Romanticism	Reviewing Eight Parts of Speech and Types of Nouns; Identifying Pronouns and Antecedents
<b>Knowledge of Language</b>			
L.11-12.3	Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening: --Vary syntax for effect, consulting references (e.g., Tufte's Artful Sentences) for guidance as needed; apply an understanding of syntax to the study of complex texts when reading.	Early American and Colonial Literature	Defining the Denotative and Connotative Meaning of Vocabulary Words; Comparing the Denotative and Connotative Meanings of Words
OBJH2CCLA39	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 11–12 reading and content, choosing flexibly from a range of strategies: --Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. --Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., conceive, conception, conceivable). --Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print	Early American and Colonial Literature	Defining Vocabulary Words Using Context Clues; Determining the Best Definitions of Words with Multiple Meanings in Context; Differentiating Between Denotation and Connotation; Defining the Denotative and Connotative Meanings of Vocabulary Words

	<p>and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, its etymology, or its standard usage.                  --Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).</p>		
L.11-12.4	<p>Demonstrate understanding of figurative language, word relationships, and nuances in word meanings:                  --Interpret figures of speech (e.g., hyperbole, paradox) in context and analyze their role in the text.                  --Analyze nuances in the meaning of words with similar denotations.</p>	<p>American Romanticism;                  Realism and Regionalism;                  Voices of Modernism (1920s-1940s); The Great Gatsby</p>	<p>Defining Symbolism and Allusion;                  Understanding How Symbolism Can Enlarge the Meaning of a Text;                  Analyzing the Use of Allusions in Text;                  Defining Allegory</p>
L.11-12.5	<p>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.</p>	<p>Early American and Colonial Literature;                  American Romanticism;                  The Night Thoreau Spent in Jail</p>	<p>Defining Vocabulary Words</p>



Common Core State Standards English/Language Arts			
<i>Reading: Literature</i>		<i>English 12 Unit Name</i>	<i>Lesson Name or Topic</i>
<b>Key Ideas and Details</b>			
RL.11-12.1	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.	The Anglo-Saxon Period: 449-1066	Reading, Analyzing, and Interpreting Elements of Text; Defining Denotation and Connotation to Interpret Meaning
RL.11-12.2	Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.	The Anglo-Saxon Period: 449-1066; The Middle Ages: 1066-1485	Reading, Analyzing, and Interpreting Elements of Text
RL.11-12.3	Analyze the impact of the author’s choices regarding how to develop and relate elements of a story or drama (e.g., where a story is set, how the action is ordered, how the characters are introduced and developed).	The Anglo-Saxon Period: 449-1066	Reading, Analyzing, and Interpreting Elements of Text; Comparing and Contrasting Elements of Character; Defining and Analyzing Protagonist and Antagonist
<b>Craft and Structure</b>			
RL.11-12.4	Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful. (Include Shakespeare as well as other authors.)	The Anglo-Saxon Period: 449-1066	Defining Prefixes and Suffixes to Determine Word Meanings; Defining Denotation and Connotation to Determine Word Meanings

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RL.11-12.5	Analyze how an author's choices concerning how to structure specific parts of a text (e.g., the choice of where to begin or end a story, the choice to provide a comedic or tragic resolution) contribute to its overall structure and meaning as well as its aesthetic impact.	The Anglo-Saxon Period: 449-1066	Reading, Analyzing, and Interpreting Elements of Text; Identifying Mood and Author's Attitude
RL.11-12.6	Analyze a case in which grasping a point of view requires distinguishing what is directly stated in a text from what is really meant (e.g., satire, sarcasm, irony, or understatement).	The Anglo-Saxon Period: 449-1066; Macbeth	Identifying and Analyzing Irony; Defining the Three Types of Irony; Identifying Examples of Dramatic Irony; Reading and Analyzing Text Thoroughly
<b>Integration of Knowledge and Ideas</b>			
RL.11-12.7	Analyze multiple interpretations of a 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.)	The Anglo-Saxon Period: 449-1066; The Renaissance: 1485-1660; The Romantic Period: 1798-1832; Frankenstein	Recognizing Differences Between Popular Depictions of a Story and the Original
RL.11-12.9	Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics.	The Anglo-Saxon Period: 449-1066; The Middle Ages 1066-1485; The Romantic Period: 1798-1832; Frankenstein	Reading, Analyzing, and Interpreting Elements of Text; Comparing and Contrasting Elements of Literature ; Reading About Historical and Cultural Context; Developing and Applying Effective Comprehension Strategies
<b>Range of Reading and Level of Text Complexity</b>			

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RL.11-12.10	By the end of grade 12, read and comprehend literature, including stories, dramas, and poems, in the grades 11–12 text complexity band proficiently, with scaffolding as needed at the high end of the range.	The Anglo-Saxon Period: 449-1066	Reading, Analyzing, and Interpreting Elements of Text; Developing and Applying Effective Comprehension Strategies
<b><i>Reading: Informational Text</i></b>			
<b>Key Ideas and Details</b>			
RI.11-12.1	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.	The Anglo-Saxon Period: 449-1066; The Middle Ages: 1066-1485; The Renaissance: 1485-1660	Reading, Analyzing, and Interpreting Elements of Text; Defining Denotation and Connotation to Interpret Meaning
RI.11-12.2	Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text.	The Anglo-Saxon Period: 449-1066; The Middle Ages: 1066-1485; The Renaissance: 1485-1660	Reading, Analyzing, and Interpreting Selections; Reviewing Themes and Values Expressed in Literature
RI.11-12.3	Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.	The Anglo-Saxon Period: 449-1066; The Renaissance: 1485-1660	Reading, Analyzing, and Interpreting Selections
<b>Craft and Structure</b>			
RI.11-12.4	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how Madison defines faction in Federalist No. 10).	The Anglo-Saxon Period: 449-1066	Defining Denotation and Connotation to Interpret Word Meanings
RI.11-12.5	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.	The Restoration and the Enlightenment: 1660-1798	Identifying and Analyzing First-Person Point of View; Identifying Characteristics of a Diary

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RI.11-12.6	Determine an author's point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness or beauty of the text.	Frankenstein	Learning About the Author's Inspiration for Writing a Text
<b>Integration of Knowledge and Ideas</b>			
RI.11-12.7	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 address a question or solve a problem.	Frankenstein	Developing and Applying Effective Comprehension Strategies
RI.11-12.8	Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning (e.g., in U.S. Supreme Court majority opinions and dissents) and the premises, purposes, and arguments in works of public advocacy (e.g., The Federalist, presidential addresses).	The Restoration and the Enlightenment; The Victorian Age (1832-1901); The Modern Era (1901-Present)	Reading, Analyzing, and Interpreting Elements of Text; Reading About Historical and Cultural Context; Identifying Social and Political Issues that Characterized a Period; Determining How Classification Helps Learn About and Understand Historical Periods
RI.11-12.9	Analyze seventeenth-, eighteenth-, and nineteenth-century foundational U.S. documents of historical and literary significance (including The Declaration of Independence, the Preamble to the Constitution, the Bill of Rights, and Lincoln's Second Inaugural Address) for their themes, purposes, and rhetorical features.	The Anglo-Saxon Period: 449-1066; The Restoration and the Enlightenment; Frankenstein	Reading, Analyzing, and Interpreting Elements of Text; Reviewing the Historical, Social, and Cultural Context of a Particular Period;
<b>Range of Reading and Level of Text Complexity</b>			

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RI.11-12.10	By the end of grade 12, read and comprehend literary nonfiction in the grades 11–12 text complexity band proficiently, with scaffolding as needed at the high end of the range.	The Anglo-Saxon Period: 449-1066; The Middle Ages: 1066-1485; The Renaissance: 1485-1660	Reading, Analyzing, and Interpreting Elements of Text; ; Developing and Applying Effective Comprehension Strategies
<i>Writing</i>			
Text Types and Purposes			
W.11-12.1	<p>Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence:</p> <ul style="list-style-type: none"> <li>--Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence.</li> <li>--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.</li> <li>--Use words, phrases, and clauses as well as varied syntax 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.</li> <li>--Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</li> <li>--Provide a concluding statement or section that follows from and supports the argument presented.</li> </ul>	Macbeth	Selecting a Topic and Writing a Persuasive Essay; Maintaining Parallelism and Agreement

W.11-12.2	<p>Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content:</p> <ul style="list-style-type: none"> <li>--Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</li> <li>--Develop 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.</li> <li>--Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</li> <li>--Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.</li> <li>--Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</li> <li>--Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</li> </ul>	<p>The Renaissance: 1485-1660; Writing a Research Paper</p>	<p>Identifying the Main Characteristics of Expository Writing; Identifying How the Main Parts of an Expository Essay Should be Developed; Edit, Proofread, and Publish an Expository Essay; Synthesizing Ideas and Details from Multiple Informational Texts</p>
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<p>W.11-12.3</p>	<p>Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences:          --Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events.          --Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.          --Use a variety of techniques to sequence events so that they build on one another to create a coherent whole and build toward a particular tone and outcome (e.g., a sense of mystery, suspense, growth, or resolution).          --Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters.          --Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.</p>	<p>The Anglo-Saxon Period: 449-1066</p>	
<p><b>Production and Distribution of Writing</b></p>			
<p>W.11-12.4</p>	<p>Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)</p>	<p>The Anglo-Saxon Period: 449-1066; The Middle Ages: 1066-1485</p>	<p>Identifying the Elements of Descriptive Writing; Editing, Proofreading, and Publishing a Description; Revising and Combining Sentences for Clarity</p>

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W.11-12.5	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.	The Anglo-Saxon Period: 449-1066	Applying Prewriting Strategies; Choosing Vivid Words in Writing; Combining Sentences to Improve Clarity; Analyzing How Conciseness Improves Voice and Style
W.11-12.6	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.	Writing a Research Paper	Identifying What Makes a Source Reliable; Learning Strategies to Select and Evaluate Print and Online Resources; Creating an Outline for a Presentation
<b>Research to Build and Present Knowledge</b>			
W.11-12.7	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.	Writing a Research Paper	Identifying the Characteristics of a Research Paper; Generating a Topic for a Research Paper; Conducting Preliminary Research to Identify Potential Areas of Focus; Synthesizing Ideas and Details from Multiple Informational Texts



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W.11-12.8	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.	Writing a Research Paper	Identifying What Makes a Source Reliable; Learning Strategies to Select and Evaluate Print and Online Resources; Recording Information from Selected Sources
W.11-12.9	Draw evidence from literary or informational texts to support analysis, reflection, and research: --Apply grades 11–12 Reading standards to literature (e.g., “Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics”). --Apply grades 11–12 Reading standards to literary nonfiction (e.g., “Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning [e.g., in U.S. Supreme Court Case majority opinions and dissents] and the premises, purposes, and arguments in works of public advocacy [e.g., The Federalist, presidential addresses]”).	The Anglo-Saxon Period: 449-1066; Writing a Research Paper	Reading, Analyzing, and Interpreting Elements of Text; Gathering Information from Various Sources
<b>Range of Writing</b>			
W.11-12.10	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 tasks, purposes.	The Anglo-Saxon Period: 449-1066; The Middle Ages: 1066-1485; Macbeth	Drafting a Descriptive Essay; Applying Knowledge of Phrases to a Creative Writing Assessment; Revising Sentences for Clarity
<b><i>Speaking and Listening</i></b>			
<b>Comprehension and Collaboration</b>			

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SL.11-12.1	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively:            --Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.            --Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed.            --Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.            --Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.</p>	Writing a Research Paper	To be addressed by teacher
SL.11-12.2	<p>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.</p>	Writing a Research Paper	To be addressed by teacher
SL.11-12.3	<p>Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.</p>	Writing a Research Paper	To be addressed by teacher
<b>Presentation of Knowledge and Ideas</b>			

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SL.11-12.4	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.	Writing a Research Paper	To be addressed by teacher
SL.11-12.5	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.	Writing a Research Paper	To be addressed by teacher
SL.11-12.6	Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.	The Anglo-Saxon Period: 449-1066	Reviewing Parts of Speech
<b>Language</b>			
<b>Conventions of Standard English</b>			
L.11-12.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking: --Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested. --Resolve issues of complex or contested usage, consulting references (e.g., Merriam-Webster's Dictionary of English Usage, Garner's Modern American Usage) as needed.	The Anglo-Saxon Period: 449-1066	Defining Prefixes and Suffixes to Determine Word Meanings; Identifying Adjectives and Adverbs and Their Function; Identifying Intransitive and Transitive Verbs, Verb Phrases, and Linking Verbs; Reviewing Parts of Speech
L.11-12.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing: --Observe hyphenation conventions. --Spell correctly.	The Anglo-Saxon Period: 449-1066; The Middle Ages: 1066-1485	Reviewing the Sentence Base; Identifying and Correcting Sentence Fragments; Recognizing and Correcting Misplaced and Dangling Modifiers and Sentence Fragments

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Knowledge of Language			
L.11-12.3	<p>Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening:</p> <ul style="list-style-type: none"> <li>--Vary syntax for effect, consulting references (e.g., Tufte's Artful Sentences) for guidance as needed; apply an understanding of syntax to the study of complex texts when reading.</li> </ul>	<p>The Middle Ages: 1066-1485; The Renaissance: 1485-1660; Writing a Research Paper; The Victorian Age (1832-1901)</p>	<p>Applying Knowledge of Phrases to a Creative Writing Assessment; Revising for Sentence Variety; Understanding Sentence Structure</p>
OBJH2CCLA39	<p>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 11–12 reading and content, choosing flexibly from a range of strategies:</p> <ul style="list-style-type: none"> <li>--Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.</li> <li>--Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., conceive, conception, conceivable).</li> <li>--Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, its etymology, or its standard usage.</li> <li>--Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).</li> </ul>	<p>The Anglo-Saxon Period: 449-1066</p>	<p>Defining Prefixes and Suffixes to Interpret Word Meanings; Defining Denotation and Connotation to Interpret Word Meanings</p>
L.11-12.4	<p>Demonstrate understanding of figurative language, word relationships, and nuances in word meanings:</p> <ul style="list-style-type: none"> <li>--Interpret figures of speech (e.g., hyperbole, paradox) in context and analyze their role in the text.</li> <li>--Analyze nuances in the meaning of words with similar denotations.</li> </ul>	<p>The Anglo-Saxon Period: 449-1066; The Renaissance: 1485-1660; The Romantic Period: 1798-1832</p>	<p>Identifying and Analyzing the Use of Sound Devices in Literature; Reviewing Figurative Language</p>

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L.11-12.5	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.	The Anglo-Saxon Period: 449-1066;The Romantic Period: 1798-1832; Semester Review and Exam	Enhancing Understanding of Vocabulary and Parts of Speech
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## Appendix B

### Montgomery Flex Charter School Mathematics Curriculum

**Course: 7th Grade Math**

**Textbook: Prentice Hall Mathematics, Course 2**

**Description: Math 7 reinforces students' understanding of mathematical concepts in preparation for higher level courses. Students learn to create, analyze, and interpret graphs in their study of statistics. Geometry continues to be explored, with students classifying polygons and using measurement skills to find the perimeter, area, and volume of geometric figures. In addition to learning basic probability and permutations, students begin their algebra studies with solving equations and inequalities.**

Units:

#### 1. Decimals and Integers

In this unit, you will practice using your number sense skills. You will use estimation strategies to solve problems with decimals. Also, you will solve problems that include decimals and integers through addition, subtraction, multiplication, or division. You will compare and order whole numbers, decimals, and integers. You will learn the order of operations and apply the Distributive Property to solve problems. The problem-solving strategy in this unit is Using a Problem-Solving Plan.

#### 2. Equations and Inequalities

In this unit, you will examine algebraic expressions and you will write and solve many types, including one-step and two-step equations. You will use your knowledge of expressions to help you understand inequalities and how to manipulate them. Finally, you will graph and write inequalities, as well as use multiplication and division to solve inequalities.

#### 3. Exponents, Factors and Fractions

In this unit, you will expand your knowledge of the order of operations with the inclusion of exponents. Scientific notation will be used to express unmanageable numbers. You will continue to work with fractions, simplifying, and changing fractions into mixed numbers and improper fractions. Finally, you will be introduced to rational numbers and the relationships between them, as well as fractions and decimals.

#### 4. Operations with Fractions

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In this unit, you will use your knowledge of fractions more extensively. You will add and subtract fractions and mixed numbers. You will practice multiplying and dividing fractions and problem solving using the Try, Check, and Revise method. Finally, you will explore the concept of precision.

## 5. Ratios, Rates and Proportions

In this unit, you will examine equal ratios and determine whether they, or other ratios, can form proportions. Then, you will be introduced to the concept of using proportions to solve problems involving scale. Using your knowledge of proportions, you will learn to solve problems in new ways.

## 6. Percents

In this unit, you will be introduced to percents. You will discover the relationships between decimals, fractions, and percents, including percents less than 1 and greater than 100. You will then incorporate your knowledge of proportions and equations with percents to solve problems involving percents. At the end of the unit, you will examine applications of percents, as well as percents of change.

## 7. Geometry

In this unit, you will explore plane geometry, including lines and angles that will become very important as you begin to study geometry. You will begin measuring angles, and classifying them according to their measures. Once you grasp the concept of the figures, you will learn about bisectors and how these lines can become shapes and polygons. Finally, you will discover congruent figures and the many dimensions of circles and circle graphs.

## 8. Geometry and Measurement

In this unit, you will use your knowledge about geometry to estimate and find the area of shapes. The previous unit covered how to identify the parts of a circle and now you will use this knowledge to find the area. You also will learn how to determine surface area and volume of various figures. Finally, you will examine squares and square roots.

## 9. Patterns and Rules

In this unit, you will take a detailed look at sequences, patterns, and functions and decide what information is valuable for your purpose. Then, you will examine tables, graphs, and formulas to solve problems. Finally, you will solve problems that involve simple and compound interest.

## 10. Graphing in the Coordinate Plane

In this unit, you will use your knowledge of graphing and expand it to understand how to find the slope of a line. You will work within the coordinate plane to determine the relationships between lines and points in all of the quadrants. Finally, you will explore nonlinear relationships and the different ways that shapes can move on a plane: reflection, rotation, and symmetry.

## 11. Displaying and Analyzing Data

In this unit, you will use different visual applications to graph and display data. Some applications include frequency tables, box-and-whisker plots, scatter plots, stem-and-leaf plots, histograms, and spreadsheets. You will read about sampling and random surveys to collect information.

## 12. Using Probability

In this unit, you will work with both theoretical and experimental probability. You will be given various circumstances in which to use probability and understand that it is an important aspect of mental math. Finally, permutations and combinations will be used to help you master the complexity of geometry.



<b>Common Core State Standards Mathematics</b>			
<b><i>Ratios and Proportional Relationships</i></b>		<b><i>Math 7 Unit Name</i></b>	<b><i>Lesson Name or Topic</i></b>
<b>Analyze proportional relationships and use them to solve real-world and mathematical problems</b>			
7.RP.1	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.	Ratios, Rates, and Proportions	Finding and Using Unit Rates and Prices; Solving Proportions
7.RP.2	Recognize and represent proportional relationships between quantities: --Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. --Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. --Represent proportional relationships by equations. --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.	Ratios, Rates, and Proportions	Writing and Finding Ratios; Testing if Ratios Can Form a Proportion; Solving Proportions
7.RP.3	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.	Ratios, Rates, and Proportions; Percents	Solving Proportions; Solving Percent Problems Using Proportions and Equations
<b><i>The Number System</i></b>			
<b>Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers</b>			

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7.NS.1	<p>Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram:</p> <ul style="list-style-type: none"> <li>--Describe situations in which opposite quantities combine to make 0.</li> <li>--Understand <math>p + q</math> as the number located a distance <math> q </math> from <math>p</math>, in the positive or negative direction depending on whether <math>q</math> is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.</li> <li>--Understand subtraction of rational numbers as adding the additive inverse, <math>p - q = p + (-q)</math>. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.</li> <li>--Apply properties of operations as strategies to add and subtract rational numbers.</li> </ul>	Decimals and Integers; Operations with Fractions	Comparing and Ordering Integers; Adding and Subtracting Fractions; Adding and Subtracting Mixed Numbers
7.NS.2	<p>Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers:</p> <ul style="list-style-type: none"> <li>--Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as <math>(-1)(-1) = 1</math> and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.</li> <li>--Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If <math>p</math> and <math>q</math> are integers, then <math>-(p/q) = (-p)/q = p/(-q)</math>. Interpret quotients of rational numbers by describing real-world contexts.</li> <li>--Apply properties of operations as strategies to multiply and divide rational numbers.</li> <li>--Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.</li> </ul>	Decimals and Integers; Operations with Fractions	Multiplying and Dividing Integers; Using the Distributive Property; Multiplying Mixed Numbers; Dividing Fractions
7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers.	Operations with Fractions	Adding and Subtracting Fractions; Adding and Subtracting Mixed Numbers
<b><i>Expressions and Equations</i></b>			
<b>Use properties of operations to generate equivalent expressions</b>			

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7.EE.1	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.		
7.EE.2	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.	Equations and Inequalities	Addressed by teacher
<b>Solve real-life and mathematical problems using numerical and algebraic expressions and equations</b>			
7.EE.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.	Equations and Inequalities	Evaluating and Writing Algebraic Expressions; Exploring Two-Step Problems; Solving Two-Step Equations
7.EE.4	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities: --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. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. --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. Graph the solution set of the inequality and interpret it in the context of the problem.	Equations and Inequalities	Exploring Two-Step Problems; Solving Two-Step Equations; Graphing and Writing Inequalities; Solving Inequalities by Adding
<b>Geometry</b>			
<b>Draw construct, and describe geometrical figures and describe the relationships between them</b>			
7.G.1	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.	Ratios, Rates, and Proportions	Using Maps and Scale Drawings to Solve Problems
7.G.2	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.	Geometry and Measurement	Addressed by teacher
7.G.3	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	Geometry and Measurement	Addressed by teacher

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<b>Solve real-life and mathematical problems involving angle measure, area, surface area, and volume</b>			
7.G.4	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	Geometry and Measurement	Addressed by teacher
7.G.5	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	Geometry and Measurement	Addressed by teacher
7.G.6	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.	Geometry and Measurement	Finding the Areas of Parallelograms and Triangles; Finding the Areas of Other Figures; Finding the Volumes of Rectangular Prisms and Cylinders
<b>Statistics and Probability</b>			
<b>Use random sampling to draw inferences about a population</b>			
7.SP.1	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.	Displaying and Analyzing Data	Addressed by teacher
7.SP.2	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.	Displaying and Analyzing Data	Identifying a Random Sample; Writing a Survey Question
<b>Draw informal comparative inferences about two populations</b>			
7.SP.3	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.	Displaying and Analyzing Data	Addressed by teacher
7.SP.4	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.	Displaying and Analyzing Data	Addressed by teacher
<b>Investigate chance processes and develop, use, and evaluate probability models</b>			

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7.SP.5	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. 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.	Using Probability	Finding the Probability of an Event
7.SP.6	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.	Using Probability	Finding the Probability of an Event
7.SP.7	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy: --Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. --Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.	Using Probability	Addressed by teacher
7.SP.8	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation: --Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. --Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event. --Design and use a simulation to generate frequencies for compound events.	Using Probability	Using Simulations; Finding a Sample Space; Finding the Probability of Independent and Dependent Events

## Course: Pre-Algebra

Textbook: Pre-Algebra, Prentice-Hall, 2004

**Description: Students are introduced to basic algebraic principles in this course by solving equations and inequalities with positive and negative integers, decimals, and fractions. Students move on to working with ratios, proportions, and percents, and then to solving two-step and multi-step equations and inequalities. A look into relations and functions demonstrate how to find the slope, y-intercept, and solve systems of linear equations. Algebra skills are applied across math disciplines with the study of right triangles, data analysis, and probability.**

Units:

### 1. Algebraic Expressions and Integers

In this unit, you will review previously learned mathematical principles and extend prior mathematical knowledge. Concepts emphasized in this unit will reappear throughout the course, so take the time to complete each lesson carefully. You will review the concepts of order of operations, variables, writing variable expressions, and solving variable expressions. You will review integers and how to perform the four mathematical operations with integers as well as absolute values. Next, you will represent, order, and graph integers on a number line and a coordinate plane. You will learn to use inductive reasoning to determine patterns and solve real-world problems.

