

LANGUAGE ARTS

By the end of Seventh Grade, students will:

READING STANDARDS FOR LITERATURE

Key Ideas & Details

- Cite several pieces of textual evidence to support 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 developments over the course of the text; provide an objective summary of the text.
- Analyze how particular line elements of a story or drama interact (e.g., how setting shapes the characters plot).

Craft & Structure

- Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meaning.
- 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.
- Analyze how a drama's or poem's form or structure (e.g. soliloquy, sonnet) contributes to its meaning.
- Analyze how an author develops and contrasts the points of view of different characters or narrators in a text.

Integration of Knowledge & Ideas

- 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).
- 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.

Range of Reading and Level of Text Complexity

- 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.

READING STANDARDS FOR INFORMATIONAL TEXT

Key Ideas & Details

- Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
- 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.
- 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).

Craft & 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.
- 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.
- 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.

Integration of Knowledge & Idea

- 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).

- 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.
- 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.

Range of Reading and Level of Text Complexity

- By the end of the year, read and comprehend literary nonfiction in the grades 6-8 text complexity band proficiently.

WRITING STANDARDS

Text Types & Purposes

- Write arguments to support claims with clear reasons and relevant evidence.
- Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
- Write narratives to develop real or imagined experiences or events using effective techniques, relevant descriptive details, and well-structured event sequences.

Production & 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 link to and cite sources as well as to interact and collaborate with others, including linking to and citing sources.

Research to Build & Present Knowledge

- Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.
- 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 text to support analysis, reflection and research.

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.

SPEAKING & LISTENING STANDARDS

Comprehension & Collaboration

- 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.
- 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.
- Delineate a speaker's argument and specific claims, and attitude toward the subject evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.

Presentation of Knowledge & Ideas

- Present claims and findings (e.g., argument, narrative, summary presentations), emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
- Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.
- Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.

Conventions of Standard English

- Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Knowledge of Language

- Use knowledge of language and its conventions when writing, speaking, reading, or listening.

Vocabulary Acquisition and Use

- Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on a range of strategies.
- Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
- 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 & WRITING STANDARDS FOR HISTORY, SOCIAL STUDIES, & SCIENCE

The standards below are examples of grades 6-8 reading and writing standards in history, social studies, science, and technical subjects.

- Cite specific textual evidence to support analysis of primary and secondary sources.
- Integrate visual information (e.g. in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.
- Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
- Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
- Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
- Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).

MATHEMATICS

By the end of Seventh Grade, students will:

RATIOS AND PROPORTIONAL RELATIONSHIPS

Analyze proportional relationships and use them to solve real-world and mathematical problems.

- Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.
- Recognize and represent proportional relationships between quantities.
- Use proportional relationships to solve multistep ratio and percent problems.

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SEVENTH GRADE



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THE NUMBER SYSTEM

Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

- 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.
- Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. Convert a rational number to a decimal using long division.
- Solve real-world and mathematical problems involving the four operations with rational numbers.

EXPRESSIONS AND EQUATIONS

Use properties of operations to generate equivalent expressions.

- Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
- 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.

Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

- Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form, 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.
- 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.

GEOMETRY

Draw, construct, and describe geometrical figures and describe the relationships between them.

- 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.
- Draw 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.
- Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.

Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

- 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.
- 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.
- Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects.

STATISTICS AND PROBABILITY

Use random sampling to draw inferences about a population.

- Understand that statistics can be used to gain information about a population by examining a sample of the population. Understand that random sampling tends to produce representative samples and support valid inferences.
- Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate

multiple samples of the same size to gauge the variation in estimates or predictions.

Draw informal comparative inferences about two populations.

- 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.
- Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.

Investigate chance processes and develop, use, and evaluate probability models.

- 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 and probability near 0 indicates an unlikely event.
- 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.
- 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.
- Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. Design and use a simulation to generate frequencies for compound events.

SCIENCE

By the end of Seventh Grade, students will:

LIFE SCIENCES

- Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.
- Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.
- Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.
- Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
- Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.
- Construct an argument supported by empirical evidence that populations are affected by changes to physical or biological components of an ecosystem.
- Evaluate competing design solutions for maintaining the variety of species and ecosystem services.

EARTH & SPACE SCIENCES

- Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.
- Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.
- Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.
- Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.

- Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.

PHYSICAL SCIENCES

- Develop models to describe the atomic composition of simple molecules and extended structures.
- Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.
- Gather and make sense of information to describe that synthetic materials come from natural resources and affect society.
- Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.
- Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.
- Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.

ENGINEERING DESIGN (GRADES 6-8)

- Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.
- Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.
- Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.
- Develop a model to generate data for repeated testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.

HISTORY/SOCIAL SCIENCE

By the end of Seventh Grade, students will:

WORLD HISTORY & GEOGRAPHY: MEDIEVAL & EARLY MODERN TIMES

The Roman Empire

- Analyze the causes and effects of the vast expansion and ultimate disintegration of the Roman Empire.

The Civilizations of Islam

- Analyze the geographic, political, economic, religious, and social structures of civilizations of Islam in the Middle Ages.

China

- Analyze the geographic, political, economic, religious, and social structures of the civilizations of China in the Middle Ages.

Saharan Civilizations of Ghana and Mali

- Analyze the geographic, political, economic, religious, and social structures of the Sub-Saharan civilizations of Ghana and Mali in Medieval Africa.

Japan

- Analyze the geographic, political, economic, religious, and social structures of the civilizations of Medieval Japan.

Medieval Europe

- Analyze the geographic, political, economic, religious, and social structures of the civilizations of Medieval Europe.

Mesoamerican and Andean Civilizations

- Analyze the geographic, political, economic, religious, and social structures of the Mesoamerican and Andean civilizations.

Renaissance

- Analyze the origins, accomplishments, and geographic diffusion of the Renaissance.

The Reformation

- Analyze the historical developments of the Reformation.

The Scientific Revolution

- Analyze the historical developments of the Scientific Revolution and its lasting effect on religious, political, and cultural institutions.

Political and Economic Change in the 16th, 17th, and 18th Centuries

- Analyze political and economic change in the sixteenth, seventeenth, and eighteenth centuries (Age of Exploration, the Enlightenment, and the Age of Reason).