

## 5

## FIFTH GRADE



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G5

## LANGUAGE ARTS

By the end of Fifth Grade, students will:

## READING STANDARDS FOR LITERATURE

*Key Ideas & Details*

- Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
- Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.
- Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).

*Craft & Structure*

- Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.
- Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem.
- Describe how a narrator's or speaker's point of view influences how events are described.

*Integration of Knowledge & Ideas*

- Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, poem).
- Compare and contrast stories in the same genre (e.g., mysteries and adventure stories) on their approaches to similar themes and topics.

*Range of Reading and Level of Text Complexity*

- By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 4-5 text complexity band independently and proficiently.

## READING STANDARDS FOR INFORMATIONAL TEXT

*Key Ideas & Details*

- Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
- Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.
- Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

*Craft & Structure*

- Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.
- Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.
- Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.

*Integration of Knowledge & Ideas*

- Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.
- Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).

- Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

*Range of Reading and Level of Text Complexity*

- By the end of the year, read and comprehend informational text, including history/social studies, science, and technical texts, at the high end of the grades 4-5 text complexity band independently and proficiently.

## READING STANDARDS: FOUNDATIONAL SKILLS

*Phonics & Word Recognition*

- Know and apply grade-level phonics and word analysis skills in decoding words.

*Fluency*

- Read with sufficient accuracy and fluency to support comprehension.

## WRITING STANDARDS

*Text Types & Purposes*

- Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
- Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
- Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

*Production & Distribution of Writing*

- Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.
- With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
- With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting.

*Research to Build & Present Knowledge*

- Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.
- Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.
- Draw evidence from literary or informational texts 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 &amp; 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 5 topics and texts, building on others' ideas and expressing their own clearly.
- Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
- Summarize the points a speaker or media source makes and explain how each claim is supported by reasons and evidence, and identify and analyze any logical fallacies.

*Presentation of Knowledge & Ideas*

- Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
- Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.
- Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation.

## LANGUAGE STANDARDS

*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 all grade 5 reading content, choosing flexibly from 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, including those that signal contrast, addition, and other logical relationships (e.g., however, although, nevertheless, similarly, moreover, in addition).

## MATHEMATICS

By the end of Fifth Grade, students will:

## OPERATIONS AND ALGEBRAIC THINKING

*Write and interpret numerical expressions.*

- Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
- Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.
- Express a whole number in the range 2–50 as a product of its prime factors.

*Analyze patterns and relationships.*

- Use numerical rules and patterns to form ordered pairs. Graph the ordered pairs on a coordinate plane (e.g., x-axis and y-axis).

## NUMBER AND OPERATIONS IN BASE TEN

*Understand the place value system.*

- Recognize the value of digits in a multi-digit number.
- Explain patterns when multiplying a number by powers of 10. Explain patterns when a decimal is multiplied or divided by a power of 10.
- Read, write, and compare decimals to thousandths.
- Use place value understanding to round decimals to any place.

*Perform operations with multi-digit whole numbers and with decimals to hundredths.*

- Fluently multiply multi-digit whole numbers using the standard algorithm.
- Find whole-number quotients by dividing four-digit dividends by two-digit divisors. Illustrate and explain calculations by using equations, rectangular arrays, and/or area models.

- Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies and relate the strategy to a written method and explain the reasoning used.

## NUMBER AND OPERATIONS-FRACTIONS

*Use equivalent fractions as a strategy to add and subtract fractions.*

- Add and subtract fractions with unlike denominators, including mixed numbers.
- Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators.

*Apply and extend previous understandings of multiplication and division to multiply and divide fractions.*

- Interpret a fraction as a division of the numerator by the denominator. Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers.
- Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.
- Interpret multiplication as scaling of a number (e.g., similar to a scale on a map).
- Solve real world problems involving multiplication of fractions and mixed numbers.
- Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.

## MEASUREMENT AND DATA

*Convert like measurement units within a given measurement system.*

- Convert among different-sized standard measurement units within a given measurement system and use these conversions in solving multi-step, real world problems.

*Represent and interpret data.*

- Make a line plot to display a data set of measurements in fractions of a unit. Use operations on fractions for this grade to solve problems involving information presented in line plots.

*Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.*

- Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
- Measure volumes by counting unit cubes.
- Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. Apply the formulas  $V = l \times w \times h$  and  $V = b \times h$  for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths.

## GEOMETRY

*Graph points on the coordinate plane to solve real-world and mathematical problems.*

- Understand how to graph ordered pairs on a coordinate plane (e.g., x-axis and x-coordinate, y-axis and y-coordinate).
- Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points.

*Classify two-dimensional figures into categories based on their properties.*

- Classify two-dimensional shapes into categories. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.
- Classify two-dimensional figures in a hierarchy based on properties.

# SCIENCE

By the end of Fifth Grade, students will understand:

## PHYSICAL SCIENCE

*Elements*

- Elements and their combinations account for all the varied types of matter in the world.
- All matter is made of atoms, which may combine to form molecules.
- Each element is made of one kind of atom. These elements are organized in the Periodic Table by their chemical properties.
- Scientists have developed instruments able to create images of atoms and molecules to show they are discrete and often occur in well-ordered arrays.
- Differences in chemical and physical properties of substances are used to separate mixtures and identify compounds.
- The common properties of salts, such as sodium chloride.
- During chemical reactions, the atoms in the reactants rearrange to form products with different properties.
- The properties of solid, liquid, and gaseous substances, such as sugar, water, helium, oxygen, nitrogen, and carbon dioxide.
- Metals have properties in common, such as electrical and thermal conductivity. Some metals are pure elements while others are composed of a combination of elemental metals.
- Living organisms and most materials are composed of just a few elements.