### 2. Solving One-Step Equations and Inequalities

In this unit, you will review the Associative, Commutative, Identity, and Distributive properties. These properties will enable you to simplify variable expressions and solve both equations and inequalities. You will learn to solve one-step equations and inequalities by using addition, subtraction, multiplication, and division as inverse operations. You will learn a problem-solving technique, "Try, Test, Revise," the first of many techniques within the course. Finally, you will learn to identify inequalities by their corresponding graphs.

### 3. Decimals and Equations

In this unit, you will have the opportunity to develop and extend your understanding of how to solve equations that contain decimals. You will develop estimation and rounding skills and apply this knowledge to calculating products and quotients of decimals. You will begin to explore mean, median, and mode as used in real-world applications. You also will convert metric units of measure and use formulas to solve simple equations. Finally, you will solve problems using the technique, "Simplify the Problem."

### 4. Factors, Fractions, and Exponents

In this unit, you will expand your knowledge of divisibility rules and factors. This will enable you to quickly determine prime factorizations and greatest common factors, which will enable you to simplify fractions more easily. You will extend your knowledge of exponents to include the addition, subtraction, multiplication, and division of expressions, which include powers with the same base. Finally, you will learn to identify and simplify rational numbers that contain powers.

## 5. Operations with Fractions

In this unit, you will review basic fractions concepts. You will compare, order, add, subtract, multiply, and divide mixed numbers and fractions. You will then use these concepts to solve equations by adding, subtracting, multiplying, and dividing fractions. In addition to solving equations with fractions, you will apply your knowledge to convert customary units of measure. Finally, you will learn how to convert fractions to decimals by relating the values of fractions to the values of decimals.

## 6. Ratios, Proportions, and Percents

In this unit, you will expand your knowledge of percents and proportions by defining and solving problems involving ratios, rates, and unit rates. Then, you will use these concepts to solve similar figure, scale drawing, probability, and odds problems. You also will learn how to rewrite a percent as a ratio, in fraction form, and as a decimal in order to solve equations. Finally, you will learn how to find markup, discount, and percent of change by using percents.

## 7. Solving Equations and Inequalities

In this unit, you will expand your understanding of mathematical properties to solve two-step equations, two-step inequalities, and multi-step equations. These equations and inequalities are more complicated because they include fractions, decimals, and variables on both sides of the equal sign. You also will solve equations using the technique, "Write an Equation." Finally, you will gain the necessary skills to transform formulas, which are necessary for finding simple and compound interest.

## 8. Linear Functions and Graphing

In this unit, you will learn how to identify relations and functions. You will develop the necessary skills to solve systems of linear equations and inequalities by graphing, including plotting points and using the slope and y-intercept. In addition to graphing linear equations, you also will write rules for linear functions from word problems and tables. Finally, you will use real-world examples to find trends and make predictions from scatter plots.

## 9. Spatial Thinking

In this unit, you will be introduced to the basic figures of geometry, including points, lines, segments, and rays. You will use these figures to identify special pairs of lines and angles as well as apply what you will learn about line relationships and angle measure to classify triangles and quadrilaterals. You also will be able to determine how two triangles are congruent by identifying corresponding parts of polygons. You will use your knowledge of proportions to create and interpret circle graphs. Finally, you will be introduced to the study of translations, reflections, and rotations of geometric figures.

## 10. Area and Volume

In this unit, you will learn how to find the areas of parallelograms, triangles, trapezoids, and circles using formulas. You will determine the surface areas of prisms, cylinders, pyramids, cones, and spheres. You will calculate the volumes of prisms and cylinders. You also will use these formulas to determine the areas of irregular shapes. Finally, you will learn about space figures and how to identify them using a net.

## 11. Right Triangles in Algebra

In this unit, you will expand your knowledge of algebra by finding square roots and classifying real numbers as either rational or irrational. You will use the Pythagorean Theorem to calculate the missing sides of right triangles, the Distance Formula to find the distance between two points, and the Midpoint Formula to find the midpoint of a segment. Then, you will learn about the special relationships that exist between the sides of  $45^\circ$ - $45^\circ$ - $90^\circ$  and  $30^\circ$ - $60^\circ$ - $90^\circ$  triangles. You also will solve problems that can be modeled with similar figures by using your knowledge of proportions. Finally, you will learn the trigonometric ratios sine, cosine, and tangent, as well as the angles of elevation and depression to find the missing values of right triangles.

## 12. Data Analysis and Probability

In this unit, you will learn how to display data in many different forms. You will create frequency tables, line plots, box-and-whisker plots, and stem-and-leaf plots. You will analyze persuasive graphs to determine if and how the data being presented is misleading. You will learn the differences between theoretical and experimental probabilities, and calculate the probabilities for independent and dependent events. You also will evaluate various sampling plans for surveys, as well as estimate data about populations. Finally, you will learn the differences between permutations and combinations and how to solve a problem by simulating the problem.

## 13. Nonlinear Functions and Polynomials

In this unit, you will explore the differences between arithmetic and geometric sequences and use them to make predictions. You will graph nonlinear functions such as quadratic and absolute value functions, and model exponential growth and decay using tables, rulers, and graphs. You will learn how to identify, evaluate, add, and



subtract polynomials using models and combining like terms. Finally, you will multiply two binomials using the Distributive Property, and write a polynomial as the product of a monomial (GCF) and a polynomial.

<b>Common Core State Standards Mathematics</b>			
<b><i>The Number System</i></b>		<b><i>Algebra Readiness Unit Name</i></b>	<b><i>Lesson Name or Topic</i></b>
<b>Know that there are numbers that are not rational, and approximate them by rational numbers</b>			
8.NS.1	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.	Right Triangles in Algebra	Finding Square Roots; Classifying Real Numbers
8.NS.2	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., $\sqrt{2}$ ).	Right Triangles in Algebra	Finding Square Roots; Classifying Real Numbers
<b><i>Expressions and Equations</i></b>			
<b>Work with radicals and integer exponents</b>			
8.EE.1	Know and apply the properties of integer exponents to generate equivalent numerical expressions.	Factors, Fractions, and Exponents; Operations with Fractions	Using Exponents; Exponents and Multiplication; Exponents and Division; Powers of Products and Quotients
8.EE.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 small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.	Right Triangles in Algebra	Finding Square Roots; Classifying Real Numbers
8.EE.3	Use numbers expressed in the form of a single digit times a whole-number power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other.	Factors, Fractions, and Exponents;	Addressed by teacher

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8.EE.4	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use 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.	Factors, Fractions, and Exponents	Writing and Evaluating Numbers Using Scientific Notation; Calculating with Scientific Notation
<b>Understand the connections between proportional relationships, lines, and linear equations</b>			
8.EE.5	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.	Linear Functions and Graphing	Addressed by teacher
8.EE.6	Use similar triangles to explain why the slope $m$ is the same between any two distinct points on a non-vertical line in the coordinate plane; 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 $b$ .	Linear Functions and Graphing	Addressed by teacher
<b>Analyze and solve linear equations and pairs of simultaneous linear equations</b>			
8.EE.7	Solve linear equations in one variable: --Give examples of 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). --Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	Solving Equations and Inequalities	Solving Multi-Step Equations
8.EE.8	Analyze and solve pairs of simultaneous linear equations: --Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. --Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. --Solve real-world and mathematical problems leading to two linear equations in two variables.	Linear Functions and Graphing	Solving Problems by Graphing; Solving Systems of Linear Equations
<b>Functions</b>			

<b>Define, evaluate, and compare functions</b>			
8.F.1	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.	Linear Functions and Graphing	Relations and Functions; Equations with Two Variables
8.F.2	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).	Linear Functions and Graphing	Writing Rules for Linear Functions
8.F.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.	Linear Functions and Graphing	Writing Rules for Linear Functions
<b>Use functions to model relationships between quantities</b>			
8.F.4	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.	Linear Functions and Graphing	Determining Whether a Relation is a Function; Graphing Functions and Relations; Solving and Graphing Equations with Two Variables; Solving Problems by Graphing
8.F.5	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 a graph that exhibits the qualitative features of a function that has been described verbally.	Linear Functions and Graphing	Addressed by teacher
<b>Geometry</b>			
<b>Understand congruence and similarity using physical models, transparencies, or geometry software</b>			
8.G.1	Verify experimentally the properties of rotations, reflections, and translations.	Spatial Thinking	Graphing and Describing Translations

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8.G.2	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.	Spatial Thinking	Identifying a Line of Symmetry; Graphing a Reflection of a Geometric Figure
8.G.3	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	Spatial Thinking	Graphing and Describing Translations; Identifying a Line of Symmetry; Graphing a Reflection of a Geometric Figure
8.G.4	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; Given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.	Spatial Thinking	Graphing and Describing Translations; Identifying a Line of Symmetry; Graphing a Reflection of a Geometric Figure
8.G.5	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.	Spatial Thinking	Angle Relationships and Parallel Lines; Identifying Corresponding Parts of Congruent Triangles; Determining Whether Triangles are Congruent
<b>Understand and apply the Pythagorean Theorem</b>			
8.G.6	Explain a proof of the Pythagorean Theorem and its converse.	Right Triangles in Algebra	Addressed by teacher
8.G.7	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.	Right Triangles in Algebra	Using the Pythagorean Theorem; Identifying Right Triangles

8.G.8	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	Right Triangles in Algebra	Finding the Distance Between Two Points; Finding the Midpoint of a Segment
<b>Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres</b>			
8.G.9	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	Area and Volume	Finding the Volume of Prisms, Cylinders, Pyramids, Cones, and Spheres
<b>Statistics and Probability</b>			
<b>Investigate patterns of association in bivariate data</b>			
8.SP.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 association, linear association, and nonlinear association.	Linear Functions and Graphing	Interpreting, Drawing, and Using Scatter Plots
8.SP.2	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.	Linear Functions and Graphing	Interpreting, Drawing, and Using Scatter Plots
8.SP.3	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.	Linear Functions and Graphing	Finding the Slope of a Line; Using Slope-Intercept Form to Graph a Linear Equation

8.SP.4	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. 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 association between the two variables.	Using Probability	To be addressed by teacher
<b>Analyze and summarize data sets</b>			
8.FP.NCTM	Use descriptive statistics, including mean, median, and range, to summarize and compare data sets and organize and display data to pose and answer questions; Compare the information provided by the mean and the median and investigate the different effects that changes in data values have on these measure of center.	Decimals and Equations	Finding the Mean, Median, and Mode

## **Course: Algebra 1**

**Textbook: Mathematics, Algebra 1, Prentice Hall, 2011**

**Description: In the 1st semester, the student will gain a foundational understanding of the real number system, expressions, equations, and inequalities. The student will be taught to solve simple and multi-step equations and inequalities and represent those solutions graphically. In addition, students will explore linear or nonlinear functions and represent those functions on the coordinate plane. Finally, the student will solve systems of equations and inequalities and represent those solutions graphically.**

**During the second semester, students will use their knowledge of real number operations, expressions, equations, inequalities, and functions to solve algebra concepts. This course will introduce the student to exponents and use those exponent rules to solve exponential functions. The student will learn how to identify and solve polynomial equations using a variety of methods including factoring. The student also will learn how to work with quadratic functions and equations and represent both of those on a coordinate plane. Students will work with and solve both radical and rational expressions and equations. Finally, the student will be introduced to statistics and learn to how use data to apply to probability problems in theory in and real-world scenarios.**

**Throughout the course, problem solving, critical thinking, and real-world application of mathematical concepts will be required.**

Units:

### **1. Foundations for Algebra**

In this unit, you will be provided with a general introduction to Algebra 1 by reviewing many concepts from previous math courses including variables, expressions, and real-number operations. This unit provides you with a solid foundation for the remainder of Algebra 1. You will complete a unit portfolio project in which you will apply your knowledge of using variables to represent unknown and variable quantities, and writing expressions and equations.

### **2. Solving Equations**

In this unit, you will learn how to solve problems using a variety of problem-solving strategies including tables, graphs, and equations. This unit also includes instruction on solving one, two, or multi-step equations, a skill that is essential to your learning of higher-level mathematics. You will complete a variety of assessments in this unit, including Quick Checks, quizzes, and a unit test.



## 3. Solving Inequalities

In this unit, you will learn how to solve inequalities that require one or more steps. You also will learn how to graph the solutions to inequalities on the number line. Set notation will be introduced as a tool for expressing the solutions to inequalities. Finally, you will explore absolute value equations and inequalities and the union and intersection of sets.

## 4. Introduction to Functions

In this unit, you will explore functions and their applications. You will be introduced to the characteristics of a function and learn to compare linear and nonlinear functions. You also will graph functions on the coordinate plane and write functions given their graph. Functions are an important part of algebra because they lay a foundation for understanding higher-level mathematics problems that depend on your understanding of the characteristics of functions.

## 5. Linear Functions

In this unit, you will learn how to use several types of linear equations, including slope-intercept, point-slope, and standard forms. You will use slope to compare parallel and perpendicular lines and explore relationships between these types of lines. You also will graph and translate absolute value functions on the coordinate plane.

## 6. Systems of Equations and Inequalities

In this unit, you will apply what you know about linear equations and inequalities to systems of linear equations or inequalities. You will solve systems of linear equations by graphing, substitution, or elimination. You also will be introduced to the topic of matrices and use them to solve systems of equations. You will graph linear inequalities and solve systems of two linear equalities. Finally, you will apply these topics to solve real-world scenarios.

## 7. Exponents and Exponential Functions

In this unit, you will learn about expressions involving exponents in several forms. You will learn about zero and negative exponents and use what you know about exponents to solve problems using standard and scientific notation. You will learn and apply the rules for multiplication and division of expressions involving exponents. Finally, you will evaluate exponential functions and use exponential functions to solve real world problems of exponential growth and decay.

## 8. Polynomials and Factoring

In this unit, you will learn how to classify, add, and subtract polynomials. You also will learn to multiply polynomials and monomials, and how to factor polynomials using GCF. You will then find the squares of a binomial, the sum and difference of squares, the product of a sum and difference, and you will factor higher-degree polynomials.

## 9. Quadratic Functions and Equations

In this unit, you will learn how to work with quadratic functions and quadratic equations. You will learn to graph functions in several forms and solve both quadratic equations and quadratic functions. You also will learn to choose between different models to display data, and finally, you will solve systems of linear and quadratic equations. These topics will be important foundational skills for your study of higher level mathematics.

## 10. Radical Expressions and Equations

In this unit you will work with radicals applied to many different types of problems. To begin, you will work with the Pythagorean Theorem and right triangles, using radicals in your solutions to those problems. Then you will learn to simplify and rationalize radicals, followed by solving problems using radicals in expressions and equations. You will learn to identify extraneous solutions to radical equations and graph their solutions. Finally, you will find and use trigonometric ratios and apply what you have learned to real-world scenarios.

## 11. Rational Expressions and Functions

In this unit you will work with rational expressions and equations. To begin, you will learn to simplify rational expressions. Then, you will learn to multiply and divide rational expressions and polynomials. You also will learn to simplify complex fractions. You will learn to define inverse variations and compare direct and inverse variations, as well as graphing rational functions.

## 12. Data Analysis and Probability

In this unit, you will explore data analysis and probability. To begin, you will organize data in a matrix form and learn to add, subtract, and perform scalar multiplication using matrices. You will work with various graphic representations of data including tables, histograms, box-and-whisker plots, and line graphs. Using data, you will explore measures of central tendency including mean, median, mode, and range. Finally, you will work with permutations, combinations, and independent and dependent events.

## **Course: Geometry**

**Textbook: Mathematics: Geometry, Prentice Hall, 2011**

**Description: During the 1st semester, the student will use manipulatives and tools to explore the principles of logic, proofs, and constructions. The student will use the midpoint and distance formulas to solve a variety of problems involving the coordinate plane. The student also will study parallel and perpendicular lines, including special angle pairs. The student will use triangle concepts to find angle measures, prove triangles congruent, and discover relationships within one and two triangles. This course will conclude with the study of polygons and quadrilaterals, during which the student will learn the properties and formulas to find angle measures and classify parallelograms. Throughout the course, the student will learn concepts through a variety of instructional strategies, solve real-world applications, and complete an assortment of activities.**

**During the second semester, the student will use manipulatives and tools to explore area, surface area, and volume, and study the concept of similarity as it relates to various figures. The student will use Trigonometry and right triangle concepts, such as 30-60-90, 45-45-90, and the Pythagorean Theorem to solve problems. The student also will be introduced to vectors and learn to solve problems involving magnitude and direction. In addition, the student will study transformation concepts, such as translations, reflections, rotations, and dilations as well as concepts associated with symmetry. The student will learn to use formulas to find the areas of a variety of two-dimensional shapes. This course concludes with an exploration of concepts related to circles, such as arcs, angles, and intersecting lines such as chords, secants, and tangents.**

**Throughout the course, the student will learn concepts through a variety of instructional strategies, solve real-world applications, and complete an assortment of activities.**

Units:

### 1. Tools of Geometry

This unit introduces various topics in geometry. The beginning of the unit involves representing three-dimensional solid figures using nets, isometric drawings, and orthographic drawings. Special drawing techniques are introduced, such as slanted lines to represent three-dimensional perspective and dashed lines to represent hidden lines. An introduction to basic geometry terms such as points, lines, and planes is included. These are introduced as the building blocks of geometry on which all other geometry terms are defined. Postulates and axioms are introduced as well as naming techniques. Measuring segments and angles are introduced along with the Ruler

Postulate, Segment Addition Postulate, Protractor Postulate, and Angle Addition Postulate. Types of angles as well as special angle pairs and their relationships are included. The degree unit is introduced and the use of a protractor to find angle measure is included. A ruler is also used to find segment length. Problems involving algebra, such as solving linear equations, are used to find segment lengths and angle measures. The concept of creating constructions without the use of measurement by using only a straightedge and protractor is introduced in this unit. Four basic constructions are included, such as constructing congruent segments, congruent angles, perpendicular bisectors, and angle bisectors. These constructions will be used to create other constructions, such as an equilateral triangle. They also will be used to solve problems, such as creating a 45 angle.

The unit concludes with finding the midpoint of segments on a number line and on a coordinate plane using the midpoint formulas. The distance formula is used to find the distance between two points in a coordinate plane. Algebra skills are reviewed as necessary for solving problems using midpoint and distance formulas. Other formulas included at the end of the unit are formulas used to find perimeter, circumference, and area of geometric figures such as squares, rectangles, triangles, and circles. The area of a region is also explored.

Many new vocabulary terms associated with the topics are included. A variety of real-world applications are embedded throughout the unit. A variety of activities are also used to enhance instruction, such as BrainPOP movies, Gizmos, Discovery Education streaming movies, SkillsTutor™, and PowerGeometry. Assessments in Unit 1 include quick checks, quizzes, a unit portfolio involving origami, a discussion on how math is used in daily life, and a unit test.

## 2. Standard Geometry

This unit focuses on reasoning and writing formal proofs. You will observe patterns in numeric and geometric sequences and use inductive reasoning to make conjectures. Then you will explore conditional and biconditional statements. The conclusion of the unit introduces two types of formal proofs, two-column proofs and paragraph proofs. Finally, you will complete a portfolio project about the ancient Greeks' use of deductive reasoning and mathematics, and participate in a discussion on inductive and deductive reasoning.

## 3. Parallel and Perpendicular Lines

In this unit you will explore concepts associated with parallel and perpendicular lines. The unit begins with identifying parallel, perpendicular, and skew lines. Parallel and perpendicular planes also will be introduced, as well as the special types of angles formed by two lines and a transversal. You will participate in a discovery activity that explores special properties of angles formed by two parallel lines and a transversal. The theorems and postulate for the special angle pairs will be proven and used to find angle

measures. Then the converse of these theorems and postulate are introduced and used to prove lines parallel. Different forms of proofs such as two-column, paragraph, and flow-proofs involving parallel and perpendicular lines will be included. Theorems involving triangles are also introduced, such as the triangle angle-sum theorem and triangle exterior angle theorem. New constructions involving parallel and perpendicular lines are then introduced, as well as constructions involving special quadrilaterals and a regular polygon inscribed in a circle. To finish out this unit, concepts related to linear equations in a coordinate plane will be explored, such as slope and different forms in which linear equations are written. Slope relationships of parallel and perpendicular lines are also explored.

### 4. Congruent Triangles

This unit covers concepts associated with congruent triangles, such as identifying corresponding parts of congruent triangles, identifying isosceles and equilateral triangles, proving triangles congruent, and proving parts of triangles congruent. Lessons build on your understanding and skills related to angles and triangles. Visualization skills will be used for overlapping triangles. Theorems and postulates such as SSS, SAS, ASA, AAS, and HL will be introduced throughout the unit. Corresponding parts of congruent triangles are congruent (CPCTC) are used to prove parts of triangles congruent. You will use and apply properties of isosceles and equilateral triangles. You also will prove two triangles congruent using other congruent triangles. A variety of methods will be used throughout the unit for instruction, practice, and review of concepts. You will complete worksheets and online practice for various concepts. Math writing journal activities require you to relate concepts to real-world applications and apply your knowledge in order to respond to thought-provoking questions.

### 5. Triangles

In this unit, you will discover and explore concepts involving relationships within triangles. You will expand on the skills learned in previous units, such as using the midpoint formula to find the midsegments of triangles and the distance formula to examine relationships in triangles. You will learn new theorems, such as the Triangle Midsegment Theorem, Perpendicular Bisector Theorem, Angle Bisector Theorem, and Hinge Theorem, as well as theorems related to concurrency in triangles and triangle inequality.

