

Eighth Grade Curriculum Highlights: In alignment with the Common Core Standards

LITERACY

Reading Literature

Key Ideas and Details

- Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.
- 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.
- 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.

Craft and Structure

- 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.
- 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.
- 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.

Integration of Knowledge and Ideas

- Analyze the extent to which a filmed or live production of a story or drama stays faithful to or departs from the text or script, evaluating the choices made by the director or actors.
- 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.

Range of Reading and Level of Text Complexity

- 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 Informational Text

Key Ideas and Details

- Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.
- 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.
- Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).

Craft and Structure

- 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, including analogies or allusions to other texts.
- 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.
- 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.

Integration of Knowledge and Ideas

- Evaluate the advantages and disadvantages of using different mediums (e.g., print or digital text, video, multimedia) to present a particular topic or idea.
- 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.

Range of Reading and Level of Text Complexity

- 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.

Speaking and Listening

Comprehension and Collaboration

- 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.
- 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.
- 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.

Presentation of Knowledge and Ideas

- 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.
- Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.
- Adapt to variety of tasks, demonstrating command of formal English when appropriate.

LANGUAGE ARTS

Writing

Text Types and Purposes

- Write arguments to support claims with clear reasons and relevant evidence.
 - Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.
 - Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.
 - Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.
 - Establish and maintain a formal style.
 - Provide a concluding statement or section that follows from and supports the argument presented.
- Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
 - 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.
 - Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.
 - Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.
 - Use precise language and domain-specific vocabulary to inform about or explain the topic.
 - Establish and maintain a formal style.

○ Provide a concluding statement or section that follows from and supports the information or explanation presented.

● Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

○ 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.

○ Use narrative techniques, such as dialogue, pacing, description, and reflection, to develop experiences, events, and/or characters.

○ 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.

○ Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events.

○ Provide a conclusion that follows from and reflects on the narrated experiences or events.

Production and Distribution of Writing

● Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

● 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.

● 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.

Research to Build and Present Knowledge

● Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions for multiple avenues of exploration.

● 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.

● 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”).

Range of Writing

● 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.

Language

Conventions of Standard English

● 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.*
 - 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.

Knowledge of Language

- 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).

Vocabulary Acquisition and Use

- Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 8 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., *precede*, *recede*, *secede*).
 - 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.
 - 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).
- Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
 - Interpret figures of speech (e.g., verbal irony, puns) in context.
 - Use the relationship between particular words to better understand each of the words.
 - Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *bullheaded*, *willful*, *firm*, *persistent*, *resolute*).
- 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.

* Beginning in grade 3, skills and understandings that are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking are marked with an asterisk.

MATHEMATICS

The Number System

- Know that there are numbers that are not rational, and approximate them by rational numbers.
- 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.
- 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.

Expressions and Equations

- Work with radicals and integer exponents.
 - Know and apply the properties of integer exponents to generate equivalent numerical expressions.

- 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.
- Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other.
- 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.
 - Understand the connections between proportional relationships, lines, and linear equations.
 - Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.
 - 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 .
 - Analyze and solve linear equations and pairs of simultaneous linear equations.
 - Solve linear equations in one variable. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.
 - 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. 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.

Functions

- Define, evaluate, and compare functions.
 - Understand that a function is a rule that assigns to each input exactly one output.
 - Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).
 - 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.
- Use functions to model relationships between quantities.
 - 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.
 - Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear).

Geometry

- Understand congruence and similarity using physical models, transparencies, or geometry software.
 - Verify experimentally the properties of rotations, reflections, and translations:
 - Lines are taken to lines, and line segments to line segments of the same length, angles are taken to angles of the same measure, parallel lines are taken to parallel lines.

- 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.
- Describe the effect of dilations, translations, rotations, and reflections on twodimensional figures using coordinates.
- 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.
- 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.
 - Understand and apply the Pythagorean Theorem.
- Explain a proof of the Pythagorean Theorem and its converse.
- Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.
- Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.
 - Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.
- Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.

Statistics and Probability

- Investigate patterns of association in bivariate data.
- 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.
- 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.
- Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.
- 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.

SCIENCE

Scientific and Engineering Practices

- Ask questions and define problems.
- Develop and use models.
- Plan and Carry out investigations.
- Analyze and interpret data.
- Use mathematical and computational thinking.
- Construct explanations and design solutions.
- Engage in argument from evidence.
- Obtain, evaluate, and communicate information.

Scientific Concepts

- Explain states of matter and changes between states, that chemical reactions involve regrouping of atoms to form new substances.

- Understand the design and process of optimization in engineering to chemical reaction systems.
- Apply understanding that pure substances have characteristics, physical and chemical properties and are made from a single type of atom or molecule.
- Apply Newton's 3rd Law of Motion.
- Apply ideas of gravitational, electrical and magnetic forces to explain a variety of phenomena including attraction and repulsion.
- Develop ideas that objects can exert forces on each other even if they are not in contact.
- Understand that moving objects have kinetic energy and that objects may also contain stored (potential) energy.
- Know the difference between energy and temperature.
- Describe and predict characteristic properties and behaviors of waves when they interact with matter.