## LIFE SCIENCES

- Plants and animals have structures for respiration, digestion, waste disposal, and transport of materials.

*Plants*

- Many multicellular organisms have specialized structures to support the transport of materials.
- How sugar, water, and minerals are transported in a vascular plant.
- Plants use carbon dioxide and energy from sunlight to build molecules of sugar and release oxygen.
- Plant and animal cells break down sugar to obtain energy, forming carbon dioxide and water (respiration).

*Animals*

- How blood circulates through the heart chambers, lungs, and body, and how carbon dioxide and oxygen are exchanged in the lungs and tissues.
- The sequential steps of digestion, and the roles of teeth and mouth, esophagus, stomach, small intestine, large intestine, and colon in the function of the digestive system.
- The role of the kidney in removing cellular wastes from blood and converting them into urine, which is stored in the bladder.

## EARTH SCIENCES

*Solar System*

- The solar system consists of planets and other bodies that orbit the sun in predictable paths.
- The sun (an average star) is the central and largest body in the solar system and is composed primarily of hydrogen and helium.
- The solar system includes the Earth, moon, sun, eight other planets and their satellites, and smaller objects such as asteroids and comets.
- The path of a planet around the sun is due to the gravitational attraction between the sun and the planet.
- The Earth's atmosphere exerts a pressure that decreases with distance above the Earth's surface, and is the same in all directions.

*Water on Earth*

- Water on Earth moves between the oceans and land through the process of evaporation and condensation.
- Most of the Earth's water is present as salt water in the oceans, which cover most of the Earth's surface.
- When liquid water evaporates, it turns into water vapor in the air and can reappear as a liquid when cooled, or as a solid if cooled below the freezing point of water.
- Water moves in the air from one place to another in the form of clouds or fog, which are tiny droplets of water or ice, and falls to the Earth as rain, hail, sleet, or snow.
- The amount of fresh water located in rivers, lakes, underground sources, and glaciers, is limited, and its availability can be extended through recycling and decreased use.
- The origin of water used by their local communities.

*Weather*

- Energy from the sun heats the Earth unevenly, causing air movements (convection currents) that result in changing weather patterns.
- The influence of the ocean on weather, and the role of the water cycle in weather.
- The causes and effects of different types of severe weather.
- How to use weather maps and weather forecasts to predict local weather, and recognizing predictions depend on many changing variables.

## INVESTIGATION AND EXPERIMENTATION

As a basis for understanding scientific progress, and to address the content in the other three strands, students will:

- Develop questions and perform investigations.
- Ask meaningful questions and conduct careful investigations.
- Classify objects (e.g., rocks, plants, leaves) based on appropriate criteria.
- Develop a testable question.
- Plan and conduct a simple investigation based on a student-developed question, and write instructions others can follow to carry out the procedure.
- Identify the dependent and controlled variables in an investigation.
- Identify a single independent variable in a scientific investigation and explain what will be learned by collecting data on this variable.
- Select appropriate tools and make quantitative observations.
- Record data using appropriate graphic representation and make inferences based on those data.
- Draw conclusions based on scientific evidence and indicate whether further information is needed to support a specific conclusion.
- Write a report of an investigation including tests conducted, data collected or evidence examined, and conclusions drawn.

# HISTORY/SOCIAL SCIENCE

By the end of Fifth Grade, students will:

## UNITED STATES HISTORY & GEOGRAPHY: MAKING A NEW NATION

*Pre-Columbian Settlements*

Learn about the major pre-Columbian settlements, including the cliff dwellers and pueblo people of the desert Southwest, the American Indians of the Pacific Northwest, the nomadic nations of the Great Plains, and the woodland peoples east of the Mississippi River, in terms of:

- How geography and climate influenced the way various nations lived and adjusted to the natural environment.
- The varied customs, traditions, economies, and systems of government.

*European Exploration*

Learn about the early explorations of the Americas, in terms of:

- Why Europeans chose to explore and colonize the New World.
- The land and sea routes they used.
- The land they claimed.
- Native American and European relations.
- Learn about the cooperation and conflict that existed among the Indians and between the Indian nations and the new settlers and the significant leaders of the time.

*Colonial America*

Learn about the political, religious, social, and economic institutions that evolved in the colonial era in terms of:

- Major individuals and groups responsible for the founding of the colonies, the reasons for their founding, and the influence of location and physical setting.
- The introduction of slavery into America.
- Causes of the American Revolution
- Learn about the political, religious, and economic reasons that brought about the American Revolution in terms of:
- The people and events associated with the drafting and signing of the Declaration of Independence and the document's significance.
- The views, lives, and impact of key individuals during this period.

*The American Revolution and Its Consequences*

- Study the course and consequences of the American Revolution, including major battles, leaders, Indian alliances, French contributions, roles of women, and economic hardships.
- Study how the ideals of the Declaration of Independence the way people viewed slavery.
- Study how state constitutions established after 1776 embodied ideals of the American Revolution.

*The U.S. Constitution*

- Learn the story of the people and events associated with the development of the U.S. Constitution.
- Analyze its significance as the foundation of the American republic.

*Settlement of America*

- Trace the colonization, immigration, and settlement patterns of the American people from 1789 to the mid-1800's.

*States and Capitals*

- Know the location of the current 50 states and the names of capitals.
- Learn how and when western lands became part of the U.S..