You also will explore relationships within a triangle using the Comparison Property of Inequality, the Corollary to the Triangle Exterior Angle Theorem, as well as those theorems related to triangle inequality. Finally, you will identify and use properties of midsegments, perpendicular bisectors, angle bisectors, medians, altitudes, and inequalities involving angles and sides of triangles through a variety of activities.

### 6. Polygons and Quadrilaterals

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In this unit, you will examine properties of quadrilaterals and use the properties to prove and classify special types of quadrilaterals such as parallelograms, rectangles, rhombuses, squares, trapezoids, and kites. You will use properties of parallel and perpendicular lines and diagonals to classify quadrilaterals. You also will use theorems to find angle measures of polygons, both interior and exterior angles. You will explore geometry in the coordinate plane through classifying polygons in the coordinate plane with formulas such as slope, midpoint, and distance as well as naming coordinates using variables for a general polygon and proving theorems using coordinate proofs.

## 7. Similarity

In this unit on similarity, you will learn to use ratios to compare quantities, write proportions, and solve problems. You also will use ratios and proportions to determine whether two polygons are similar, to find unknown side lengths of similar figures, and to solve problems relating to scale factor. You will explore similar triangles and related postulates and theorems. You also will use similarity to find indirect measurements in right triangles, as well as the relationship between segments and between lengths. Finally, you will complete a portfolio assessment involving scale drawing.

## 8. Right Triangles and Trigonometry

In this unit, you will explore concepts related to right triangles. You will use the Pythagorean Theorem and explore the concept of a Pythagorean triple, as well as properties of special right triangles. You will use trigonometric ratios to find side lengths and angle measures of right triangles. To solve real-world scenarios, you will use angles of elevation and depression.

Lastly, you will learn about vectors and use them to describe the magnitude and directions of objects. Your activities include a class discussion involving ramp building codes and a unit portfolio that explores the history and many proofs of the Pythagorean Theorem.

## 9. Transformations

Concepts related to transformations are explored in this unit. Students will explore translations, reflections (including glide reflection and compositions of reflections), rotations, and dilations. Students will identify, find, and compose transformations both on and off the coordinate plane. Students will identify isometries as well as the type of symmetry in figures and three-dimensional objects. Students also will use reflection to minimize distance, find angles of rotation, and scale factor for dilation.

## 10. Area

In this unit, you will explore and find the area of polygons and circles. You will use formulas to find areas of regular polygons, parallelograms, triangles, trapezoids,

rhombuses, kites, and circles, including parts of circles such as sectors and segments. You will use trigonometry to find the areas of regular polygons and triangles, as well as the area formula for a triangle given SAS. In addition, you will use  $30^\circ$ - $60^\circ$ - $90^\circ$  and  $45^\circ$ - $45^\circ$ - $90^\circ$  special triangles to find area. You also will learn and apply concepts related to regular polygons, including perimeter and area ratios of similar figures, as well as circle concepts like naming arcs, finding arc measure and length, and finding the circumference of a circle. You will use these concepts to find the area of composite figures and missing dimensions of figures, in addition to using them to solve real-world applications. Finally, you will complete a portfolio project involving circle graphs, and participate in a discussion about Heron's Formula.

### 11. Surface Area and Volume

This unit covers area and volume of three-dimensional solids. The unit begins with defining the polyhedron space figure, the parts of a polyhedron, and examining cross sections. Euler's Formula is introduced and used to find the number of faces, vertices, or edges of a polyhedron. Students will explore and use formulas to find lateral areas, surface areas, and volume of three-dimensional solids, such as prisms, cylinders, pyramids, cones, and composite figures. Sphere terminology such as , , , , and are explored and defined. Students will use formulas to find the area and volume of spheres. The unit ends with exploring the areas and volumes of similar solids, including identifying similar solids, finding scale factor, and using area and volume ratios to solve problems.

### 12. Circles

The unit explores concepts related to circles, such as central angles, inscribed angles, and angles formed by intersecting lines—including chords, tangents, and secants. Students will examine the relationships between angles both inside and outside of a circle and the measure of the intercepted arcs. These relationships, as well as properties of tangents, will be used to solve problems involving angle measure, arc measure, and segment lengths. Students also will explore circles in the coordinate plane, including writing an equation of a circle in standard form. Using radius, circle center, or a point on the circle, students will graph circles in the coordinate plane and be able to identify circle center and radius in an equation of a circle in standard form.



## **Course: Algebra 2**

**Textbook: Mathematics: Algebra 2, Prentice Hall, 2007**

**Description: Students continue their exploration of higher-level mathematics in this comprehensive course. After reviewing concepts from Algebra 1, students in Algebra 2 move into studying linear systems, graphing, and matrices. Students build upon previous knowledge of quadratic equations and functions and begin to examine polynomials and their functions.**

**Radical functions, exponents, periodic functions, and statistics are the topics for the second semester of the Algebra 2 curriculum. Students study radical functions and rational exponents in preparation for working with exponential and logarithmic functions. Rational functions, quadratic relations, and probability are also explored in detail, preparing students for continued study in precalculus.**

Units:

### 1. Tools of Algebra

In this unit, you will review previously learned mathematical principles and extend prior mathematical knowledge. Concepts emphasized in this unit will reappear throughout the course, so take the time to complete each lesson carefully.

As you work through the unit, you will have the opportunity to review basic properties of real numbers. You will focus on the properties of operations, equality, and inequalities, as well as use these properties to solve one-variable equations and inequalities. You also will review and solve equations and inequalities that involve absolute value. Finally, you will examine the fundamental concepts of experimental, theoretical, and geometric probability.

### 2. Functions, Equations and Graphs

In this unit, you will define and graph relations and functions using verbal descriptions, lists, tables, and mapping diagrams. Specifically, you will examine linear functions and solve linear equations using slope. You also will examine direct variation and learn how to model many real-world situations using linear models. Finally, you will graph absolute value functions and analyze vertical and horizontal translations.

### 3. Linear Systems

In this unit, you will continue your study of linear equations by solving systems of linear equations and inequalities. You will determine if the system of linear equations or



inequalities can be solved graphically or algebraically. You will examine a branch of mathematics called linear programming in order to determine the maximum and minimum values for real-world problems. At the end of the unit, you will solve and graph systems of linear equations with three variables.

### 4. Matrices

In this unit, you will be introduced how to organize data into matrices. You will learn how to add matrices, subtract matrices, and matrix multiplication. You will transform geometric figures using matrix operations. You also will explore  $2 \times 2$  and  $3 \times 3$  matrices, determinants, and inverses. Finally, you will solve systems of equations using inverse matrices, matrices of systems, and augmented matrices and systems.

### 5. Quadratic Equations and Functions

In this unit, you will explore quadratic equations and functions. You will study the properties of parabolas and use these properties to graph, find the maximum and minimum values of quadratic functions, and translate parabolas. You will learn how to factor quadratic expressions and solve quadratic equations by factoring, finding square roots, and graphing. At the end of the unit, you will be introduced to complex numbers and solve quadratic expressions by completing the square and by using the Quadratic Formula.

### 6. Polynomials and Polynomial Functions

In this unit, you will use your knowledge of the properties of linear and quadratic functions to classify and examine polynomials and polynomial functions. Then, you will learn how to find linear factors and zeros of a polynomial function, divide polynomials, and solve polynomial equations. You will be introduced to several methods of finding the roots of polynomial equations including the Rational Root Theorem, Irrational Root Theorem, and the Imaginary Root Theorem. You also will solve polynomial equations with complex roots using the Fundamental Theorem of Algebra. At the end of this unit, you will evaluate probability problems using permutations, combinations, Pascal's Triangle, and the Binomial Theorem.

### 7. Radical Functions and Rational Exponents

In this unit, you will review properties of exponents and be introduced to roots and radical expressions. You will use the skills from this lesson to multiply and divide rational expressions. Then, you will explore binomial radical expressions and rational

exponents. You will expand your knowledge of functions by learning important function operations, composite functions, inverse relations and inverse functions. Finally, you will combine your knowledge of functions by graphing radical functions.

### 8. Exponential and Logarithmic Functions

In this unit, you will begin your study of exponential and logarithmic functions by exploring exponential models such as exponential growth and decay. There are many real-world applications of exponential functions including compound interest, depreciation, population growth, and radioactive decay. You will define and learn the properties of exponential and logarithmic functions. Then, you will explore logarithmic functions as inverses and natural logarithms. At the end of this unit, you will apply what you learned in this unit to solve exponential and logarithmic equations.

### 9. Rational Functions

In this unit, you will expand your knowledge of rational functions. You will explore and graph inverse variations. You will learn how to find points of discontinuity and vertical asymptotes using the graphs of rational functions. Then, you will review how to simplify rational expressions. You will use algebraic formulas to add and subtract rational expressions. You will solve rational equations and check the solutions for extraneous answers. Finally, you will use algebra to solve problems involving probability of multiple events.

### 10. Quadratic Relations and Conic Sections

In this unit, you will identify the curves of a conic section and graph several equations that describe them. You will review how the graphs of quadratic equations are parabolas before analyzing parabolas using the terms focus and directrix. Then, you will write and solve equations of a circle, ellipse, and parabola using the center and radius of a circle, the foci of an ellipse, and the foci of a hyperbola. Finally, you will identify and write equations of translated conic sections.

### 11. Sequences and Series

In this unit, you will continue your study of sequences and series. You will identify and use formulas to generate mathematical patterns, arithmetic sequences, and geometric sequences. Then, you will evaluate arithmetic series using summation notation. You will define and understand the difference between a finite and an infinite geometric series.

At the end of this unit, you will find the area of a curve using inscribed and circumscribed rectangles.

### 12. Probability and Statistics

In this unit, you will expand your knowledge of probability and statistics. You will explore probability distributions because you will use them for the rest of this unit. You will solve conditional probability problems using formulas and tree diagrams. You will analyze data by calculating the measures of central tendency. You will find the standard deviation and use it to interpret the values of a data set. Then, you will define and practice the terms sample, sample proportion, random sample, and margin of error while solving real-world sample problems. Finally, you will solve problems involving binomial and normal distributions.

## **Course: Pre-Calculus**

**Textbook: Advanced Mathematical Concepts: Precalculus with Applications, Glencoe, 2006**

**Description: This course is an in-depth study of functions and a review of algebraic, geometric, and trigonometric principles and techniques. Students investigate and explore the characteristics of linear, polynomial, and trigonometric functions, and use graphing calculators to solve and evaluate various functions, equations, and inequalities.**

**The second semester of Precalculus examines vectors and parametric equations, complex numbers, and exponential and logarithmic functions. The final unit introduces students to the fundamentals of calculus. Mathematical reasoning and problem solving skills are stressed as students prepare for future high school or college coursework in calculus.**

Units:

### 1. Linear Relations and Functions

In this unit, you will review previously learned mathematical principles and extend prior mathematical knowledge. Concepts emphasized in this unit will reappear throughout the course, so take the time to complete each lesson carefully.

As you work through the unit, you will have the opportunity to review properties and operations of linear and nonlinear relations and functions. You will focus on the concepts of function composition and use these concepts to graph functions. You also will review how to write linear equations as well as equations for parallel and perpendicular lines. Then, you will use these concepts to model real-world situations that involve linear functions. Finally, you will identify and graph piecewise functions.

### 2. Systems of Linear Equations and Inequalities

In this unit, you will evaluate and graph systems of equations with two and three variables. You will review how to add, subtract, and multiply matrices. Then, you will use matrices to model motion and solve systems of equations using the inverses of matrices. You also will solve systems of linear inequalities by graphing and locating the minimum and maximum values. Finally, you will be introduced to linear programming procedures and use these procedures to solve real-world linear programming problems.

## 3. The Nature of Graphs

In this unit, you will analyze and create graphs to solve many real-world situations. First, you will perform tests on a graph to determine if the graph of a relation is symmetrical. You also will identify and sketch linear and nonlinear families of graphs, including transformations, polynomials, absolute value, and radical inequalities. Then, you will solve and graph inverses of relations and functions problems. You will identify and evaluate continuity, end behavior, critical points, and extrema of functions. Finally, you will graph radical functions and solve direct, inverse, and joint variation problems.

## 4. Polynomial and Rational Functions

In this unit, you will continue your study of polynomial and rational functions. You will find the roots of polynomial equations as well as use the discriminant to describe the roots of quadratic equations. You will calculate the factors of a polynomial using the Remainder, Factor, and Rational Root Theorems. Then, you will solve rational equations and decompose a fraction into partial fractions. You also will solve radical equations and inequalities using the same procedures you learned throughout this unit. Finally, you will use polynomial functions to solve real-world situations.

## 5. The Trigonometric Functions

In this unit, you will explore trigonometric functions. You will review angle and degree measure concepts as well as how to calculate the values for the trigonometric ratios using a right triangle. You will find the values of the six trigonometric ratios using the unit circle. Then, you will apply your knowledge of trigonometry to determine inverse trigonometric functions, to find missing angle and side measures, and to solve right triangles. Finally, you will explore and solve problems using the Law of Sines and the Law of Cosines.

## 6. Graphs of Trigonometric Functions

In this unit, you will continue your study of trigonometry by examining graphs of trigonometric functions. You will review angle and radian measure concepts including radian and degree measure, arc length, and area of a sector. You will explore linear and angular velocity. Then, you will examine the graphs for the sine and cosine functions. In addition, you will learn how to calculate the amplitude and period as well as translate the graphs for the sine and cosine functions. Finally, you will graph other trigonometric

functions including secant, cosecant, tangent, and cotangent functions as well as graph inverse trigonometric functions.

### 7. Trigonometric Identities and Equations

In this unit, you will identify trigonometric identities and solve trigonometric equations. You will explore reciprocal, quotient, Pythagorean, symmetry, and opposite-angle trigonometric identities and use them to verify other trigonometric identities. Then, you will learn and solve trigonometric equations and inequalities using the sum, difference, double-angle, and half-angle identities. Finally, you will learn how to write a linear equation in normal form and find the distance from a point to a line.

### 8. Vectors and Parametric Equations

In this unit, you will review previously learned mathematical principles and extend prior mathematical knowledge. Concepts emphasized in this unit will reappear throughout the course, so take the time to complete each lesson carefully. As you work through the unit, you will be introduced to vectors and parametric equations. You will explore vector notation, including terms such as magnitude, direction, and resultant. You will learn how to add, subtract, and multiply vectors algebraically and geometrically. Then, you will determine if two vectors are perpendicular by finding their cross product. You will write, solve, and graph two-dimensional and three-dimensional vector and parametric equation problems. Finally, you will use your knowledge of vectors to solve real-world applications involving vectors.

### 9. Polar Coordinates and Complex Numbers

In this unit, you will expand your knowledge of complex numbers and be introduced to polar coordinates. You will continue your study of polar coordinates by graphing polar equations, converting polar and rectangular coordinates, and writing the polar form of a linear equation. Then, you will learn how to add, subtract, multiply, and divide complex numbers in rectangular form as well as multiply and divide complex numbers in polar form. Finally, you will use De Moivre's Theorem to calculate the powers and roots of complex numbers.

### 10. Conics

In this unit, you will review and expand your knowledge of geometry. You will review how to find the distance and midpoint using a coordinate plane and prove geometric relationships. Then, you will use algebra to write and graph the standard and general

form of an equation for circles, ellipses, hyperbolas, and parabolas. You will explore rectangular and parametric forms of conic sections. You will identify the discriminant and graph conic transformations. Finally, you will solve systems of second-degree equations and inequalities.

### 11. Exponential and Logarithmic Functions

In this unit, you will explore exponential and logarithmic functions. You will evaluate and simplify rational exponent expressions and equations, graph exponential equations and functions, and solve exponential growth and decay problems using the number  $e$ . Then, you will solve equations and inequalities involving common and natural logarithms. Finally, you will model real-world situations with exponential and logarithmic functions.

### 12. Sequences and Series

In this unit, you will continue your study of sequences and series. You will identify and use formulas to generate mathematical patterns, arithmetic sequences, and geometric sequences. You will explore limits and use them to evaluate infinite arithmetic and geometric sequences and series. Then, you will analyze a series to determine if it convergent or divergent. You will write a series in sigma notation using the  $n$ th term. You will learn the Binomial Theorem and use it to solve special sequences and series. Finally, you will solve and graph functions using iteration and prove conjectures using mathematical induction.

### 13. Combinatorics and Probability

In this unit, you will extend your knowledge of probability. You will review the Counting Principle, independent and dependent events, permutations, and combinations. You will explore permutations with repetitions and circular combinations. Then, you will solve problems that involve the probability of an event, odds, probability of a compound event, and conditional probability. Finally, you will find the probability of an event using the Binomial Theorem.

### 14. Statistics and Data Analysis

In this unit, you will explore statistics and data analysis methods. You will draw and interpret data using bar graphs, line plots, back-to-back bar graphs, three-dimensional bar graphs, and histograms. You will calculate measures of central tendency for a set of data. Then, you will analyze data using measures of variability including range, quartiles, interquartile range, semi-interquartile range, mean deviation, and standard

deviation. You will explore normal distributions. Finally, you will determine the standard error of the mean and level of confidence for a sample set of data.



<b>Common Core State Standards Mathematics</b>							
<b>Number &amp; Quantity: The Real Number System</b>		<b>Algebra I Unit Name</b>	<b>Lesson Name or Topic</b>	<b>Geometry Unit Name</b>	<b>Lesson Name or Topic</b>	<b>Algebra II Unit Name</b>	<b>Lesson Name or Topic</b>
<b>Extend the properties of exponents to rational exponents</b>							
N-RN.1	Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents.					Radical Functions and Rational Exponents	Simplifying Expressions with Rational Exponents
N-RN.2	Rewrite expressions involving radicals and rational exponents using the properties of exponents.	Radical Expressions and Equations	Simplifying Radicals; Completing Operations with Radical Expressions				
<b>Use properties of rational and irrational numbers</b>							
N-RN.3	Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.	Foundations for Algebra	Identifying and Using Properties of Real Numbers				
<b>Number &amp; Quantity: The Real Number System</b>							

Reason quantitatively and use units to solve problems							
N-Q.1	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.	Solving Equations; Systems of Equations and Inequalities	Rewriting and Using Literal Equations and Formulas; Solving Systems Using Substitution				
N-Q.2	Define appropriate quantities for the purpose of descriptive modeling.			Area	Finding the Area of Parallelograms and Triangles		
N-Q.3	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.			Area	Addressed by teacher		
<b>Number &amp; Quantity: The Complex Number System</b>							
<b>Perform arithmetic operations with complex numbers</b>							
N-CN.1	Know there is a complex number $i$ such that $i^2 = -1$ , and every complex number has the form $a + bi$ with $a$ and $b$ real.					Quadratic Equations and Functions	Identifying and Graphing Complex Numbers
N-CN.2	Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.					Quadratic Equations and Functions	Adding, Subtracting, and Multiplying Complex

							Numbers
N-CN.3	Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers.					Polynomials and Polynomial Functions	Solving Equations Using the Rational Root Theorem, Irrational Root Theorem, and the Imaginary Root Theorem
<b>Represent complex numbers and their operations on the complex plane</b>							
N-CN.4	Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number.					Quadratic Equations and Functions	Identifying and Graphing Complex Numbers
N-CN.5	Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation.					Quadratic Equations and Functions	Identifying and Graphing Complex Numbers
N-CN.6	Calculate the distance between numbers in the complex plane as the modulus of the difference, and the midpoint of a segment as the average of the numbers at its endpoints.					Quadratic Equations and Functions	Identifying and Graphing Complex Numbers

Use complex numbers in polynomial identities and equations							
N-CN.7	Solve quadratic equations with real coefficients that have complex solutions.					Quadratic Equations and Functions	Using the Quadratic Formula to Solve Equations
N-CN.9	Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.					Polynomials and Polynomial Functions	Using the Fundamental Theorem of Algebra to Solve Polynomial Equations with Complex Roots
<b>Number &amp; Quantity: Vector &amp; Matrix Quantities</b>							
<b>Represent and model with vector quantities</b>							
N-VM.1	Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., $v$ , $ v $ , $\ v\ $ , $v$ ).				Right Triangles and Trigonometry	Describing Vectors and Solving Problems Involving Vector Addition	
N-VM.2	Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.				Right Triangles and Trigonometry	Describing Vectors and Solving Problems Involving Vector	

					Addition		
N-VM.3	Solve problems involving velocity and other quantities that can be represented by vectors.			Right Triangles and Trigonometry	Describing Vectors and Solving Problems Involving Vector Addition		
<b>Perform operations on vectors</b>							
N-VM.4	<p>Add and subtract vectors:</p> <ul style="list-style-type: none"> <li>--Add vectors end-to-end, component-wise, and by the parallelogram rule. Understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes.</li> <li>--Given two vectors in magnitude and direction form, determine the magnitude and direction of their sum.</li> <li>--Understand vector subtraction <math>v - w</math> as <math>v + (-w)</math>, where <math>-w</math> is the additive inverse of <math>w</math>, with the same magnitude as <math>w</math> and pointing in the opposite direction. Represent vector subtraction graphically by connecting the tips in the appropriate order, and perform vector subtraction component-wise.</li> </ul>			Right Triangles and Trigonometry	Describing Vectors and Solving Problems Involving Vector Addition		
N-VM.5	<p>Multiply a vector by a scalar:</p> <ul style="list-style-type: none"> <li>--Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication</li> </ul>					Addressed by teacher	Addressed by teacher

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	<p>component-wise, e.g., as <math>c(v_x, v_y) = (cv_x, cv_y)</math>.</p> <p>--Compute the magnitude of a scalar multiple <math>cv</math> using <math>\ cv\  =  c v</math>. Compute the direction of <math>cv</math> knowing that when <math> c v &gt; 0</math>, the direction of <math>cv</math> is either along <math>v</math> (for <math>c &gt; 0</math>) or against <math>v</math> (for <math>c &lt; 0</math>).</p>						
<b>Perform operations on matrices and use matrices in applications</b>							
N-VM.6	Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network.	Data Analysis and Probability	Organizing Data Using Matrices			Matrices	Organizing Data into Matrices
N-VM.7	Multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled.	Data Analysis and Probability	Organizing Data Using Matrices			Matrices	Multiplying a Matrix by a Scalar
N-VM.8	Add, subtract, and multiply matrices of appropriate dimensions.	Data Analysis and Probability	Organizing Data Using Matrices			Matrices	Adding and Subtracting Matrices; Multiplying Two Matrices
N-VM.9	Understand that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties.					Matrices	Multiplying Two Matrices
N-VM.10	Understand that the zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers. The determinant of a square matrix is nonzero if and only if the matrix has a multiplicative inverse.					Matrices	Evaluating Determinants of $2 \times 2$ Matrices; Finding Inverse Matrices