Content Literacy

Reading

- Cite specific textual evidence to support analysis of science and technical texts.
- Determine the central ideas or conclusions of a text; provide an accurate summary of the source distinct from prior knowledge or opinions.
- Follow precisely a multistep procedure when carrying out experiments, taking measurements or performing technical tasks.
- Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context.
- Analyze the structure an author uses to organize a text, including how the major sections contribute to the understanding of a topic.
- Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
- Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., flowchart, diagram, model, graph, table).
- Distinguish among facts, reasoned judgment based on research findings, and speculation.
- Compare and contrast the information gained from experiments, simulations, video or multimedia sources with that gained from reading a text on the same topic.

Writing

- Write arguments focused on discipline-specific content.
- Introduce, maintain, and support claims.
- Write informative/explanatory texts, including the narration of scientific procedures and technical processes.
- Introduce a topic clearly, previewing what is to follow and use formatting, graphics, and multimedia when useful. Develop the topic with relevant, well-chosen facts, definitions, details, and quotations.
- Use precise language and domain-specific vocabulary.
- Provide a concluding statement in all writing.
- Plan, revise, edit, and rewrite with a focus on communicating clearly to the audience.
- Conduct short research projects to answer a question.
- Gather relevant information from multiple print and digital sources; assess the credibility and accuracy of sources; quote and/or paraphrase the data and conclusions while avoiding plagiarism and following a standard format for citation.

SOCIAL STUDIES: U.S. History

Political Systems

- Identify the major aspects of the electoral process in the U.S.
- Identify significant events in the expansion of U.S. territory after the Civil War.
- Analyze significant works of American letters for their historical, literary and political importance.
- Identify how non-governmental organizations and individual citizens play a role in local,

state and federal political activities and how these roles compare to those of elected government leaders.

- Identify the role of television, the press and other ways in which information is shared in a democracy.
- Identify the significance of the American entrance into World War I.
- Identify significant foreign policies of the U.S. during the Cold War and their short and longterm effects.

Economics

- Understand how competition among sellers lowers costs and prices, and encourages producers to produce more.
- Identify the social and environmental benefits and consequences of a particular example of production or consumption.
- Compare different economic systems, including: command, market, traditional and mixed.
- Analyze the effect of current events on the availability of resources.
- Understand how laws and government policies establish rules that help a market economy function efficiently, including property rights, contract enforcement, and standard weights and measures.

History

- Identify multiple causes and effects when analyzing historical events.
- Identify economic, social and political causes of the U.S. Civil War.
- Understand the effects of Reconstruction.
- Identify the economic development of the United States and its emergence as an industrial power including gains in trade and advantages in physical geography.
- Understand the influences on business and industry in the late 19th and early 20th century.
- Understand the experiences of African Americans in the North and South in the late 19th century.
- Understand the challenges and contributions of immigrants of the late 19th century.
- Understand efforts to achieve women's suffrage in the early 20th century.
- Understand origins and accomplishments of the Progressive movement.
- Identify the causes of World War I and the reasons for U.S. entry into the conflict.
- Identify the causes and effects of the Stock Market Crash of 1929 and the Great Depression and its immediate and long-term effects on the world.
- Understand the impact of the New Deal on various elements of American society and energy development projects.
- Understand significant events of World War II.
- Identify the Holocaust and the Allies' response to the Holocaust and war crimes.
- Identify the home front during World War II.
- Understand the causes, course, and outcome of World War II.
- Identify the Nazi policy of pursuing racial purity, especially against the European Jews in the Holocaust.
- Identify the roles played by federal, state and local political leaders—as well as individual American citizens—in the civil rights movement.
- Identify the development and impact of the Industrial Revolution.
- Compare the characteristics of Stalin's Soviet Union, Nazism in Germany, Fascism in Italy, and Tojo's Japan and describe the rise to power of each.
- Understand the role of various regions and/or nations during the Cold War.
- Identify the ways in which American helped the nations of Japan and Germany recover economically and politically after World War II.

Geography

- Use maps and other geographic representations and instruments to gather and interpret information about people, places and environments.
- Develop maps and flowcharts showing major patterns of movement of people and commodities.

- Identify the relationships among location of resources, population distribution and economic activities, including: transportation, trade and communications.

Culture and Society

- Identify significant advances in science to world and U.S. history in several different fields.
- Understand the development of public education in the U.S.
- Understand the basic causes, course, and impact of significant social movements and events from history, and related legislation.

Content Literacy

Reading

- Cite specific textual evidence to support analysis of primary and secondary sources.
- Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.
- Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes a law, etc.).
- Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.
- Describe how a text presents information (e.g., sequentially, comparatively, etc.).
- Identify aspects of a text that reveal an author's point of view or purpose (propaganda, loaded language, inclusion or exclusion of facts).
- Integrate visual information (e.g., in charts, graphs, photos, maps, etc.) with other information in print and digital texts.
- Distinguish among fact, opinion, and reasoned judgment in a text.
- Analyze the relationship between a primary and secondary source on the same topic.

Writing

- Write arguments focused on discipline-specific content.
- Introduce, maintain, and support claims.
- Write informative/explanatory texts, including the narration of historical events.
- Introduce a topic clearly, previewing what is to follow and use formatting, graphics, and multimedia when useful. Develop the topic with relevant, well-chosen facts, definitions, details, and quotations.
- Use precise language and domain-specific vocabulary.
- Provide a concluding statement in all writing.
- Plan, revise, edit, and rewrite with a focus on communicating clearly to the audience.
- Conduct short research projects to answer a question.
- Gather relevant information from multiple print and digital sources; assess the credibility and accuracy of sources; quote and/or paraphrase the data and conclusions while avoiding plagiarism and following a standard format for citation.