N-VM.11	Multiply a vector (regarded as a matrix with one column) by a matrix of suitable dimensions to produce another vector. Work with matrices as transformations of vectors.					Matrices	Representing Translations, Dilations, Reflections, and Rotations with Matrices
N-VM.12	Work with $2 \times 2$ matrices as transformations of the plane, and interpret the absolute value of the determinant in terms of area.					Matrices	Representing Translations, Dilations, Reflections, and Rotations with Matrices
<b>Algebra: Seeing Structure in Expressions</b>							
<b>Interpret the structure of expressions</b>							
A-SSE.1	Interpret expressions that represent a quantity in terms of its context: --Interpret parts of an expression, such as terms, factors, and coefficients. --Interpret complicated expressions by viewing one or more of their parts as a single entity.	Foundations for Algebra	Writing and Interpreting Algebraic Expressions			Tools of Algebra	Evaluating and Simplifying Algebraic Expressions

A-SSE.2	Use the structure of an expression to identify ways to rewrite it.	Foundations for Algebra	Using the Order of Operations to Evaluate Expressions; Classifying, Graphing, and Comparing Real Numbers; Identifying and Using Properties of Real Numbers; Adding and Subtracting Real Numbers			Tools of Algebra	Evaluating and Simplifying Algebraic Expressions
<b>Write expressions in equivalent forms to solve problems</b>							
A-SSE.3	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression: a. Factor a quadratic expression to reveal the zeros of the function it defines. b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. c. Use the properties of exponents to transform expressions for exponential functions.	Solving Equations	Solving Multi-Step Equations and Equations with Variables on Both Sides; Rewriting and Using Literal Equations and Formulas			Quadratic Equations and Functions	Properties of Parabolas; Quadratic Equations; Solving Equations and Rewriting Functions by Completing the Square



A-SSE.4	Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems.					Sequences and Series	Addressed by teacher
<b>Algebra: Arithmetic with Polynomials &amp; Rational Expressions</b>							
<b>Perform arithmetic operations on polynomials</b>							
A-APR.1	Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.	Polynomials and Factoring	Adding/Subtracting and Multiplying/Factoring Polynomials; Multiplying Binomials and Special Cases				
<b>Understand the relationship between zeros and factors of polynomials</b>							
A-APR.2	Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number $a$ , the remainder on division by $x - a$ is $p(a)$ , so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$ .					Polynomials and Polynomial Functions	Dividing Polynomials
A-APR.3	Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.					Polynomials and Polynomial Functions	Solving Polynomial Equations
<b>Use polynomial identities to solve</b>							

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problems							
A-APR.4	Prove polynomial identities and use them to describe numerical relationships.						
A-APR.5	Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of $x$ and $y$ for a positive integer $n$ , where $x$ and $y$ are any numbers, with coefficients determined for example by Pascal's Triangle.					Polynomials and Polynomial Functions	Using Pascal's Triangle and the Binomial Theorem
Rewrite rational expressions							
A-APR.6	Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$ , where $a(x)$ , $b(x)$ , $q(x)$ , and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$ , using inspection, long division, or, for the more complicated examples, a computer algebra system.	Rational Expressions and Functions	Simplifying Radical Expressions; Adding/Subtracting and Multiplying/Dividing Rational Expressions; Dividing Polynomials			Rational Functions	Simplifying, Multiplying, and Dividing Rational Expressions; Adding and Subtracting Rational Expressions; Simplifying Complex Fractions
A-APR.7	Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.	Rational Expressions and Functions	Simplifying Radical Expressions; Adding/Subtracting and Multiplying/Dividing Rational Expression			Rational Functions	Simplifying, Multiplying, and Dividing Rational Expressions; Adding and Subtracting Rational Expressions; Simplifying Complex

			s; Dividing Polynomial s				Fractions
<b>Algebra: Creating Equations</b>							
<b>Create equations that describe numbers or relationships</b>							
A-CED.1	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	Solving Equations; Linear Functions	Introductio n to Equations; Writing and Graphing Equations Using Slope- Intercept, Point- Slope, and Standard Forms			Tools of Algebra	Solving Equations; Solving Problems by Writing Equations; Solving, Writing, and Graphing Inequalities; Solving Absolute Value Equations and Inequalities
A-CED.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	Introduction to Functions	Graphing and Writing a Function Rule			Functions, Equations, and Graphs	Graphing Relations; Identifying Functions; Writing and Interpreting Direct Variation Equations; Using Linear Models;

							Graphing Two-Variable Inequalities
A-CED.3	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.	Systems of Equations and Inequalities	Solving Systems of Linear Inequalities by Graphing; Modeling Real-World Situations Using Systems of Linear Inequalities			Linear Systems	Solving Problems with Linear Programming; Finding Maximum and Minimum Values
A-CED.4	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.	Solving Equations	Rewriting and Using Literal Equations and Formulas; Solving Systems Using Substitution			Tools of Algebra	Solving Equations
<b>Algebra: Reasoning with Equations &amp; Inequalities</b>							
<b>Understand solving equations as a process of reasoning and explain the reasoning</b>							

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A-REI.1	Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.	Solving Equations	Solving One-Step, Two-Step, and Multi-Step Equations			Tools of Algebra	Solving Equations
A-REI.2	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.	Radical Expressions and Equations; Radical Expressions and Functions	Solving Radical Equations and Rational Expressions			Tools of Algebra; Linear Systems	Solving Inequalities; Reviewing Linear Systems
A-REI.3	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	Solving Equations	Solving One-Step, Two-Step, and Multi-Step Equations			Tools of Algebra	Solving Equations; Solving and Graphing Inequalities
A-REI.4	Solve quadratic equations in one variable: --Use the method of completing the square to transform any quadratic equation in $x$ into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form. --Solve quadratic equations by inspection (e.g., for $x^2 = 49$ ), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real	Quadratic Functions and Equations	Solving Quadratic Equations; Factoring to Solve Quadratic Equations; Completing the Square to Solve Problems; The Quadratic Formula and the Discriminant			Quadratic Equations and Functions	Solving Quadratic Equations; Solving Equations and Rewriting Functions by Completing the Square; Solving Equations by Using the Quadratic Formula

	numbers a and b.						
<b>Solve systems of equations</b>							
A-REI.5	Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.	Systems of Equations and Inequalities	Solving Systems Using Elimination			Linear Systems	Solving Systems Algebraically
A-REI.6	Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.	Systems of Equations and Inequalities	Solving Systems by Graphing			Linear Systems	Graphing Systems of Equations
A-REI.7	Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. For example, find the points of intersection between the line $y = -3x$ and the circle $x^2 + y^2 = 3$ .	Quadratic Functions and Equations	Solving Systems of Linear and Quadratic Equations				
A-REI.8	Represent a system of linear equations as a single matrix equation in a vector variable.	Systems of Equations and Inequalities	Matrices and Solving Systems			Matrices	Solving Systems of Equations Using Inverse Matrices

A-REI.9	Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension $3 \times 3$ or greater).	Systems of Equations and Inequalities	Using Augmented Matrices to Solve Systems			Matrices	Solving Systems of Equations Using Inverse Matrices; Solving a System of Equations Using Cramer's Rule and Augmented Matrices
<b>Represent and solve equations and inequalities graphically</b>							
A-REI.10	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).	Introduction to Functions	Using Graphs to Relate Two Quantities			Functions, Equations, and Graphs	Analyzing Vertical and Horizontal Translations
A-REI.11	Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$ ; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.	Systems of Equations and Inequalities	Solving Systems by Graphing			Linear Systems	Graphing Systems of Equations

A-REI.12	Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.	Systems of Equations and Inequalities	Solving Systems of Linear Inequalities by Graphing; Modeling Real-World Situations Using Systems of Linear Inequalities			Linear Systems	Solving Systems of Inequalities
<b>Functions: Interpreting Functions</b>							
<b>Understand the concept of a function and use function notation</b>							
F-IF.1	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If $f$ is a function and $x$ is an element of its domain, then $f(x)$ denotes the output of $f$ corresponding to the input $x$ . The graph of $f$ is the graph of the equation $y = f(x)$ .	Introduction to Functions	Identifying and Representing Patterns that Describe Linear Functions; Determining Whether a Relation is a Function; Finding the Domain and Range of a Function; Using Function Notation			Functions, Equations, and Graphs	Graphing Relations and Identifying Functions



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F-IF.2	Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.	Introduction to Functions	Finding the Domain and Range of a Function; Using Function Notation			Functions, Equations, and Graphs	Graphing Relations and Identifying Functions
F-IF.3	Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.	Introduction to Functions	Representing Arithmetic Sequences Using Function Notation			Functions, Equations, and Graphs	Graphing Relations and Identifying Functions
<b>Interpret functions that arise in applications in terms of the context</b>							
F-IF.4	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.	Introduction to Functions	Using Graphs to Relate Two Quantities			Functions, Equations, and Graphs	Graphing Linear Equations
F-IF.5	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.	Introduction to Functions	Finding the Domain and Range of a Function; Using Function Notation	Parallel and Perpendicular Lines	Graphing and Writing Linear Equations	Functions, Equations, and Graphs	Graphing Linear Equations
F-IF.6	Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.	Linear Functions	Finding the Rate of Change and Slope of a Function	Parallel and Perpendicular Lines	Relating Slope to Parallel and Perpendicular Lines		

Analyze functions using different representations							
F-IF.7	<p>Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases:</p> <p>a. Graph linear and quadratic functions and show intercepts, maxima, and minima.</p> <p>b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.</p> <p>c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.</p> <p>d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.</p> <p>e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.</p>	<p>Introduction to Functions; Linear Functions; Quadratic Functions and Equations</p>	<p>Graphing a Function Rule; Graphing and Writing Linear Equations in Slope-Intercept Form, Graphing Absolute Value Functions; Graphing Quadratic Functions</p>	<p>Parallel and Perpendicular Lines</p>	<p>Graphing and Writing Linear Equations</p>	<p>Quadratic Equations and Functions; Radical Functions and Rational Exponents; Exponential and Logarithmic Functions</p>	<p>Properties of Parabolas; Graphing Square Root and Other Radical Equations; Model Exponential Growth and Decay; Graphing Logarithmic Functions</p>
F-IF.8	<p>Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function:</p> <p>a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in</p>	<p>Exponents and Exponential Functions; Quadratic Functions and Equations</p>	<p>Simplifying Expressions Involving Zero and Negative Exponents; Solving Quadratic Equations; Factoring</p>			<p>Quadratic Equations and Functions</p>	<p>Properties of Parabolas; Factoring Quadratic Expressions</p>

	terms of a context. b. Use the properties of exponents to interpret expressions for exponential functions.		to Solve Quadratic Equations; Completing the Square to Solve a Problem				
F-IF.9	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).					Radical Functions and Rational Exponents	Addressed by teacher
<b>Functions: Building Functions</b>							
<b>Build a function that models a relationship between two quantities</b>							
F-BF.1	Write a function that describes a relationship between two quantities: --Determine an explicit expression, a recursive process, or steps for calculation from a context. --Combine standard function types using arithmetic operations. --Compose functions.	Introduction to Functions	Identifying and Representing Patterns that Describe Linear/Nonlinear Functions			Radical Functions and Rational Exponents	Adding, Subtracting, Multiplying, and Dividing Functions; Finding the Composite of Two Functions
F-BF.2	Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.	Introduction to Functions	Identifying and Extending Patterns in Sequences ; Representing Arithmetic Sequences			Sequences and Series	Identifying and Generating Arithmetic and Geometric Sequences

			Using Function Notation				
<b>Build new functions from existing functions</b>							
F-BF.3	Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$ , $k f(x)$ , $f(kx)$ , and $f(x + k)$ for specific values of $k$ (both positive and negative); find the value of $k$ given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.	Linear Functions; Radical Expressions and Equations	Graphing Absolute Value Functions; Graphing Square Root Functions			Functions, Equations, and Graphs	Analyzing Vertical and Horizontal Translations
F-BF.4	Find inverse functions: --Solve an equation of the form $f(x) = c$ for a simple function $f$ that has an inverse and write an expression for the inverse. --Verify by composition that one function is the inverse of another. --Read values of an inverse function from a graph or a table, given that the function has an inverse. --Produce an invertible function from a non-invertible function by restricting the domain.					Radical Functions and Rational Exponents	Finding the Inverse of a Relation or Function
F-BF.5	Understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and					Exponential and Logarithmic Functions	Solving Exponential and Logarithmic

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	exponents.						Equations; Solving Equations Using Natural Logarithms
<b>Functions: Linear, Quadratic, &amp; Exponential Models</b>							
<b>Construct and compare linear, quadratic, and exponential models and solve problems</b>							
F-LE.1	Distinguish between situations that can be modeled with linear functions and with exponential functions: --Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. --Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. --Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.	Exponents and Exponential Functions; Quadratic Functions and Equations	Exponential Functions; Exponential Growth and Decay; Linear, Quadratic, and Exponential Models			Tools of Algebra; Functions, Equations, and Graphs	Solving and Graphing Inequalities; Solving Absolute Value Equations and Inequalities; Graphing Linear Equations; Graphing Absolute Value Functions
F-LE.2	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).	Introduction to Functions; Exponents and Exponential Functions	Identifying and Extending Patterns in Sequences ; Representing Arithmetic Sequences	Parallel and Perpendicular Lines	Graphing and Writing Linear Equations	Functions, Equations, and Graphs	Writing Equations of Lines; Writing and Interpreting Direct Variation Equations; Writing Linear

			Using Function Notation; Evaluating and Graphing Exponential Functions; Modeling Exponential Growth and Decay				Equations and Making Predictions from Linear Models
F-LE.3	Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.	Exponents and Exponential Functions	Evaluating and Graphing Exponential Functions				
F-LE.4	For exponential models, express as a logarithm the solution to $abct = d$ where $a$ , $c$ , and $d$ are numbers and the base $b$ is 2, 10, or $e$ ; evaluate the logarithm using technology.						
<b>Interpret expressions for functions in terms of the situation they model</b>							
F-LE.5	Interpret the parameters in a linear or exponential function in terms of a context.	Linear Functions	Finding the Rate of Change and Slope of a Function; Writing and Graphing an Equation of a Direct Variation				

<b>Functions: Trigonometric Functions</b>							
<b>Extend the domain of trigonometric functions using the unit circle</b>							
F-TF.1	Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.			Right Triangles and Trigonometry	Addressed by teacher		
F-TF.2	Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.			Right Triangles and Trigonometry	Addressed by teacher		
F-TF.3	Use special triangles to determine geometrically the values of sine, cosine, tangent for $\pi/3$ , $\pi/4$ and $\pi/6$ , and use the unit circle to express the values of sine, cosines, and tangent for $x$ , $\pi + x$ , and $2\pi - x$ in terms of their values for $x$ , where $x$ is any real number.			Right Triangles and Trigonometry	Addressed by teacher		
F-TF.4	Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.			Right Triangles and Trigonometry	Addressed by teacher		
<b>Model periodic phenomena with trigonometric functions</b>							
F-TF.5	Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.			Right Triangles and Trigonometry	Addressed by teacher		
F-TF.6	Understand that restricting a trigonometric function to a domain on which it is always increasing or			Right Triangles and Trigonometry	Addressed by teacher		

	always decreasing allows its inverse to be constructed.						
F-TF.7	Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.	Radical Expressions and Equations	Finding and Using Trigonometric Ratios				
<b>Prove and apply trigonometric identities</b>							
F-TF.8	Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to find $\sin(\theta)$ , $\cos(\theta)$ , or $\tan(\theta)$ given $\sin(\theta)$ , $\cos(\theta)$ , or $\tan(\theta)$ and the quadrant of the angle.			Right Triangles and Trigonometry	Addressed by teacher		
F-TF.9	Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.			Right Triangles and Trigonometry	Addressed by teacher		
<b>Geometry: Congruence</b>							
<b>Experiment with transformations in the plane</b>							
G-CO.1	Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.	Linear Functions	Determining Parallel and Perpendicular Lines; Writing Equations of Parallel and Perpendicular Lines	Tools of Geometry	Understanding Points, Lines, and Planes		



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G-CO.2	Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).			Transformation s	Finding Translation , Reflection, and Rotation Images of Figures	Functions, Equations, and Graphs	Analyzing Vertical and Horizontal Transformati ons
G-CO.3	Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.			Transformation s	Identifying the Type of Symmetry in a Figure		
G-CO.4	Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.			Transformation s	Finding Translation , Reflection, and Rotation Images of Figures		
G-CO.5	Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.			Transformation s	Finding Translation , Reflection, and Rotation Images of Figures		
<b>Understand congruence in terms of rigid motions</b>							
G-CO.6	Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid			Congruent Triangles	Congruent Figures; Using Correspon ding Parts of		

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	motions to decide if they are congruent.				Congruent Triangles		
G-CO.7	Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.			Congruent Triangles	Congruent Figures; Using Corresponding Parts of Congruent Triangles		
G-CO.8	Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.			Congruent Triangles	Triangle Congruence by SSS and SAS; Triangle Congruence by ASA and AAS		
<b>Prove geometric theorems</b>							
G-CO.9	Prove theorems about lines and angles. Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.			Tools of Geometry; Parallel and Perpendicular Lines	Exploring Angles; Lines and Angles; Properties of Parallel Lines		
G-CO.10	Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to $180^\circ$ ; base angles of isosceles triangles are congruent; the			Triangles	Using Midsegments of Triangles to Solve		

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	segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.				Problems		
G-CO.11	Prove theorems about parallelograms. Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.			Polygons and Quadrilaterals	Properties of Parallelograms		
<b>Make geometric constructions</b>							
G-CO.12	Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.			Tools of Geometry	Making Basic Constructions Using a Straightedge and a Compass		
G-CO.13	Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.			Parallel and Perpendicular Lines	Constructing Parallel and Perpendicular Lines		
<b>Geometry: Similarity, Right Triangles, &amp; Trigonometry</b>							
<b>Understand similarity in terms of</b>							

similarity transformations							
G-SRT.1	Verify experimentally the properties of dilations given by a center and a scale factor: --A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged. --The dilation of a line segment is longer or shorter in the ratio given by the scale factor.			Transformation s	Understand ing Dilation Images of Figures		
G-SRT.2	Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.			Similarity	Proving Triangles Similar; Finding and Using Similarity in Right Triangles		
G-SRT.3	Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.			Similarity	Proving Triangles Similar		
Prove theorems involving similarity							
G-SRT.4	Prove theorems about triangles. Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.			Similarity	Proving Triangles Similar		

G-SRT.5	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.			Similarity	Identifying and Applying Similar Polygons; Proving Triangles Similar; Finding and Using Similarity in Right Triangles; Proportions in Triangles		
<b>Define trigonometric ratios and solve problems involving right triangles</b>							
G-SRT.6	Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.			Right Triangles and Trigonometry	Special Right Triangles; Trigonometry; Angles of Elevation and Depression		
G-SRT.7	Explain and use the relationship between the sine and cosine of complementary angles.			Right Triangles and Trigonometry	Trigonometry		
G-SRT.8	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.	Radical Expressions and Equations	Solving Problems using the Pythagorean Theorem	Right Triangles and Trigonometry	Using the Pythagorean Theorem and Its Converse; Trigonometry		
<b>Apply trigonometry to general triangles</b>							

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G-SRT.9	Derive the formula $A = \frac{1}{2} ab \sin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.			Right Triangles and Trigonometry	Addressed by teacher		
G-SRT.10	Prove the Laws of Sines and Cosines and use them to solve problems.			Right Triangles and Trigonometry	Addressed by teacher		
G-SRT.11	Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).	Radical Expressions and Equations	Solving Problems using the Pythagorean Theorem				
<b>Geometry: Circles</b>							
<b>Understand and apply theorems about circles</b>							
G-C.1	Prove that all circles are similar.			Circles	Addressed by teacher		
G-C.2	Identify and describe relationships among inscribed angles, radii, and chords. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.			Circles	Tangent Lines; Chords and Arcs; Inscribed Angles; Angle Measures and Segment Lengths		
G-C.3	Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.			Circles	Addressed by teacher		
G-C.4	Construct a tangent line from a point outside a given circle to the			Circles	Addressed by teacher		

	circle.						
<b>Find arc lengths and areas of sectors of circles</b>							
G-C.5	Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.			Circles	Addressed by teacher		
<b>Geometry: Expressing Geometric Properties with Equations</b>							
<b>Translate between the geometric description and the equation for a conic section</b>							
G-GPE.1	Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.			Circles	Writing the Equation of a Circle; Finding the Center and Radius of a Circle	Quadratic Relations and Conic Sections	Writing and Graphing the Equation of a Circle; Finding the Center and Radius of a Circle to Graph a Circle
G-GPE.2	Derive the equation of a parabola given a focus and directrix.					Quadratic Relations and Conic Sections	Writing and Graphing the Equation of a Parabola
G-GPE.3	Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.					Quadratic Relations and Conic Sections	Writing and Graphing the Equations of Ellipses and

							Hyperbolas
<b>Use coordinates to prove simple geometric theorems algebraically</b>							
G-GPE.4	Use coordinates to prove simple geometric theorems algebraically.			Polygons and Quadrilaterals	Classifying Polygons in the Coordinate Plane; Applying Coordinate Geometry		
G-GPE.5	Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).	Linear Functions	Determining Parallel and Perpendicular Lines; Writing Equations of Parallel and Perpendicular Lines	Parallel and Perpendicular Lines	Classifying Polygons in the Coordinate Plane; Applying Coordinate Geometry		
G-GPE.6	Find the point on a directed line segment between two given points that partitions the segment in a given ratio.			Addressed by teacher	Addressed by teacher		
G-GPE.7	Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.			Addressed by teacher	Addressed by teacher		
<b>Geometry: Geometric Measurement &amp; Dimension</b>							
<b>Explain volume formulas and use them to solve problems</b>							



G-GMD.1	Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. Use dissection arguments, Cavalieri's principle, and informal limit arguments.			Addressed by teacher	Addressed by teacher		
G-GMD.2	Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.			Surface Area and Volume	Addressed by teacher		
G-GMD.3	Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.			Surface Area and Volume	Finding the Volumes of Prisms, Cylinders, Pyramids, and Cones; Finding the Surface Areas and Volumes of Spheres		
<b>Visualize relationships between two-dimensional and three-dimensional objects</b>							
G-GMD.4	Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.					Quadratic Relations and Conic Sections	Graphing and Identifying Conic Sections
<b>Geometry: Modeling with Geometry</b>							
<b>Apply geometric concepts in modeling situations</b>							

G-MG.1	Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).			Surface Area and Volume	Finding the Surface Areas and Volumes of Prisms, Cylinders, Pyramids, and Cones		
G-MG.2	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).			Surface Area and Volume	Addressed by teacher		
G-MG.3	Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).			Surface Area and Volume	Addressed by teacher		
<b>Statistics &amp; Probability: Interpreting Categorical &amp; Quantitative Data</b>							
<b>Summarize, represent, and interpret data on a single count or measurement variable</b>							
S-ID.1	Represent data with plots on the real number line (dot plots, histograms, and box plots).	Data Analysis and Probability	Making and Interpreting Frequency Tables and Histograms ; Making and Interpreting Box-and-Whisker Plots			Probability and Statistics	Calculating Measures of Central Tendency; Drawing and Interpreting Box-and-Whisker Plots

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S-ID.2	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.	Data Analysis and Probability	Finding the Mean, Median, Mode, and Range			Probability and Statistics	Calculating Measures of Central Tendency; Drawing and Interpreting Box-and-Whisker Plots
S-ID.3	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).	Data Analysis and Probability	Making and Interpreting Box-and-Whisker Plots			Probability and Statistics	Calculating Measures of Central Tendency; Drawing and Interpreting Box-and-Whisker Plots
S-ID.4	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.					Probability and Statistics	Using a Normal Distribution and the Standard Normal Curve
<b>Summarize, represent, and interpret data on two categorical and quantitative variables</b>							
S-ID.5	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize	Addressed by teacher	Addressed by teacher				

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	possible associations and trends in the data.						
S-ID.6	<p>Represent data on two quantitative variables on a scatter plot, and describe how the variables are related:</p> <p>a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.</p> <p>b. Informally assess the fit of a function by plotting and analyzing residuals.</p> <p>c. Fit a linear function for a scatter plot that suggests a linear association.</p>					Functions, Equations, and Graphs	Graphing Linear Equations
<b>Interpret linear models</b>							
S-ID.7	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.					Functions, Equations, and Graphs	Graphing Linear Equations
S-ID.8	Compute (using technology) and interpret the correlation coefficient of a linear fit.	Data Analysis and Probability	Addressed by teacher				
S-ID.9	Distinguish between correlation and causation.	Data Analysis and Probability	Addressed by teacher				
<b>Statistics &amp; Probability: Making Inferences &amp; Justifying Conclusions</b>							
<b>Understand and evaluate random</b>							

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<b>processes underlying statistical experiments</b>							
S-IC.1	Understand statistics as a process for making inferences about population parameters based on a random sample from that population.	Data Analysis and Probability	Classifying Data; Analyzing Samples and Surveys				
S-IC.2	Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation.	Data Analysis and Probability	Addressed by teacher				
<b>Make inferences and justify conclusions from sample surveys, experiments, and observational studies</b>							
S-IC.3	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.	Data Analysis and Probability	Addressed by teacher				
S-IC.4	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.	Data Analysis and Probability	Addressed by teacher				
S-IC.5	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.	Data Analysis and Probability	Addressed by teacher				
S-IC.6	Evaluate reports based on data.	Data Analysis and Probability	Addressed by teacher				
<b>Statistics &amp; Probability: Conditional Probability &amp; the</b>							

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<b>Rules of Probability</b>							
<b>Understand independence and conditional probability and use them to interpret data</b>							
S-CP.1	Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not").	Data Analysis and Probability	Finding Theoretical and Experimental Probability				
S-CP.2	Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.	Data Analysis and Probability	Finding Probability of Compound Events			Rational Functions	Finding the Probability of Multiple Events
S-CP.3	Understand the conditional probability of A given B as $P(A \text{ and } B)/P(B)$ , and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B.					Rational Functions; Probability and Statistics	Finding the Probability of Multiple Events; Finding the Conditional Probability
S-CP.4	Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities.					Rational Functions; Probability and Statistics	Finding the Probability of Multiple Events; Making and Using Probability Distributions
S-CP.5	Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations.	Data Analysis and Probability	Finding Probability of Compound				

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			Events				
<b>Use the rules of probability to compute probabilities of compound events in a uniform probability model</b>							
S-CP.6	Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model.					Probability and Statistics	Finding the Conditional Probability
S-CP.7	Apply the Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$ , and interpret the answer in terms of the model.	Data Analysis and Probability	Finding Probability of Compound Events			Rational Functions	Finding the Probability of Multiple Events
S-CP.8	Apply the general Multiplication Rule in a uniform probability model, $P(A \text{ and } B) = P(A)P(B A) = P(B)P(A B)$ , and interpret the answer in terms of the model.					Probability and Statistics	Finding the Conditional Probability
S-CP.9	Use permutations and combinations to compute probabilities of compound events and solve problems.	Data Analysis and Probability	Finding Probability of Compound Events			Polynomials and Polynomial Functions	Counting Permutations and Combinations
<b>Statistics &amp; Probability: Using Probability to Make Decisions</b>							
<b>Calculate expected values and use them to solve problems</b>							
S-MD.1	Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data					Probability and Statistics	Making and Using Probability Distributions

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	distributions.						
S-MD.2	Calculate the expected value of a random variable; interpret it as the mean of the probability distribution.					Probability and Statistics	Making and Using Probability Distributions
S-MD.3	Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value.					Probability and Statistics	Making and Using Probability Distributions
S-MD.4	Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value.					Probability and Statistics	Making and Using Probability Distributions
<b>Use probability to evaluate outcomes of decisions</b>							
S-MD.5	Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values: a. Find the expected payoff for a game of chance. b. Evaluate and compare strategies on the basis of expected values.					Probability and Statistics	Finding and Applying Standard Deviation; Using a Normal Distribution and the Standard Normal Curve
S-MD.6	Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator).					Probability and Statistics	Finding Sample Proportions and Margin of Error



S-MD.7	Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).					Probability and Statistics	Using a Normal Distribution and the Standard Normal Curve
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## Appendix C

### Montgomery Flex Charter School

#### Science Curriculum

**Course: 7th Grade Science**

**Description:** Science for seventh graders is an integrated approach with opportunities for students to explore concepts in earth science, life science, and physical science. Students learn lab report processes and protocols, and these skills are utilized throughout the course. Earth science investigates the properties of rocks and minerals, patterns in the atmosphere, and the solar system. Students describe the structures of living things, explore how living things interact, and learn about various human body systems in the life science unit. Physical science covers physical and chemical properties of matter, different types of forces and motion, and various forms of energy.

**Text: Science: Level Green, Glencoe, 2005**

Units:

#### 1. The Nature of Science

Whether you are trying to identify the duck on a pond that is the fastest swimmer or tasting your iced tea to determine whether it is sweet enough, you are acting like a scientist. Scientists spend much of their time observing and investigating the world around them.

In this introductory unit, you will explore the nature of science and learn how to set up and perform a scientific experiment, an activity that you will repeat throughout the course. In addition, you will analyze how science and technology influence your everyday life.

#### 2. Earth's Materials

Many different substances form within the Earth. Gravel used to build roads and rare diamonds used to make jewelry both originate below Earth's surface. In this unit, you will learn more about Earth's materials as you describe the characteristics and composition of various rocks and minerals, identify rocks and minerals, compare different types of rocks, and analyze the rock cycle.

## 3. Earth's Atmosphere and Beyond

What causes the wind to blow? How is the sun able to heat Earth from such a great distance? Why are the climates of certain regions of Earth so different from others? In this unit, you will discover the answers to these questions as you explore the characteristics of Earth's atmosphere, interpret weather patterns, explain and compare various climate types, and analyze how substances that are fundamental to organisms cycle through Earth's atmosphere.

In addition, you will examine Earth as part of the solar system. In the last lessons of this unit, you will identify the effects of Earth's motions, explore the characteristics and movements of Earth's moon, and describe and compare the characteristics of the planets in our solar system.

## 4. The Basis of Life: Part 1

How would life on Earth change if all organisms looked the same, behaved in the same manner, and changed at the same rate? On the other hand, what if there were no similarities among living things? In this unit, you will explore the branch of science called biology, which is the study of the unity and diversity of life. Throughout the unit, you will describe the structure and organization of living things from cells to organ systems, compare and classify living things, and analyze plant and animal reproduction.

## 5. The Basics of Life: Part 2

What determines whether or not you have dimples? Why are you probably much larger than your ancestors were when they were your age? How does oxygen reach your brain? In this unit, you will examine factors that shape how you look and how your body functions. More specifically, you will study genetics and heredity, examine the theory of evolution, analyze the structure and function of the cardiovascular system, and describe and compare other human body systems.

## 6. Family and Consumer Sciences

In this unit, you will investigate consumer goods, including care instructions and safety precautions that are legal necessities for inclusion on labels, as a way of understanding consumer rights and responsibilities. You will describe a well-balanced daily menu using the dietary guidelines and the food guide pyramid. You will identify ways to keep children healthy and safe at each stage of child development, and you will compare and

contrast child development guided practices according to the stage of child development.

### 7. Human Body Systems, Part 1

How did the fruit and cereal that you ate for breakfast become energy that you use to complete your schoolwork? Why do you feel sleepy shortly after eating cookies or other sugary snacks? In this unit, you will identify the organs of the digestive system and their functions as well as describe the importance of different types of nutrients. In addition, you will explore the functions of the structures of the respiratory and excretory systems.

### 8. Human Body Systems, Part 2

Skin, which is the body's largest organ, is the barrier between your physical interior and the world around you. Although it may appear to be inactive, a lot is happening on and within the skin. In this unit, you will investigate the functions of the skin as well as explore some systems that it contains, such as the muscular, skeletal, nervous, reproductive, and endocrine systems. Specifically, you will analyze how the skin protects the body, compare different types of muscles, describe functions of the skeletal system, explain how different factors may affect the nervous system, identify the hormones that different endocrine glands produce, and compare the major structures of the male and female reproductive systems.

### 9. Matter and Energy: Part 1

Most pond organisms would not be able to survive the winter if a layer of ice did not form on the surface of the pond. Many species of plants would not prosper if soil was not able absorb certain nutrients. The special *properties* of water and soil are vital to the existence of these organisms. In this unit, you will explore the properties of several different types of matter as you identify and compare chemical and physical changes, describe different types of solutions, investigate the unique characteristics of water, analyze acids and bases, describe changes of states of matter, and explain the behavior of fluids.

### 10. Matter and Energy: Part 2

Much of your life is about getting from point A to point B. Some journeys, such as the trek from your bedroom to the bathroom, expend a relatively small amount of energy, while others, such as the drive from your home to a family vacation spot, require a greater amount of energy. In this unit, you will learn about motion, energy, and the relationships between the two as you describe and compare Newton's laws of motion,

distinguish among different types of energy, apply the law of conservation of energy, compare renewable, nonrenewable, and alternative energy sources, and explore how you use energy.

## Course: 8th Grade Science

Text: Science: Level Blue, Glencoe, 2005

**Description: Focusing on the fundamentals of Earth, life, and physical sciences, Science 8 lessons are designed to engage students through exploration and discovery. Life science units expose students to traits and how they change, relationships between organisms and their environments, and cycles in nature. Earth's changing geology is studied in the Earth science unit, in which students learn the causes and effects of earthquakes and volcanoes and the bodies that comprise the solar system. In the physical science unit, students learn about atoms and elements and how to calculate different forms of motion and force.**

Units:

### 1. The Nature of Science

Whether you are examining several bikes to determine which is the fastest or testing a cake to determine whether or not it is done, you are acting like a scientist. Scientists spend much of their time observing and investigating the world around them. In this introductory unit, you will explore the nature of science and learn how to set up and perform a scientific experiment, an activity that you will repeat throughout the course. In addition, you will analyze how science and technology influence your everyday life.

### 2. Humans and Heredity

Why are your eyes the color that they are? Why are you probably much larger than your ancestors were when they were your age? How did the breakfast that you ate this morning become the energy that you use to complete your schoolwork?

In this unit, you will examine factors that shape how you look and how your body functions. More specifically, you will study natural selection, explain the relationships between genetics and heredity, analyze the structure of a cell, organ, and organ system, and interpret how negative feedback mechanisms help the body to maintain a stable internal environment.

### 3. Ecology

Earth is home to tens of millions of species, some of which coexist on remote desert islands, and others in heavily-populated cities. Although well-studied, much is still unknown about the relationships of species with each other and with their nonliving surroundings, such as air and water. In this unit, you will analyze some basic interactions among organisms and between living and nonliving things as you

investigate how the environment influences life on Earth, explore how energy flows through ecosystems, and compare communities that live in different places on Earth. Maybe someday—you will have the opportunity to apply what you learn to solve one of the many ecological mysteries.

### 4. Earth Changes Over Time

Forces that are too far below Earth's surface for people to see created many of the rock formations that exist today. Some of these structures took millions of years to form. So how do scientists analyze these rock structures?

In this unit, you will learn how scientists study mass rock movement as you explore continental drift and seafloor spreading, examine the theory of plate tectonics, identify the processes of fossil formation, and explain how to determine the absolute and relative ages of rocks. In addition, you will analyze the causes and results of earthquakes and volcanic eruptions.

### 5. Earth's Place in the Universe

Do you ever wonder what it is like in other parts of the country, far from where you live? How about in other countries in the world? What about on other planets? In other galaxies?

In this unit, you will travel around the universe to continue to explore the sun, the moon, stars, planets, and galaxies. As you do so, you will describe relationships among Earth, the moon, and the sun; identify unique characteristics of the planets; examine how stars evolve; and learn much more about what's going on in the universe.

### 6. Chemistry of Matter

Some substances, like water and oxygen, are crucial to our existence, while others, such as carbon monoxide and hydrogen cyanide, can be deadly. What makes the latter substances, which contain some of the same elements that the former do, so dangerous? The characteristics of a substance are sometimes due to how the substance formed and how it is held together, not just what it contains.

In this unit, you will analyze the chemical makeup of matter as you describe the structure of an atom, identify the relationship between an element's position in the periodic table and its traits, compare how different atoms combine, and investigate chemical reactions.

## 7. Motion, Forces, and Energy

Every day you probably witness a force moving an object or energy enabling something to function. In this unit, you will learn more about how and why things move, as well as how energy affects change as you distinguish among different types of motion, analyze the law of conservation of momentum, explain Newton's laws of motion, calculate different forces, describe simple and complex machines, and compare various forms of energy.

## 8. Physical Interactions

How does lightning travel from the sky to the ground? How does an engine work? How do bats, which are blind, locate and capture prey? You will learn the answers to these questions as you investigate physical interactions of matter and waves.

In this unit, you will examine electric charge, electric current, and electric circuits, analyze the behavior of magnets and of objects placed in magnetic fields, and explore the unique relationship between electricity and magnetism and how this relationship can be manipulated to produce an electric current or a magnetic field. In addition, you will study the characteristics of various types of waves and make inferences about the behavior of waves.



## **Course: Earth Science**

**Text: Earth Science, Prentice Hall, 2009**

**Description: In this course, students look at our planet's place in the universe as well as its composition and the many changes it may undergo. In addition, they study Earth's history, comparing landforms, investigating the properties of rocks and minerals, analyzing weather patterns, and examining the relationships between Earth, moon, and sun.**

**During the second half of the course, the student will explore Earth's history by studying fossils and rock layers; investigate oceanic productivity and features on the sea floor; learn about atmospheric processes, including the water cycle; infer how severe storms form; study the Earth-moon-sun relationship; and explore other celestial bodies, such as stars.**

Units:

### 1. Introduction to Earth Science

Earth Science is a vast branch of science that covers many subject areas, including geology, oceanography, meteorology, and astronomy. Earth scientists study physical and chemical aspects of Earth and its place in the solar system, using various mapping techniques and advanced global positioning technology. Because Earth contains so many interactive parts, scientists often study Earth as a system. The Earth system is powered by energy from the sun and by geologic forces inside Earth.

In this introductory unit, you will learn about Earth's composition and internal structure. You will read about different techniques that scientists use to study Earth and other planets in the solar system and you will learn how the theory of plate tectonics influences the field of Earth science. You will explore Earth's four major spheres—the geosphere, hydrosphere, atmosphere, and biosphere—and you will determine how human activity impacts the Earth system.

### 2. Minerals

Did you know that close to 4,000 different minerals have been identified on Earth? When scientists discover a new mineral, they study its physical characteristics and try to

determine how it may have formed. Once a mineral has been named, it can be grouped with other minerals that share similar properties.

In this unit, you will examine some of the more common mineral groups on Earth, including silicates, carbonates, oxides, sulfates, sulfides, halides, and native elements. You will learn about mineral properties and the tests that scientists conduct to classify minerals. You also will study elements, atoms, and subatomic particles, and you will learn how atoms of different elements combine to form compounds.

### 3. Rocks

When different minerals mix together, they form rocks. There are three main types of rocks on Earth—igneous, sedimentary, and metamorphic—each of which forms in a unique way. Rocks can change from one type to another because of the rock cycle, which you will learn about, and the constant changes within Earth's interior.

In this unit, you will study each rock type in great detail. You will learn how each one forms and where scientists usually find that type of rock on Earth. You will explore the rock cycle and the natural processes that influence rock transformations. At the end of the unit, you will conduct an investigation using various samples from your rock kit.

### 4. Earth's Resources

Earth contains valuable resources—such as air and water—that are used every day by plants, animals, and humans. These resources are categorized into two main groups: renewable resources and nonrenewable resources. Since there are limited amounts of nonrenewable resources on Earth, scientists have determined alternative ways to extract energy from resources such as wind, water, and the sun.

In this unit, you will explore different forms of renewable and nonrenewable resources. You will read about fossil fuels and the ways they are used to produce energy for various human activities. You will identify alternative energy resources and their advantages and disadvantages, and you will explore how Earth's natural resources can be protected from harmful pollutants and overuse.

### 5. Sculpturing Earth's Surface

Geologically, Earth is constantly changing. Earth's surface is influenced by internal forces that create mountains and external forces that weather and erode Earth's crust.

Some geologic changes occur over long periods of time, while others happen quickly, drastically changing landscapes in minutes.

In this unit, you will study processes that sculpt Earth's surface, including weathering, erosion, deposition, and even human activities such as logging and construction. You will learn how and why mass movements occur, and you will explore the various ways water can shape landscapes over time.

### 6. Glaciers, Deserts, and Wind

Glaciers cover and shape approximately 10 percent of the total land area on Earth. As a glacier moves—or flows—it erodes rock from valley floors and walls. In sharp contrast, deserts are areas that lack moisture and have very little organic material. Desert ecosystems are easily shaped by running water and wind.

In this unit, you will learn about glaciers and deserts. You will study different types of glaciers and how they move, and you will read how sand- and pebble-covered deserts are affected by the processes of weathering and erosion. At the end of the unit, you will take a closer look at exactly how wind erodes desert landscapes.

### 7. Earthquakes and Earth's Interior

Caused by the rapid release of energy stored inside Earth, earthquakes can greatly damage Earth's surface, particularly if they occur near a large city. Earthquakes can create various hazards, including seismic shaking, landslides, and even tsunamis.

In this unit, you will explore earthquakes and why they occur. By completing the lab *Locating an Earthquake* you will learn how scientists are able to determine an earthquake's epicenter and its focus. In order to understand how scientists measure earthquakes, you will study two types of seismic waves: body waves and surface waves.

### 8. Plate Tectonics and Other Igneous Activity

The hypothesis of continental drift, followed by the theory of plate tectonics, significantly changed scientists' understanding of Earth's geologic forces. As scientists began to accept new ideas about movement within Earth's layers, they were able to explain many other geologic forces, such as earthquakes, volcanic eruptions, and even seafloor spreading.

In this unit, you will explore the theory of plate tectonics and how it impacted the field of geology. You will learn what causes tectonic plate motion and you will examine different types of plate boundaries. During the unit, you will read how volcanic eruptions are directly related to activity within Earth's interior. You will learn about different types of volcanism and you will study the three main types of volcanoes: shield, cinder cone, and composite cone.

### 9. Mountain Building

Mountains are classified into four main types: volcanic, folded, fault-block, and dome. These types of mountains can be found in various places on Earth's surface. The mountain-building process occurs mostly at convergent plate boundaries, where colliding plates result in massive forces that create mountains.

In this unit, you will explore how and where mountains are built on Earth's surface. You will identify the four main types of mountains and at which convergent plate boundary they usually occur. During the unit, you will complete an investigation of anticlines and synclines, which will help you better understand the different types of folded mountains.

### 10. Geologic Time and Earth's History

In this introductory unit, you will explore Earth's early history by studying fossils, the rock record, and the geologic time scale. You will learn how scientists are able to date rock layers using radiometric dating, and how they are able to develop theories of past environments using fossils. In addition, you will learn how the geologic time scale is organized and how it was originally developed by scientists in the 1800s.

During this unit, you will complete a lab on fossils, which will enable you to understand how fossils can be used to define rock sequences. At the end of the unit, you will study Precambrian Time and the Paleozoic, Mesozoic, and Cenozoic Eras. You will learn how Earth changed biologically and geologically during these important time periods in history.

### 11. Oceanography

In this unit, your reading assignments and activity components will immerse you in the field of oceanography. From physical features of the ocean floor to ocean productivity

and the diversity of marine life, you will find that you cover most aspects of the world's oceans throughout this unit.

During this unit, you will study the density of seawater. You will be asked to complete a Virtual Lab in which you will experiment with different solids and liquids, to better understand density. At the end of the unit, you will learn about waves, tides, and how ocean waters circulate throughout the world. You also will learn about shoreline processes and how various features are created due to natural causes.

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### 13. Meteorology, Part 1

In this unit, you will study various topics within the field of meteorology. You will learn how to differentiate between weather and climate, and you will compare and contrast heat and temperature. When studying heat, you will complete an investigation about the specific heat of land and water.

During this unit, you also will explore how clouds form. You will learn about the four processes that lift air—oro-graphic lifting, frontal wedging, convergence, and localized convective lifting—and you will study how different types of precipitation form. At the end of the unit, you will study air pressure and wind. You will learn how air pressure is exerted on objects and how local and regional wind patterns form.

### 14. Meteorology, Part 2

In this unit, you will continue your study of meteorology. First you will learn about air masses and how they are classified. Then you will explore fronts, including: warm

fronts, cold fronts, stationary fronts, and occluded fronts. You also will study severe storms and you will identify the conditions in which they form.

During this unit, you will explore global climates and the characteristics that define them. You will learn about some of the natural processes that can cause changes in climate, and you will study global warming. Upon completion of the unit, you will have a better understanding of the consequences of global warming and climate change.

### 15. Astronomy, Part 1

In this unit, you will begin to study outer space. You will first learn how early astronomers viewed Earth's place in the solar system, and you will study famous contributors to early astronomy, such as Galileo and Newton. Next you will study the Earth-moon-sun system and you will identify different features on the surface of the moon.

During this unit, you will examine the solar system and its interrelated parts. You will learn about the terrestrial and Jovian planets, as well as other bodies such as asteroids, meteors, and comets. By the end of the lesson, you will be able to explain why Pluto is no longer considered one of the planets in our solar system.

### 16. Astronomy, Part 2

In this unit, you will study light and how it applies to the field of astronomy. You will examine the electromagnetic spectrum and you will learn how the Doppler Effect can be used to study stars. You also will study the following types of telescopes: refracting, reflecting, radio, and space.

During this unit, you will investigate the orbital speed of the planets in our solar system. You also will learn about star properties and the birth, life, and death of stars. Finally, you will learn about the universe on a greater scale; you will discover that scientists believe in universal expansion and you will study the big bang theory.

## Course: Biology

**Text: Biology: The Dynamics of Life, Glencoe, 2004**

**Description: Designed as a preparation for college-level biology courses, students in Biology study the role of a biologist, analyze the life of a cell, make genetic predictions, and infer how and why organisms change. Hands-on explorations and virtual simulations enhance students' comprehension of key science concepts.**

**In the second half of this course, students examine and compare plant and animal species, beginning with the simplest bacteria and finishing with complex systems of mammals. The final unit examines the systems of the human body, with additional lessons on the human lifecycle, nutrition, and the effects of pharmaceuticals. Students complete traditional lessons as well as hands-on and virtual labs to reinforce important concepts and theories.**

## Units

### 1. What is Biology?

Welcome to biology, the study of the diversity and unity of living organisms. In this opening unit, you will review the common characteristics of all organisms, examine various scientific methods, compare quantitative and qualitative information, and begin to examine how scientific discovery may affect society.

### 2. Ecology

All living and nonliving components on Earth, including plants, animals, water, air, and soil, have an effect on each other. **Ecology** is the study of how living and nonliving elements interact. In this unit you will study these interactions as you identify **biotic** and **abiotic** factors that exist in different ecosystems, study the characteristics of different **biomes**, analyze how and why ecosystems change, and examine people's impact on the environment.

### 3. The Life of a Cell

No matter how simple or complex, buildings are all composed of basic units of structural materials. Similarly, all organisms are made up of one or more cells, the basic units of life. In this unit you will explore the life of a cell as you study the chemistry of cells,

identify cell structures and functions, examine how cells transfer matter and energy, and analyze the cell cycle.

## 4. Genetics

Most physical traits, such as eye and hair color, are passed on from one generation to the next. In this unit you will learn how genetics plays a role in determining traits as you study the history of genetics, analyze the structure and function of DNA, study patterns of heredity, and explore how genetic technology influences human life.

## 5. Change Through Time

Just as Earth itself is dynamic, so is the life that exists upon it. In this unit you will explore how life on Earth has changed as you examine hypotheses about how life began, study the theory of evolution, analyze ancestral evidence of humans, and compare ways in which organisms are classified.

## 6. Viruses, Bacteria, Protists, and Fungi

We can readily recognize plant and animal diversity because plants and animals are readily visible. However, much of life's diversity exists in organisms that we do not see every day such as bacteria, protists, and fungi. In this unit you will examine and compare different types of bacteria, protists, and fungi. In addition, you will analyze the characteristics of viruses, nonliving things commonly confused with bacteria.

## 7. Plants

By now you probably know that plants are essential for most life on Earth. Not only do they provide food and energy for most organisms, they also supply life-sustaining gases. In this unit you will study the characteristics and functions of a vast array of plants and analyze the similarities and differences among them.

## 8. Invertebrates

The majority of animals on Earth are invertebrates, or animals without backbones. These animals can exist almost anywhere on Earth—from the deepest crevices of the ocean floors to the steepest snow-covered mountain tops. In this unit you will explore the variations that enable invertebrates to adapt to almost any environment and sustain almost any condition.



### 9. Vertebrates

Humans have many biological, social, and cultural ties with other vertebrates, or animals with backbones. Some people keep vertebrates, such as birds, fish, dogs, and cats, as pets. Many people rely on the products of these animals, such as milk, eggs, and leather. Some view specific vertebrates, such as cows, as religious or cultural symbols. In this unit you will explore the characteristics, adaptations, and behaviors of various types of vertebrates.

### 10. The Human Body

The human body is a complex system of chemicals, organs, vessels, and connectors that enable people to compete in soccer games, solve algebra problems, and make decisions about how to spend their free time. In this unit you will analyze the major systems of the human body and examine how they interact with one another.

### 11. Family and Consumer Sciences

In this unit, students will explain how consumer rights and responsibilities are protected through government agencies, consumer protection agencies and consumer action groups. They will analyze the energy requirements, nutrient requirements and body composition for individuals at various stages of the life cycle. They will analyze the impact of food addictions and eating disorders on health. In addition, students will analyze physical, intellectual and social/emotional development in relation to theories of child development (e.g., Piaget, Erikson and prior findings versus new brain development research). Lastly, students will analyze current issues in health and safety affecting children at each stage of child development.

## **Course: Chemistry**

**Text: Chemistry, Prentice Hall, 2008**

**Description: Chemistry incorporates math support and problem-solving alongside the chemistry curriculum. The first semester provides a foundation in elemental chemistry; students explore the atoms and elements, concepts in chemical bonding, and how atoms and elements react to one another.**

**Visual learning and hands-on exercises help reinforce the concepts covered in the second semester, which include the properties of matter, solutions, and energy. Students are also introduced to the principles of electrochemistry, organic chemistry, and nuclear chemistry.**

Units:

### 1. Introduction to Chemistry

Chemistry can help explain much of what is happening in the world around you. This branch of science is vast because it deals with the study of matter, which is present just about everywhere. In this introductory unit, you will study the different areas of chemistry, identify how chemistry affects various industries, review the steps of the scientific method, and examine the measurement system that all scientists use. You also will learn how to measure, convert, and calculate accurately to solve chemistry problems. You will repeatedly apply these math concepts throughout the course.

### 2. An Overview of Matter and Change

Chemistry is the study of matter and the changes it undergoes. In this unit you will begin to examine the basic types of matter and the factors that may alter it. You will learn how to classify matter, review the chemical naming system of elements, describe the physical and chemical properties of different substances, and analyze chemical and physical changes of matter. You will further explore some of these concepts later in the course.

### 3. Atoms and Elements

In order to understand the composition of matter, you need to understand the structure of an atom, the smallest particle of an element that has all the characteristics of that

element. In this unit you will study the composition of atoms and elements. You will examine various historic models of the atom, learn how to write an electron configuration for an atom, compare atoms of different elements, and learn how an atom becomes an ion. In addition, you will review how elements are organized in the periodic table and analyze trends in the table.

### 4. Chemical Bonding

Atoms and molecules constantly combine to form new substances. In this unit you will learn how different types of chemical bonding occur. You will examine how atoms become charged ions; compare ionic, metallic, and covalent bonds; model how atoms combine; describe the properties of different types of compounds; and evaluate the strength of bonds. It is important that you to understand how chemical bonding occurs before you study chemical reactions.

### 5. Chemical Formulas and Reactions

In order to understand many core chemistry concepts, you must be able represent and analyze chemical reactions. In this unit you will practice doing so as you apply rules for naming and writing chemical formulas, balance equations, compare and interpret empirical and molecular formulas, and predict the products of different types of reactions. In addition, you will learn how to convert one quantity of a substance, such as mass or volume, to another, such as moles or number of particles, and calculate percent composition of a compound.

### 6. Stoichiometry

In order to thoroughly understand chemical equations, you need to be able to mathematically interpret them. In this unit you will apply math concepts in order to analyze chemical equations in terms of moles, particles, mass, and volume. You also will learn how to calculate the maximum amount of product that reaction can produce.

### 7. Solids, Liquids, and Gases

In this unit you will analyze the states of matter in terms of particles and use the kinetic theory of matter to describe the behavior of matter in each state. You will predict how temperature, volume, and the number of particles affect gas pressure, and how to quantify these effects using Boyle's, Charles's, and the combined gas laws. You will have the opportunity to perform a virtual lab to investigate the relationship between the

pressure and volume of a gas. Finally, you will learn how solutions form and compare different types of solutions.

### 8. Solutions, Acids, and Bases

In this unit you will continue to learn about different types of solutions as you examine some special properties of solutions and solve problems involving solubility and concentration. You will explore acids and bases as you compare acid-base theories, calculate acid and base concentrations, and describe what happens during neutralization reactions. You will have the opportunity to perform a virtual and a hands-on titration lab at the end of the unit.

### 9. Heat, Energy, and Reactions

In this unit you will continue to explore chemical reactions in terms of heat and energy as you learn how scientists measure the heat of a reaction and solve problems involving heat transfers in chemical reactions. You will identify factors that affect the rate of a reaction and design an experiment to test these factors. Finally, you will learn how amounts of reactants and products change in a chemical system at equilibrium and identify stresses that can change the equilibrium of a chemical reaction.

### 10. Electrochemistry

In this unit you will study electrochemistry, the branch of chemistry that deals with the relationship between electricity and chemical changes. You will examine how reactants and products gain and lose electrons, learn how to determine the oxidation number of an atom, and compare different types of electrochemical cells, which convert electrical energy into chemical energy or vice versa. In addition, you will have the opportunity to perform a virtual redox titration.

### 11. Organic Chemistry

Many everyday items, such as clothes, food, and containers, are carbon-based or organic compounds. Throughout this unit you will classify organic compounds, model their structures, examine how they form, and identify the organic compounds that certain common products contain. In addition, you will learn about the roles that carbon plays in biochemical processes.

### 12. Nuclear Chemistry

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Although nuclear materials are fairly common, most people do not know exactly what they are or what makes them both beneficial and dangerous. In this unit, you will explore different types and uses of radioactivity and analyze the various changes that nuclear particles may undergo. Also, you will learn how nuclear waste is stored and how scientists detect radiation.

## **Course: Physics**

**Text: Physics, Holt McDougal, 2006**

**Description: The goal of physics is to describe the physical world using a small number of basic assumptions, concepts, and equations. In this course, emphasis is placed on relating physics to the everyday world. The student will explore the concepts involved with motion in one- and two-dimensions, forces, work and energy, momentum and collisions, circular motion and gravitation. The students will recognize the importance of the laws of thermodynamics.**

**Approximately 40 percent of the course involves virtual laboratory investigations. Some activities will require ordinary household items such as rulers, meter sticks, balls or marbles, string, paper, and pencils.**

**The first half of the course focuses on understanding motion. The student will learn kinematic equations and apply them to various situations. The student will explore forces, work, and energy and apply these concepts in the special case of circular motion. Heat and the laws of thermodynamics are covered.**

**The second half of the course focuses on waves, in particular sound and light. Then the course moves to understanding electricity and magnetism and the relationship between the two. It concludes with a basic exploration of atomic physics.**

Units:

### 1. Introduction

Welcome to Physics A. This unit introduces the course objectives and explains the grading guidelines for research assignments and laboratory reports. In addition, the unit reviews the scientific method.

### 2. Physics and the Laws of Motion

Throughout this unit you will explore the motion of objects. Most of the types of motion described in this unit are likely familiar to you. You will learn about these common types of motion by studying laws of motion, performing calculations, and conducting virtual laboratory experiments.

## 3. Energy and Motion

In this unit you will learn about work, energy, and motion. You will study the different kinds of energy that are involved when things move and learn how energy is converted from one form to another during collisions. In addition, you will learn about the forces involved with circular motion and gravitation. You will continue to solve real-world problems and conduct virtual laboratory experiments.

## 4. Heat and Thermodynamics

In the previous unit you studied energy. In this unit you will learn about a particular form of energy: heat. Thermodynamics involves understanding how the transfer of heat affects the work done by a system. You also will study the first and second laws of thermodynamics and continue to solve real-world problems and conduct virtual laboratory experiments.

## 5. Waves

In this unit you will explore the behavior of oscillations and waves. You will study periodic motion, analyze the characteristics of sound and light, and learn how waves transport energy. You will perform virtual labs to investigate the relationship between the length and period of a pendulum, and the correlations among frequency, speed, and amplitude of sound waves.

## 6. Electricity

In this unit you will explore the properties of electric charges. You will calculate the electric force produced by point charges, interpret electric field lines, learn how capacitors store electrical energy, and compare series and parallel circuits. You will perform a virtual lab to investigate the relationships between voltage and current and resistance and current. In an interactive discussion with your classmates, you will debate if using hybrid electric vehicles may help to solve some of our energy problems and discuss some of the environmental problems associated with carbon emissions.

## 7. Magnetism and Atomic Physics

In this unit you will explore the relationship between electricity and magnetism. You will learn how electromagnets work, analyze the forces exerted on charges in a magnetic field, and study a field of physics known as quantum mechanics, which describes the

physics of the particles that make up atoms. You will perform virtual labs to investigate the magnitude of the magnetic fields of solenoids and the relationship between kinetic energy, emitted electrons, and the wavelengths of light.



## Appendix D

### Montgomery Flex Charter School Social Studies Curriculum

**Course: 7th Grade Social Studies**

**Textbooks:**

- **World Studies: Medieval Times to Today, Prentice Hall, 2005**
- **World Studies: Western Hemisphere, Prentice Hall, 2005**

**Description:** In this course, students study the political, economic, and social changes from the fifth century to modern times. Students make connections between historical events, such as the rise and fall of empires and the rise of democracy, and understand long-term changes and recurring patterns in world history. Students complete a comprehensive study of the history, geography, nations, and cultures of North and South America, and they also hone their social studies skills by reading primary source documents, forming historical hypotheses, and drawing conclusions to the facts presented.

**Units:**

#### 1. Focus on History, Part 1

In this unit you will explore the history, religion, and cultures of many parts of the world. You will learn about the rise of the Byzantine and Islamic Empires and how their influences spread throughout the globe. You will also study important African kingdoms and trading centers. You will explore the civilizations of South America, Middle America, and North America, and discover how those cultures were influenced by the arrival of European explorers. Finally, you will learn about Asian civilizations, including China, medieval Japan, and the Great Mughal Empire in India.

#### 2. Focus on History, Part II

In this unit, you will explore important events in the history of the world from the Middle Ages up to today. You will learn about life in medieval Europe and explore the powerful influences of kings, the Church, and feudalism. You will also study the causes and effects of the Crusades, the Renaissance, and the Reformation. You will examine how

Europeans explored the globe and conquered civilizations in the Americas and Africa. You will also explore the influences of the Enlightenment and the Industrial Revolution. You will also examine the impact of nationalism and imperialism and explore important wars and revolutions of the 18th, 19th, and 20th centuries. You will conclude your study with a look at the modern world.

### 3. Focus on Geography, Part 1

In this unit you will begin to explore the study of geography. You will learn about the five themes of geography and discover the tools geographers use. You will also examine the planet Earth as well as climate, weather, and vegetation. Finally, you will look at aspects of human geography, including population, migration, and economic and political systems.

### 4. Focus on Geography, Part II

In this unit you will continue your study of geography. You will take a closer look at the relationship between humans and the Earth. You will explore culture, society, and cultural change. You will also learn about natural resources, land use, and people's effect on the environment.

### 5. Build a Regional Background: The U.S. and Canada

In this unit you will begin your study of the United States and Canada. You will explore the geographical features of the countries of North America. You will also examine the histories of the United States and Canada, from European exploration to independence, to the status of world powers. Finally, you will learn about the cultures of the United States and Canada.

### 6. Focus on Countries: The U.S. and Canada

In this unit you will continue your study of the United States and Canada. You will take a more in-depth look at the geography and history of four regions of the United States: the Northeast, the South, the Midwest, and the West. You will also explore geographical and cultural characteristics of Canada's provinces and territories, specifically Ontario and Quebec, the Prairie Provinces, British Columbia, the Atlantic Provinces, and the Northern Territories.

### 7. Build a Regional Background: Latin America

In this unit you will begin your study of Latin America. You will explore the geographical features of the countries of Latin America. You will also examine the histories of South and Central America, from the height of their early civilizations, to European exploration and conquest, to the achievement of independence. Finally, you will learn about the cultures of Mexico, the Caribbean, and Central and South America.

### 8. Focus on Countries: Latin America

In this unit you will continue your study of Latin America. You will take a more in-depth look at the geography and history of several countries that make up Latin America. You will study the Central American nations of Mexico, Guatemala, and Panama. You will also explore the history and current events affecting the people in the Caribbean countries of Cuba, Haiti, and Puerto Rico. Finally, you will examine the South American nations of Brazil, Peru, Chile, and Venezuela.

## **Course: 8th Grade Social Studies**

**Textbook: The American Republic to 1877, Glencoe, 2005**

**Description: Social Studies 8 examines the American experience from pre-colonial times through Reconstruction following the Civil War. U.S. political, economic, and social history is explored from a chronological point of view with lessons that develop the students' abilities to analyze, interpret, and evaluate different forms of information. Throughout the course, students make connections between historical events and their impact on the American people and landscape.**

Units:

### 1. Different Worlds Meet

In this unit, you will learn about the people and places that existed in the Americas before the arrival of Europeans. You will examine how these civilizations were affected by European exploration and conquest of the continent. You will also explore the influences of religion and technology on Europeans' exploration of the globe. Finally, you will study the roles of Spain and Portugal on the New World and learn about early European settlements in North America.

### 2. Colonial Settlement

In this unit you will learn how North America was colonized by European nations. You will explore what life was like in Early English settlements and compare and contrast the colonies in different regions of North America. You will also study the impact of government, religion, and culture on colonists in America. Finally, you will examine the impact of the French and Indian War on England and France's struggle for control of the continent.

### 3. Creating a Nation

In this unit you will explore the creation of the United States as a new nation. You will examine the reasons colonists demanded independence from England and why they were willing to wage a war to achieve freedom from King George III. You will take an in-depth look at the Revolutionary War and learn about important people of that time. You will also learn about the plans of government the nation's founders experimented with

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and how they finally agreed on the Constitution. Finally, you will examine the Constitution, the federal government of the United States, and read about the rights and responsibilities of American citizens.

## 4. The New Republic Part 1

In this unit you will explore the early years of the American Republic up to 1825. You will learn about early challenges and conflicts faced by the new Union. You will examine the development of the first political parties in the United States. You will also read about the War of 1812 and military struggles with Native Americans as settlers moved west. You will study the factors that made westward expansion possible, such as the Louisiana Purchase, economic growth, and technological innovation. Finally, you will look at the development of regional differences in the United States and examine the foreign policies the nation adopted in the early nineteenth century.

## 5. Focus on Pennsylvania

In this Unit, you will explore the History of Pennsylvania, including the influence of Quakers at the beginning of the Commonwealth, and the importance of Pennsylvania in the mining of coal and production of steel during the Industrial Revolution. You will look at Pennsylvania's Government, and compare and contrast the role of State vs. Federal Government, as well as look at Pennsylvania's approach to electing both State and Federal Officials. You will investigate Pennsylvania's Constitution and how this provides the legal structure of the State versus the U.S. Constitution. Finally, you will explore Pennsylvania today, its people and its industry and the opportunity for entrepreneurial ventures in the Commonwealth.

## 5. The New Republic Part II

In this unit you will explore the early years of the American Republic up to 1825. You will learn about early challenges and conflicts faced by the new Union. You will examine the development of the first political parties in the United States. You will also read about the War of 1812 and military struggles with Native Americans as settlers moved west. You will study the factors that made westward expansion possible, such as the Louisiana Purchase, economic growth, and technological innovation. Finally, you will look at the development of regional differences in the United States and examine the foreign policies the nation adopted in the early nineteenth century.

## 6. The Growing Nation

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In this unit you will continue to explore the growth of the United States between 1820 and 1860. You will examine challenges and changes to the fragile political system. You will also read about America's continued westward expansion, as well as the effect this had on Native Americans. You will examine the United States' acquisition of new states and territories, including the Oregon Country, Texas, California, and Utah. You will also study the causes and consequences of the United States' war with Mexico. You will compare and contrast the northern and southern regions of the country. Finally, you will examine calls for social reform in the mid-nineteenth century and how ideas about education, women, and slavery changed during this period.

### 7. Civil War and Reconstruction

In this unit you will explore the history of the United States from 1846 to 1896. You will examine how different ideas about slavery and politics worsened regional tensions in the nation. You will also explore why many southern states seceded and how their actions and the government's response led to the Civil War. You will study what life was like during the Civil War and compare the Union's and Confederacy's goals and strategies. You will read about how the Union won the Civil War and explore plans for healing the nation. Finally, you will examine the period of Reconstruction and describe its effects on both the North and the South.

### 8. Modern America Emerges

In this unit you will preview and explore the history of the United States from 1877 to the present. You will examine the continued exploration of the west and the effect of the United States' expansion on Native Americans. You will also explore how the United States began to expand its influence in world affairs. You will study how technological advances and immigration influenced life in late nineteenth century America. You will read about calls for political and social reform. You will also explore the causes and effects of World War I, World War II, and the Cold War period. Finally, you will examine modern America and its war on terrorism.

**Course: 9th Grade, American Government**

**Textbook: United States Government: Democracy in Action, Glencoe, 2006**

**Description: An in-depth examination of American government and its fundamental principles and organization, American Government A promotes understanding and participation in government by presenting information in a context relevant to students. Students examine government concepts such as the growth of democracy, federalism, separation of powers, and checks and balances. The branches of government—legislative, executive, and judicial—are studied in detail, and activities develop students’ abilities to question, analyze, and evaluate different forms of information.**

Units:

## 1. Foundation of American Government

In this unit, you will explore the beginnings of government in the United States. You will learn about the political and economic features of American government. You will discover how the American colonies won independence from Great Britain and what models they looked to in creating a new nation. You will study the *Constitution*, the three branches of government, and the principle of federalism.

## 2. The Legislative Branch

In this unit, you will learn about the powers and functions of the legislative branch of the United States government. You will explore the House of Representatives, the Senate, and additional committees and agencies. You will study how Congress works with the president, as well as how new laws are made.

## 3. The Executive Branch

In this unit, you will explore the powers and functions of the executive branch of the United States government. You will learn about the responsibilities of the president, vice president, and the cabinet. You will also study the seven major roles of the president and styles of leadership that lead to presidential success. Finally, you will learn about the bureaucratic and civil service systems of the executive branch.

## 4. The Judicial Branch

In this unit, you will explore the powers and functions of the judicial branch of the United States government. You will learn about the judicial systems of federal and state courts. You will study the Supreme Court, and learn about how it selects, hears, and decides cases. Finally, you will investigate how the Supreme Court shapes public policy as well as the factors that influence the Court's decisions.

## 5. American Government Semester Exam

In this unit, you will have the opportunity to prepare for and take the final exam. Since this is a comprehensive exam, it may be helpful to organize your notes in the order of the course outline before you begin to review. Using the test-taking strategies that you have previously learned can help you be successful with both objective and essay questions.

## 6. Liberty and Justice for All

In this unit, you will learn about the basic rights and responsibilities of U.S. citizens. You will explore the freedoms granted by the Bill of Rights. You will also study U.S. immigration policy as well as the requirements for U.S. citizenship. Finally, you will learn about aspects of American law, including the concepts of equal protection, privacy, and equal opportunity.

## 7. Participating in Government

In this unit, you will explore the different ways in which Americans participate in the political system. You will learn about the role and organization of political parties. In addition, you will study the election process in the U.S. You will also explore the roles and responsibilities of voters, and discover how they influence and are influenced by the political system. Finally, you will learn about the roles of interest groups, public opinion, and the media in American government.

## 8. Public Policies and Services

In this unit, you will explore public policies and services of the U.S. government. You will learn about how the government raises and manages money. You will also study the government's policies on business, the environment, public health, education, housing, and transportation. Finally, you will learn about the nation's foreign policy, and how it has changed over time.



## 9. State and Local Government

In this unit, you will learn about different roles and responsibilities of state and local governments. You will explore the similarities and differences in their history and organization. Finally, you will learn about the ways in which state and local government influences your daily life.

## 10. Political and Economic Systems

In this unit, you will identify the characteristics of different types of political systems. You will evaluate the relationship between economic decision-making and political freedom. Finally, you will compare capitalism, socialism, and communism.

## 11. American Government Semester Exam

In this unit, you will have the opportunity to prepare for and take the final exam. Since this is a comprehensive exam, it may be helpful to organize your notes in the order of the course outline before you begin to review. Using the test-taking strategies that you have previously learned can help you be successful with both objective and essay questions.

**Course: 10th grade, United States History**

**Textbook: United States History, Prentice Hall, 2010**

**Description: This course will explore the growth of American society and the emergence of the United States as a world power. The course covers the significant developments in America's past from Reconstruction to World War I with a brief review of early settlement, colonization, and the development of America as an independent nation. The student will focus on American political, economic, and social history from a chronological point of view. Activities in this course are designed to develop the student's abilities to question, read, analyze, interpret, and evaluate different forms of information, as well as to communicate his or her ideas to others. Geography skills will be interwoven in the lessons, as the student makes connections between the evolution of America's geography and its historical impact.**

Units:

## 1. The Early American Republic

In this unit, you will review your knowledge of early American history by surveying key events from the Revolutionary War to the Civil War. You will investigate the causes of the American Revolution, including the influence of the Enlightenment. You will analyze America's founding documents. You will trace the growing sectionalism during the 1800s, ending in the Civil War. Finally, you will determine the effects of the Civil War and Reconstruction on the United States.

## 2. Industrialization of the United States

In this unit, you will study key historical events from the Gilded Age. Studying inventions, business practices and labor unions, you will trace the effects of the Second Industrial Revolution. You will learn about the effect of immigration and urbanization on America's landscape. You will examine the changes in the South and the West during this period, and growing political and social movements throughout the country.

## 3. Emergence of the Modern United States

This unit covers the United States during the Progressive Era, from the late 1800s to the end of World War I. In this unit, you will learn about the reforms enacted during the

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Progressive Era. You will explore the United States' first steps toward imperialism. The unit will finish with your study of the causes, events, and effects of World War I.

## 4. Prosperity and Depression

This unit focuses on the United States during the 1920s, and the 1930s. You will examine the cultural, economic, and political trends of the 1920s. You will learn about the causes of the Great Depression, its effect on everyday Americans and efforts to bring the country back to prosperity. You will particularly evaluate the effects of Franklin Delano Roosevelt's New Deal on the United States.

## 5. History of Pennsylvania

This unit focuses on the History of Pennsylvania and its contribution to the growth and development of the United States. Students will evaluate the role groups and individuals from Pennsylvania played in the social, political, cultural and economic development of the U.S. They will investigate places in Pennsylvania that have been critical to the United States. In addition, they will evaluate how conflict and cooperation among groups and organizations in Pennsylvania have influenced the growth and development of the United States.

## 5. World War II and Postwar America

This unit focuses on the events of World War II and the beginning of the Cold War. You will learn about the causes, events, and effects of World War II. You will learn about changes in the United States as World War II ended and the Cold War began. You will examine how tensions developed between the Soviet Union and United States and how those tensions affected foreign policies and life at home. In this unit, you will also start a semester-long project, the writing of a research paper.

## 6. Challenges and Change: Part 1

This unit focuses on the major changes in the United States during the 1950s, 1960s, and 1970s. You will begin the unit by examining the events of the civil rights movement. You will learn about the policies of Presidents Kennedy and Johnson, including the war in Vietnam. Finally, you will learn about the protests that swept the nation for women's and minorities' rights and against the Vietnam War. Throughout the unit, you will continue to work on your major research project.

### 7. Challenges and Change: Part 2

This unit continues to focus on the major changes in the United States during the 1960s and 1970s. You will begin the unit by examining the events of the women's rights movement. You will learn about the policies of Presidents Nixon, Ford, and Carter. Finally, you will learn about key events of the 1970s, including the Watergate scandal, stagflation, and the Iran hostage crisis. Throughout the unit, you will continue to work on your major research project.

### 8. Changing and Enduring Issues

This unit focuses on the events of the last thirty years in American history. You will learn about the resurgence of conservative Republications and the presidencies of Ronald Reagan and George H.W. Bush. You will learn about the main domestic and international events of the 1990s. Finally you will look at the events that have shaped the beginning of the 21st century, including global terrorism and immigration. You will finish your major research project.

### 9. U.S History Semester Review

In this unit, you will review for the U.S. History Semester Exam. You will study by using the graphic organizers from each unit, by taking a practice test, and by choosing from a list of other review strategies. Finally, you will take the exam itself.

## **Course: 11th Grade, World History**

**Textbook: World History: Modern Times, Glencoe, 2005**

**Description: Comprehensive in scope, the World History courses begin with a review of ancient civilizations, and then moves through the emergence of modern nation-states, concluding with the Napoleonic Wars. Primary source documents bring the past to life, introducing students to people and cultures across the world and across time.**

Units:

### 1. Reading and Writing for History

In this unit, you will practice skills that will make you a better historian. You will hone your critical reading skills and develop a process for preparing and writing a research paper. Finally, you will learn how to identify reliable research sources and avoid committing plagiarism.

### 2. Geography and History

In this unit, you will learn about the relationship between geography and historic events. You will learn more about the purpose and uses of globes and maps and examine the themes and elements associated with the study of geography.

### 3. The World Before Modern Times

In this unit, you will learn about the emergence of civilizations from prehistory to about 1500. You will study ancient societies of Western Asia, Egypt, India, and China. You will also examine the contributions of the Greek, Roman, Arab, African, and Asian empires to world history. Finally, your study of ancient American civilizations will conclude the first unit of the course.

### 4. The Early Modern World – Part 1

In this unit, you will learn about world cultures between 1400 and 1800. You will study the Renaissance and its impact on people's interpretation of the world around them. In addition, you will explore the role of religion and study the effect of the Protestant Reformation and the Catholic Counter-Reformation. You will also look at various

societies' explorations around the globe. Finally, you will examine social and political struggles in Europe between 1550 and 1715.

### 5. The Early Modern World – Part II

In this unit, you will continue to study the contributions of world cultures between 1400 and 1815. You will examine the expansion of Muslim Empires throughout the world and the impact of the religion of Islam. Additionally, you will learn about cultures of the East Asian world, including China, Japan, and Korea. You will also examine the causes and effects of the Scientific Revolution and the Enlightenment and study their impact on the American colonies. You will conclude World History A by learning about the French Revolution and its consequences, as well as studying the contributions of Napoleon.

### 6. World History Midterm Review

In this unit, you will have the opportunity to prepare for and take the midterm exam. Since this is a comprehensive exam, it may be helpful to organize your notes in the order of the course outline before you begin to review. Using the test-taking strategies that you have previously learned can help you be successful with both objective and essay questions.

### 7. An Era of European Imperialism

In this unit, you will explore the causes and effects of European Imperialism between 1800 and 1914. You will examine how industrialization and nationalism influenced empire-building around the globe. In addition, you will learn about European colonies in Southeast Asia, Africa, India, and Latin America, and consider the consequences of imperialism on indigenous peoples. Finally, you will study social and political challenges in China and Japan in the 19<sup>th</sup> and early 20<sup>th</sup> centuries.

### 8. The Twentieth Century Crisis

In this unit, you will study social, political, and military struggles throughout the world between 1914 and 1945. You will examine the causes and effects of World War I, and study how the outcome of that world laid the foundation for a second world war. Additionally, you will study world cultural trends between the world wars. You will also explore the role of nationalism in the Middle East, Africa, Asia, and Latin America. Finally, you will learn about the reasons for and consequences of World War II.

### 9. Toward a Global Civilization

In this final unit of World History, you will learn about developments throughout the world between 1945 and the present. You will examine the causes and consequences of the Cold War and trace the influence of communism throughout the postwar world. You will also learn about the emergence of new economies and independent nations in Latin America, Africa, and Asia. Finally, you will consider the challenges facing the global civilization and how nations try to achieve peace.

### 10. World History Semester Review

In this unit, you will have the opportunity to prepare for and take the final exam. Since this is a comprehensive exam, it may be helpful to organize your notes in the order of the course outline before you begin to review. Using the test-taking strategies that you have previously learned can help you be successful with both objective and essay questions.

**Course: 12th Grade, Economics**

**Text: Economics: Principles in Action, Prentice Hall, 2007**

**Description: From the stock market to the intricacies of U.S. monetary policy, Economics explores how modern capitalism and the global economy works, and introduces students to concepts in both macro- and microeconomics. Students learn about supply and demand, labor issues, financial markets, taxes, and international trade.**

Units

## 1. Introduction to Economics

In the first unit of Economics, you will be introduced to the basic ideas of economics. You will study scarcity, the factors of production, decision making, and opportunity cost. You will also examine how societies have developed different economic systems to make choices about resource allocation. Finally, you will study the American free enterprise system.

## 2. How Markets Work

In this unit, you will study the factors that affect the way markets perform. You will learn about demand, consumer desire for a product, and how it is affected by other economic factors. In addition, you will examine supply and its role in the market. Both supply and demand affect prices, which you will also learn about in this unit. Finally, you will study the four types of market structures and identify their advantages and disadvantages.

## 3. Business and Labor

In this unit, you will learn about how the world of work is organized. You will develop an understanding of the types of business organizations, including sole proprietorships, partnerships, and corporations. You will also examine the history and development of organized labor as well as factors that determine wages. Finally, you will learn about trends in the labor force and in wages and benefits.

## 4. Money, Banking, and Finance



In this unit, you will learn about money, banking, and finance. You will examine the characteristics of money, the historic role of banks, and trends in banking today. You will also study the world of finance and develop an understanding of savings and investment, including investment options, such as stocks and bonds.

### 5. Measuring Economic Performance

In this unit, you will discover how economic performance is measured. You will learn about the calculation and use of gross domestic product and the significance of business cycles. In addition, you will study economic growth and the factors that contribute to it. You will examine the economic challenges of unemployment, inflation, and poverty, and the effect of these challenges on the economy.

### 6. Government and the Economy

In this unit, you will learn about the ways the government obtains and spends resources as well as how it intervenes in the economy. You will study taxes and federal spending. You will also learn about fiscal policy and the different ways economists view the role of government in the economy. Finally, you will examine monetary policy, the money creation process, bank regulation, and the role of the Federal Reserve.

### 7. The Global Economy

In the final unit of Economics, you will learn about international trade and economic development. You will study reasons why nations trade, barriers to trade, international cooperation, and ways in which trade is measured. Finally, you will study levels of economic development and the changes that are occurring throughout much of the world today.

## Appendix E

### Montgomery Flex Charter School

#### Art Curriculum

##### **Course: 7th Grade Art**

Description: The seventh grade art course focuses on the visual arts as a form of personal expression. Students explore the basics of art, including the methods and themes of expression. This course has strong ties to social studies and a strong emphasis on drawing and painting techniques.

##### **Course: 8th Grade Art**

Description: Students in eighth-grade art learn how visual art influences people and places, and alternatively, how people and places influence the world of art. Students make connections between art from across time and location as they create their own art meant to influence ideas, actions, or environments.

##### **Course: Art and Design - Art Making with a Focus on Careers in the Arts**

Description: This course will explore the use of drawing and painting (acrylic and watercolor), collage, design principles, and photography. Each project will be framed around a possible career in art and will emphasize that there are myriad other careers (besides Studio Art) where people need to use creative skills to succeed.

##### **Course: Art History**

Description: Students begin exploring the basic elements of art and its role in history through their examination of works from Paleolithic times to the Roman Empire. The goal is to enhance students' understanding of ancient history and show how art is a reflection of historical events.

##### **Course: Digital Photography**

Description: This course covers both digital photography and graphic design. Students learn basic photographic concepts and composition skills, elements of graphic design, digital image editing, and special effects techniques. They also explore the fields of photography, advertising, and illustration as possible

##### **Course: Web Design I**

In this course, students become Web Design Interns for a virtual company called Education Designs. They learn about Internet basics, HTML, and the file structure of a well-organized website. Part of the course involves creating visually interesting

webpages with clear text, complementary colors, visual assets, and appealing designs. Students also learn how to navigate the Internet to fill their website with useful and well-researched information.

## **Course: Web Design II**

The purpose of this course is to equip students to be master architects, contractors, and managers of a valuable online property. Students learn how to create a storyboard or blueprint, website navigation, style sheets, graphics, digital image optimization, security, and server hosting.

## **Course: Drawing and Painting**

This course is designed for high school students who have a genuine interest in painting and drawing and who want to take an in-depth course to develop their skills. Topics and projects of the course will include:

- Observational Drawing (pencil, charcoal, pastel, pen and ink)
- Figure Drawing
- Still Life
- Landscape
- Portrait
- Acrylic Painting
- Watercolor Painting
- Oil Painting
- Guache

## **Course: Design and Digital Media**

This course is for those students who would like to explore the basics of two-dimensional design, and using digital media as a design tool. Topics and projects of the course will include

- Basic Design principles in 2d
- Product design using art materials (ie: posters, cd covers, shopping bags, shoes, etc.)
- Fashion design
- Digital media would include design challenges using Adobe Photoshop and Adobe Illustrator. Students would explore photography, film, collage, animation and a number of product design projects)

## **Course: Portfolio Prep**

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This course will be for Seniors who intend to apply to art school or who just want to delve deeper into their own personal art making. Topics and projects of the course will include

- Projects that are common in Art School Applications. (Self-portrait, skeleton drawing, fantasy worlds, design and 3d projects)
- 3D projects (design, ceramics, jewelry, sculpture, etc.)
- Student's personal choice long- term projects, which would be more self-directed and different for each student.
- College visits
- Writing artist statements and college essays
- Printmaking (basic intro, no printing press required!)

## Appendix F

### Montgomery Flex Charter School Music Curriculum

#### Course: Grade 7, General Music

Through a planned sequence of composers, historical periods, and cultural heritages, students experience musical diversity. They identify characteristics that distinguish historical and cultural periods, define styles, and categorize genres of music. They examine selections and make inferences and predictions about compositions. They discuss their responses, and through research, determine the accuracy of their predictions. Students describe and categorize music-related vocations and avocations.

Students form musical opinions and justify them. They listen to individual parts and to group performances taken as a whole and analyze music with gradually increased complexity. They suggest improvements for compositions and arrangements based on criteria developed in class. Visiting musicians introduce songs with information about the songs' origins, and they show their instruments to the class. Students have an opportunity to ask the musicians about their instruments, the music they play, and influences on their music. Students use this experience to inform their research on different music styles.

Recorders, guitars, pitched and non-pitched instruments, electronic keyboards, and traditional instruments add richness to music of easy to medium-level difficulty. Students perform in two and three parts and sing/play single melodic lines with a variety of accompaniments. They sight-read pieces written in two and three parts, using mostly block rhythms but with occasional independence of line, and they read the music they write and arrange. Students create and improvise descants and ostinati for simple songs. Exploring ways to augment harmonies, rhythmic and melodic textures, dynamics, and selective instrumentation opens up possibilities for student creations. Fundamental concepts include major, minor, and modal chord structures, relevant for creating and arranging. Students create music with computers, hearing their composition replicated with a great deal of authenticity.

#### Course Title: Grade 8, General Music

Students build on knowledge of music theory, focusing on identifying and describing intervals. Students learn to recognize any major scale by identifying the scale's characteristics as described in intervallic progression. In addition, students are able to write a major scale beginning on any note. Students learn the forms of the natural, harmonic, and melodic minor scales, incorporating intervallic relations with the characteristics of each pattern. The difference in sound between major and minor scales is recognized by sight (in notation) and by aural discrimination. Students have an

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understanding of triads based on scale tones. Sight-reading vocally, in major, minor and some altered tone keys, is expected. Students read in common meter signatures and are able to:

- Read at least a single line of music
- Perform on a variety of classroom instruments including piano/keyboards and other pitched instruments
- Sing/play music in the key of C, in 2/4, 3/4, or 4/4 time using quarter, half, whole, 8th, 16th notes, corresponding rests, and dotted half and quarter notes.

Applying music theory to the music being studied assists students in singing and playing accurately; furthermore, this reinforces students' grasp of theory and makes theoretical concepts relevant. Students create compositions of their own; individually or in groups, they may be given broad guidelines for composing a selection using forms such as ABA or rondo. Fewer guidelines are needed as students gain competence and confidence. The class prepares music for presentation. All music studied provides opportunities for students to accurately replicate rhythm, melody, harmony, and stylistic authenticity. Additionally, students demonstrate correct singing, proper diction, attention to breath support, and characteristic tone qualities in both informal and formal music performances.

Interpretation of new material is supported by the study of cultural and historical influences on the development of the music. A comprehensive sequence of cultures and historical periods organizes the study of music heritage. Students select a topic (such as an historical era, a composer, musician, style or medium of performance) and prepare reports for class presentation. Students provide evidence for assertions made in reports. Format of research and report is preapproved by the teacher, who assigns projects to correspond with curriculum units.

Attendance at live performances gives students opportunities to see and hear a diverse community of musicians; reflection and evaluation of performances exercises students' developing criteria for judgment. Developing criteria to judge quality in the evaluation of assignments or of music is an ongoing process. Rationale and justification of opinions is very important. Students at this stage of learning seek detailed answers to specific inquiries. They begin to understand that product and process are intertwined in learning.

## **Course: Music History I**

Students trace the development of elements such as the Grand Staff and the modern system of notation. Listening to music from designated historical periods, students examine the manner in which music has been preserved through the years.

Students perform (vocally and instrumentally) some of the music studied. They use pitched classroom instruments, traditional instruments, and keyboards.

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Music literature reflects many cultural and historical characteristics of the time period in which it was written. Students learn to identify and to examine these historically based characteristics. In-depth study of specific composers and compositions is a large part of course content.

Students apply knowledge of music reading, notation, and theory to the analysis of performances and scores. Students learn to distinguish between professional and student performances. Works are evaluated on the basis of criteria developed during class discussions and presentations. Students learn to justify their opinions with arguments supported by research and/or knowledge gained from class study.

## **Course: Music Theory 1**

Music Theory I enables students to develop an understanding of the theoretical elements of music and their relevance to music composition. Common student expectations include reading and writing music in treble and bass clefs; knowledge of C clefs; identifying chords in major, minor, and modal scales; and accurately taking rhythmic and melodic dictation.

Students work with the components of sight reading, melodic and rhythmic dictation, ear training, scales and modes, intervallic relationships, chord structure, cadences, and initial harmonic sequences. Students use common cadences in creative composition assignments, compose short musical works, demonstrate an understanding of basic sequences of chord progressions, and perform compositions.

Students relate specific theoretical style conventions to historical periods and examine how various composers incorporated accepted styles into compositions.

## **Course: Vocal Ensemble 1**

Instruction focuses on understanding chord structure. In live and recorded music, students identify melodic and harmonic parts. Students acquire independence and leadership skills often not learned in larger-format music classes.

Students perform literature composed for a variety of instrumental and vocal combinations including trios, quartets, quintets, sextets, septets, madrigal, and show choirs. They build a repertoire that reflects the diversity of chamber literature. Although ensemble groups focus on course content rather than on preparation for solo and/or ensemble competition, performance and performance theory is still essential to understanding the workings of ensembles. For example, the skill of balancing and blending sounds varies from one ensemble format to another. Ensemble singing reinforces such aspects of musicianship as establishing precision without the presence

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of a director, leading and responding within the small group format, and listening horizontally and vertically.

Classes discuss the history and cultural origins of compositions, composers, and musicians. Students examine the historical and cultural conventions and the stylistic demands of the genres they study.

## **Course: Music Theory II**

Students study pitch and rhythmic notation, scale and chord structure, intervals, and part writing. The course includes introductions to new studies, such as learning the implications of harmonic overtones and the impact on timbre or tone color. Students begin to take four-part dictation: they listen to a chord progression in block rhythm, then identify tones, confirm the selection, make appropriate changes, and notate the base line. To gain proficiency in these skills, students acquire and label chord progressions and sequences.

Students compose and perform works that reflect their knowledge and understanding of the more theoretical aspects of music. Their compositions include examples of recently learned material and/or address current class topics.

By listening to and analyzing music from diverse cultures and historical periods, students learn to discuss music theory and the relationships among music theories from various cultures.

Students analyze and evaluate performances using criteria developed during the course. They reflect on their own work and respond to the work and critiques of their peers. Music is sound.

Students continue to develop and refine technical skills and increase their music knowledge with literature selected for performance and listening. These listening experiences refine melodic and harmonic pitch.

Within the class format, students perform from memory and notation and are part of more than one ensemble group. Individuality and independence are encouraged in student preparation (writing and arrangement) of compositions. Students gain greater music knowledge, independence, and skills. In preparation for a performance, students may:

- Write program notes
- Keep personal journals reflecting their thought processes in rehearsal and presentation
- Develop inventories of technical skills
- Develop and discover technical exercises that assist in refining performance skills
- Make recommendations for the completion of projects.

## **Course: Vocal Ensemble II**



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Students learn a repertoire representative of different cultures, historical periods, genres, and styles. They explore the historical and cultural influences affecting composers of their performance and listening literature. Characteristics of similar compositions from the same period and culture and interpretive data in scores help students accurately interpret the pieces they perform.

Teachers help students isolate and define performance problems and concerns. Students practice constructive criticism of ensemble works-in-progress.

## **Course: Vocal Ensemble III**

Students define musical performances, intervals, music notation, chord structure, rhythm/meter, and harmonic texture using standard terminology. They identify the musical forms of their listening and performance repertoires and expressively perform selected literature.

Students exhibit accurate intonation and rhythm, fundamental skills and advanced techniques using literature ranging from moderately difficult to difficult. They perform independently and in ensemble. They demonstrate comprehension of musical styles by seeking appropriate literature for performance. They perform expressively, from memory and notation, a varied repertoire of music representing styles from diverse cultures. They become familiar with small- and large-ensemble performance techniques. They sightread major, minor, modal, and chromatic melodies; read and write music incorporating complex rhythmic patterns in simple, compound, and asymmetric meters; and interpret music symbols and terms referring to dynamics, tempo, and articulation when performing. Students are expected to improvise melodies and compose or arrange segments of vocal pieces.

Students select and perform musical literature from several historical periods, representing a wide range of genres, styles, and cultural influences. They classify compositions by style, culture, and historical period. They discuss the relationship between music and society, and between music and other educational disciplines. They explore career and avocational music opportunities.

Students perform assignments with different ability ranges, voice groupings, and instrumental components. They take leadership roles in selecting, rehearsing, and critiquing ensemble literature. Discussion and coaching help in addressing common problems, in providing additional instruction, and in developing critical techniques. Students give input into the scheduling process, reflective evaluation, and constructive problem solving--intrinsic components of ensemble classes.

## **Course: Vocal Ensemble IV**

Students demonstrate independence in interpreting music through the performance of selected literature. They analyze musical performances, intervals, music notation, chord structure, rhythm/meter, and harmonic texture using standard terminology, and analyze the musical forms of their performance and listening repertoires.

Students perform independently and as a group, demonstrating accurate intonation and rhythm, fundamental skills, and advanced techniques. Literature ranges from moderately difficult to difficult. Comprehension of musical styles is demonstrated by the appropriateness of the literature selected for performance. Students perform expressively, from memory and notation, a repertoire representing styles from diverse cultures. They become familiar with small- and large-ensemble performance techniques. They sight-read major, minor, modal, and chromatic melodies; read and write music; and interpret music symbols and terms. They improvise melodies and compose or arrange compositions.

Literature represents diverse styles, genres, cultures, and historical periods. Students interpret selections with a solid understanding of the music's cultural and historical traditions. They discuss how music and society interact and how music is related to other fine arts media. Students have the chance to explore career and avocational opportunities in music.

Students compose ensemble selections for more than one medium. Critique and evaluation of their compositions involve self-reflection and constructive response from classmates, teachers, and professional musicians. In rehearsing and conducting medium-sized ensembles, leadership roles are emphasized. Vocal Ensemble IV students begin the semester with a discussion of what it means to keep a journal in an advanced music class.

## Appendix G

### Montgomery Flex Charter School Business and Technology Curriculum

**Course: Business Education 7**

**Course Name: Educational Technology**

**Description: Seventh graders in Educational Technology and Online Learning learn how to create presentation slideshows and use electronic media to create a report. This course also includes a demonstration of the major applications used in business environments. Internet safety skills are reinforced as students use electronic media and slideshows to create posters or public service announcements for the community on online predators or bullying.**

Units:

#### 1. Introduction

In this unit, you will be presented with a series of tutorials that are designed to help you understand the content and structure of this course. You will learn that each lesson in this course presents or develops a technology skill using academic content. You also will become familiar with how the lessons are organized and how to navigate through them. Finally, you will explore basic keyboarding concepts and skills.

#### 2. Internet Safety

In this unit, you will learn how to use the Internet in a safe and responsible way as a tool for communication, research, and collaboration. The unit begins by explaining the concept of a virtual community and discusses topics such as online bullying and negative networking/gangs online. You will recognize Internet safety concerns including the importance of choosing a safe user name and keeping personal information safe from strangers, risks associated with online shopping, and the threat of online predators. Finally, you will learn about intellectual property and copyright concepts. You also will examine the consequences that are associated with piracy and illegal music downloading.

## 3. Study Skills

In this unit, you will learn various strategies related to time management, organization, and goal setting. These strategies include color coding by subject, using your student planner, and scheduling. Then you will create Venn Diagrams, and you will use these diagrams to compare and contrast information. Finally, you will explore mnemonic techniques to assist with memorization, helpful test-taking tips, and various methods of studying for tests.

## 4. Microsoft Word

In this unit, you will continue to explore the features of Microsoft® Word. You will highlight, bold, and italicize text. You will navigate between different Microsoft Office programs and between documents in the same program. You will be introduced to more of the functions in the Insert, Format, Tools, and Table drop-down menus including learning how to insert comments, images and word art; formatting your document using bullets and numbers, borders and shading, and columns; and learning how to use the thesaurus and the autocorrect options. Finally, you will create and format a table in a Microsoft Word document.

## 5. Microsoft Excel and Powerpoint

In this unit, you will create formulas, adjust column width, and enter text into a Microsoft® Excel spreadsheet. You will conduct research on the Internet, navigate between different programs, and cut and paste data from an Internet resource into a spreadsheet. You will create borders, resize fonts, and apply conditional formatting. Finally, you will use Microsoft Excel's Chart Wizard feature to create various charts, line graphs, and bar graphs. You also will learn how to modify labels within a chart and resize and reposition a chart on a spreadsheet.

## **Course: Business Education 8**

**Description: Students engage in lessons that address both academic and technology objectives in Educational Technology and Online Learning 8. Multimedia is stressed at this level as students learn how to create and maintain a safe Web site, how to combine technology-based elements within a document, and how to set-up and populate a spreadsheet. Through a combination of multimedia, computers, and projection equipment, students create a presentation for an audience on an online safety topic such as plagiarism, online harassment, or cyberstalking.**

### Units:

#### 1. Introduction

In this unit, you will be presented with a series of tutorials that are designed to help you understand the content and structure of this course. You will learn that each lesson in this course presents or develops a technology skill using academic content. You also will become familiar with how the lessons are organized and how to navigate through them. Finally, you will explore basic keyboarding concepts and skills.

#### 2. Internet Safety

In this unit, you will learn how to use the Internet in a safe and responsible way as a tool for communication, research, and collaboration. The unit begins by explaining the concept of a virtual community and discusses topics such as online bullying and negative networking. You will recognize Internet safety concerns including the importance of choosing a safe user name and keeping personal information safe from strangers, risks associated with online shopping, and the threat of online predators. Finally, you will learn about intellectual property and copyright concepts. You also will examine the consequences that are associated with piracy and illegal music downloading.

#### 3. Study Skills

In this unit, you will learn various strategies related to time management, organization, and goal setting. These strategies include color coding by subject, utilizing your student planner, and scheduling. Then you will create Venn Diagrams, and you will use these diagrams to compare and contrast information. Finally, you will explore mnemonic techniques to assist with memorization, helpful test-taking tips, and various methods of studying for tests.

### 4. Microsoft Word

In this unit, you will continue to explore the features of Microsoft® Word. You will highlight, bold, and italicize text. You will navigate between different Microsoft Office programs and between documents in the same program. You will be introduced to more of the functions in the Insert, Format, Tools, Table, and View drop-down menus including learning how to insert comments, images and word art; formatting your document using bullets and numbers, borders and shading, columns, and text alignment; learning how to use the thesaurus and the autocorrect options; and adding the drawing toolbar. Finally, you will learn how to use Microsoft WordPad, which is a basic word processor for Microsoft Windows.

### 5. Microsoft Excel and Powerpoint

In this unit, you will create formulas, adjust column width, and enter text into a Microsoft® Excel spreadsheet. You will conduct research on the Internet, navigate between different programs, and cut and paste data from an Internet resource into a spreadsheet. You will create borders, resize fonts, and apply conditional formatting. Finally, you will use Microsoft Excel's Chart Wizard feature to create various charts, line graphs, and bar graphs. You also will learn how to modify labels within a chart and resize and reposition a chart on a spreadsheet.

## **Course: Business Systems Technology**

**Description: Focusing on the applications and systems used in today's business environment, Business Systems Technology provides students with a solid foundation for understanding and using existing technologies. In addition to learning word processing, spreadsheet, and presentation software, students are taught how to create databases and understand computer networking. Students also study viruses, hoaxes, and other threats to computer security.**

Units:

### 1. Desktop Workplace

In the last hundred years, society has made a remarkable transition away from what historians call the Industrial Revolution toward the "Information Revolution" that has characterized the late 20th and early 21st centuries. No longer are companies limited to mass production of equipment and resources in manufacturing companies. All types of products and services are marketed and distributed over the Internet in record time. The invention of computers sparked a major information revolution that is designed to help meet the needs and challenges of businesses. The first lesson in this unit provides a brief review of the historical development of computers by scientists whose contributions created major milestones in the development of technology. The second lesson will take a closer look at the hardware components of a computer system, discuss how the parts interact during the information processing stage, and explore the design of the desktop environment. The third lesson analyzes personal computers in today's market and reviews issues that a buyer should consider before purchasing a computer.

### 2. Computer Software

In the second unit, you are going to explore computer software, the vital set of instructions that is responsible for operating and controlling the computer's hardware. There are various types of computer software programs (i.e., operating, application, and utilities software) available on the market. This unit will examine each type of software and identify examples where the applications should be applied. Lesson 1 reviews the most common types, which are operating and application software. Lesson 2 looks at utility software and its growing importance as more and more people become computer and Internet users. Finally, Lesson 3 examines information systems and resources and the software that allows these programs to operate. Although the computer that has evolved today is powerfully equipped with the latest technology--which includes the use

of very large scale integrated chips, expanded memory, artificial intelligence, and greater storage capacity--the device is still just a machine that is empty and powerless unless it is programmed to resolve problems. According to Sharp (2002), "The computer does not have a brain, feelings, or the ability to solve their own problems; they can solve only those problems they have been programmed to solve." Software programs provide the instruction to operate a computer and solve specific problems. Therefore, it is just as important to learn about software as it is to learn about hardware.

All lessons will provide general reading on a topic of interest, as well as website links that will allow you to interactively find information about specific people, places, or events. As you complete each lesson, it is very important that you keep notes of the key events that you read about. At the end of the lesson, you will complete a variety of activities and/or quizzes to assess your knowledge and understanding of computers and the technology systems that we use today.

- Using Microsoft Word
- Spreadsheets
- Networks and Search Engines
- Databases



## **Course: Emergent Computer Technology**

**Description:** In this course, students learn the basics of building safe Web sites. Starting with the basic concepts of Web design (including using hypertext markup language, or HTML), students move on to planning their site and learning how to link and navigate pages. Students are introduced to more complex design techniques, including how to make sites more attractive and interesting through the use of graphics.

### Units:

- Introduction to Website Design
- Graphics and Multimedia
- Forms and Tables

## **Course: Game Design**

Description: This course introduces students to the basic skills necessary for game design. Students study the various games in the industry, explore the process and art of making game elements and what orients them to the gaming market, and develop a prototype showing their understanding of the game design process.

## **Course: Programming I: VB**

Description: This course presents basic programming and the essential concepts of VisualBasic. Students see the basic uses of the programming language, its similarities to the English language (and others), and its flexibility as a programming language. The course helps participants understand the processes involved in software development and object-oriented programming. The course participants will also complete a series of hands-on projects covering build-in data types, operators, control structures, classes, and objects.

## Appendix H

### Montgomery Flex Charter School

#### Career Journey Curriculum

##### Course: Career Journey 7

Students will complete the following activities in 7th Grade:

- Students will complete the NWEA MAP test three times during the year, at the beginning middle and end of the year to assess progress in core subjects.
- Students will complete ACT's Engage 6 – 9 to measure students' behavioral strengths and weaknesses. ACT's results have shown that ENGAGE administered during middle school is a valid predictor of high school grades. In addition, ENGAGE provides additional information that helps more accurately identify students who are at risk of poor grades and academic failure.
- Students will take a career assessment test designed to match personality, interests, skills and values.
- Students will take the Myers Briggs Type Indicator to determine their personality type.
- Once a month, students will interview someone who is employed in a field in which they might be interested. Students will conduct a standardized interview and then write a report on their findings.

##### Course: Career Journey 8

Students will complete the following activities in 8th Grade:

- Students will complete the NWEA MAP test three times during the year, at the beginning middle and end of the year to assess progress in core subjects.
- Students will complete ACT's Engage 6 – 9 to measure students' behavioral strengths and weaknesses. ACT's results have shown that ENGAGE administered during middle school is a valid predictor of high school grades. In addition, ENGAGE provides additional information that helps more accurately identify students who are at risk of poor grades and academic failure.
- Once a month, students will interview someone who is employed in a field in which they might be interested. Students will conduct a standardized interview and then write a report on their findings.
- Students will take a career assessment test designed to match personality, interests, skills and values.
- Students will complete ACT's Explore Testing to have an opportunity to practice a standardized test. In addition, in this test, students will complete an interest inventory to show what careers match their personality and compare this against a stated career area of interest.

# Montgomery Flex Charter School

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- Students will complete the Common College application so that they completely understand the inputs considered for acceptance to college.
- Students will investigate industries that are significant employers in the Delaware Valley, and create a presentation to highlight the products and services produced and the positions available in one employer.

## **Course: Career Journey 9**

Students will complete the following activities in 9th Grade:

- Students complete the NWEA MAP test three times during the year, at the beginning middle and end of the year to assess progress in core subjects.
- Students will complete ACT's Engage 6 – 9 to measure students' behavioral strengths and weaknesses. ACT's results have shown that ENGAGE administered during middle school is a valid predictor of high school grades. In addition, ENGAGE provides additional information that helps more accurately identify students who are at risk of poor grades and academic failure.
- Students will complete ACT's Explore Testing to have an opportunity to practice a standardized test. In addition, students will complete an interest inventory to show what careers match their personality and compare this against a stated career area of interest
- Students will take the Myers Briggs Type Indicator to determine their personality type.
- Students will select a particular occupation that they are most interested in pursuing and working with their Guidance Counselor, create a "major" that develops skills relevant to that occupation.
- Students will develop a complete profile of their selected occupation including employers with positions in this occupations, specifics regarding compensation and education requirements and will complete at least two interviews with people who are employed in this occupation.

## **Course: Career Journey 10**

Students will complete the following activities in 10th Grade:

- Students complete the NWEA MAP test three times during the year, at the beginning middle and end of the year to assess progress in core subjects.
- Students will complete ACT's Plan Test, which provides further practice in preparation for the ACT test. In addition, the Plan test continues to build on students' understanding of the World of Work Map as they plan out a career of interest.
- Students will write a resume as they prepare to seek summer jobs and internships.
- Students will complete a course entitled "Career Exploration." From writing an effective resume to giving the perfect interview, students learn how to get started

and succeed in their chosen careers. This course introduces possible career options and helps prepare students for the transition from high school to college, and college to the workplace.

### **Course: Career Journey 11**

Students will complete the following activities in 11th Grade:

- Students complete the NWEA MAP test three times during the year, at the beginning middle and end of the year to assess progress in core subjects.
- College Prep with ACT. Students learn test-taking strategies and complete practice tests from ACT's Online Test Preparation program to prepare them for the ACT test.
- Students will develop college resumes, write effective personal essays, and request letters of recommendation as part of the college admissions process.
- Students will complete a survey of post-secondary institutions to determine those which have majors, college and schools which have a concentration in areas of interest.
- Students will do a field trip to a college to understand the basics of a college visit.
- Students will do an internship in a business/career of choice of at least 20 hours throughout the year.

### **Course: Career Journey 12**

Students will complete the following activities in 12th Grade:

- Students complete the NWEA MAP test three times during the year, at the beginning middle and end of the year to assess progress in core subjects.
- The first half of this course will be devoted to completing college applications.
- The second half of this course will be planning, completing and then reporting on the culminating project.

## Appendix I

### Montgomery Flex Charter School Spanish World Language Curriculum

#### **Course: Middle Spanish III**

In Middle Spanish III, students begin their quest with Tony and Lisa, who are searching for their missing grandfather. This course provides engaging activities and increasing linguistic sophistication in an age-appropriate manner. Writing and speaking skills are further developed, and interactive lessons help to promote vocabulary growth.

#### **Course: Middle Spanish IV**

Description: This course is the Middle School Spanish course. Before saying goodbye to Tony and Lisa's adventures, students have the opportunity to fine-tune their pronunciation, vocabulary, and grammar through several recording activities that are reviewed by the teacher. By the end of this course, students are able to read and understand entire passages written in Spanish.

#### **Course: Spanish I:**

Course Description: Spanish I A is a beginning level course that will introduce the student to a variety of areas of the Spanish language. In this course, the student will learn listening, speaking, reading, and writing skills through interesting and engaging activities. This course is organized into five topics including greetings, the date, weather, time, and colors. The student will learn to express himself using an ever-increasing vocabulary, present-tense verbs, articles, and adjectives. Grammar is introduced and practiced in innovative and interesting ways with a variety of learning styles in mind. Elements of the Spanish-speaking world and culture appear throughout the course, including people, geographical locations, and histories.

#### **Course: Spanish II**

Description: This course builds on the skills the student learned in Spanish I. In this course, the student will learn listening, speaking, reading, and writing skills through a variety of activities. This course is organized into five topics including daily routine, animals, hobbies, the body, and descriptions. The student will learn to express himself using an ever-increasing vocabulary, present-tense verbs, articles, and adjectives.

Grammar is introduced and practiced in innovative and interesting ways with a variety of learning styles in mind. Elements of the Spanish-speaking world and culture appear throughout the course, including people, geographical locations, and histories.

### **Course: Spanish III**

Description: Spanish III A is a continuation of the first two years of Spanish instruction. The student will continue to sharpen his listening, speaking, reading, and writing skills through a variety of activities. This course is organized into five topics: feelings, transportation, work, countries, and the future. The student will learn to express himself using an ever-increasing vocabulary, present-tense verbs, past-tense verbs, articles, and adjectives. Elements of the Spanish-speaking world and culture appear throughout the course, including people, geographical locations, and histories.

Spanish III B is a continuation of the first two and a half years of Spanish instruction. The student will continue to sharpen his listening, speaking, reading, and writing skills through a variety of activities. Throughout the five topics covered in this course, the student will learn to express himself using an ever-increasing vocabulary, present-tense verbs, past-tense verbs, future-tense verbs, conditional-tense verbs, articles, and adjectives. Grammar is introduced and practiced in innovative and interesting ways with a variety of learning styles in mind. Elements of the Spanish-speaking world and culture appear throughout the course, including people, geographical locations, and histories.

### **Course: Spanish IV**

Description: This fourth year of Spanish covers advanced grammar including present-tense verbs, past-tense verbs, future tense, conditional tense, subjunctive mood, articles, and adjectives. In the first semester, students focus on the Spanish-speaking world, including culture, people, geographical locations, and histories.

## Appendix J

### Montgomery Flex Charter School French World Language Curriculum

#### Course: 7th Grade French

The following units will be covered in 7th Grade French

- Unit 1:
  - Expressions Greetings and Politeness
  - Classroom Commands
  - L'Alphabet français
  - Cognates
- Unit 2: La Famille
- Unit 3: Les Objets de la Salle de Classe
- Unit 4: Les Nombres 0-100
- Unit 5: La Cuisine française
- Unit 6: Telling Time
- Unit 7: Calendar and dates
- Unit 8: The weather
- Unit 9: La Tour de Paris et Métro
- Unit 10: La Musique française
- Unit 11: French Grammar Games & Practice

#### 8th Grade French

The following units will be covered in 8th grade French

- Unit 1: Expressions Greetings and Politeness
- Unit 2: French Grammar Games & Practice
- Unit 3: Classroom Commands
- Unit 4: L'Alphabet français
- Unit 5: Cognates
- Unit 6: La Famille
- Unit 7: Les Objets de la Salle de Classe
- Unit 8: Les Nombres 0-100
- Unit 9: La Cuisine française
- Unit 10: Telling Time
- Unit 11: Calendar and dates
- Unit 12: The weather
- Unit 13: Les verbes en -ER



- Unit 14: être et les adjectifs
- Unit 15: Les verbes en -ER
- Unit 16: Les verbes en –ER
- Unit 17: La Noël
- Unit 18: Clothing and Adjectives
- Unit 19: Mardi Gras
- Unit 20: avoir and parts of the body
- Unit 21: La Musique française
- Unit 22: French Food Information

## **Course: French 1 High School**

Description: The goal of this course is to give the student basic listening, speaking, reading, and writing skills through interesting and engaging activities. This course is organized into five topics including greetings, calendar, weather, time, and colors. The student will learn to talk about himself and other people, describe his surroundings, and use numbers for dates and times. The student will be introduced to regular verbs in the present tense and will practice simple grammatical structures in innovative and interesting ways with a variety of learning styles in mind. Culture is presented throughout the course to help the student understand the context of the language and the perspectives of the French-speaking world.

The goal of this course is to continue to give the student basic listening, speaking, reading, and writing skills through a variety of activities. Throughout the course, the student will learn to talk about himself and other people, describe his surroundings, and use numbers for dates and times. The student will be introduced to irregular verbs in the present tense and will practice simple grammatical structures in innovative and interesting ways with a variety of learning styles in mind. In this course, the student also will begin to learn some complex grammar. Culture is presented throughout the course to help the student understand the context of the language and the perspectives of the French-speaking world.

## **Course: French II**

Description: This course builds on the skills the student learned in French I. In this course, the student will be introduced to a variety of areas of language learning. The student will learn listening, speaking, reading, and writing skills through a variety of activities. This course is organized into five topics: daily routine, animals, hobbies, the body, and descriptions. Throughout this course, the student will learn to express himself using an ever increasing vocabulary, present-tense verbs, articles, and adjectives. Grammar is introduced and practiced in innovative and interesting ways with a variety of learning styles in mind. Elements of the French-speaking world and culture appear throughout the course, including people, geographical locations, and histories.

This course is a continuation of French II A. The student will continue to be introduced to a variety of areas of language learning. In this course, the student will learn listening, speaking, reading, and writing skills through a variety of activities. This course is organized into five topics: house, shopping, entertainment, spare time, and travel. In this course, the student will learn to express himself using an ever increasing vocabulary, present-tense verbs, articles, and adjectives. Grammar is introduced and practiced in innovative and interesting ways with a variety of learning styles in mind. Elements of the French-speaking world and culture appear throughout the course, including people, geographical locations, and histories.

### **Course: French III**

Description: French III A is a continuation of the first two years of French instruction. The student will continue to improve his listening, speaking, reading, and writing skills through a variety of activities. The course is organized into five topics: feelings, transportation, work, countries, and the future. Throughout this course, the student will build on his previous French knowledge. The student will learn additional vocabulary, verb tenses, and grammatical structures that are appropriate to his level. Grammar is introduced and practiced in innovative and interesting ways with a variety of learning styles in mind. Exposure to the culture of France and other French-speaking countries can be found throughout the course in order to help the student understand French, which is a dynamic language that is used by millions of people throughout the world.

French III B is a continuation of the first two and a half years of French instruction. The student will continue to sharpen his listening, speaking, reading, and writing skills through a variety of activities.

This course is organized into five topics: health, home, measurement, professions, and my history. The student will learn to express himself using an ever-increasing vocabulary, verbs in various tenses, articles, and adjectives. The student will review all verb tenses, including present tense, past tense, future tense, conditional tense, the passive voice, imperative verbs, and more. The student will learn to use two-object pronouns and review grammar from previous French instruction.

Grammar is introduced and practiced in innovative and interesting ways with a variety of learning styles in mind. Elements of the French-speaking world and culture appear throughout the course, including people, geographical locations, and histories. The student also will learn about the various countries where French is spoken.

## **Course: French IV**

Description: In the first semester, students cover present-tense verbs, past-tense verbs, future tense, conditional tense, subjunctive mood, articles, and adjectives while delving more deeply into French culture. This course, rich in authentic reading material, uses native speaker recordings to enrich culture, grammar, and vocabulary lessons.