

GRADE FIVE SCIENCE

DEMONSTRATES KNOWLEDGE OF CONTENT AND CONCEPTS

Living Things and Ecosystems

- Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.
- Ask testable questions about the process by which plants use air, water, and energy from sunlight to produce sugars and plant materials needed for growth and reproduction (photosynthesis).
- Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

Earth Systems

- Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
- Describe and graph the relative amounts of salt water in the ocean; fresh water in lakes, rivers, and groundwater; and fresh water frozen in glaciers and polar ice caps to provide evidence about the availability of fresh water in Earth's biosphere.
- Test a simple system designed to filter particulates out of water and propose one change to the design to improve it.
- Obtain and combine information about ways communities reduce human impact on the Earth's resources and environment by changing an agricultural, industrial, or community practice or process.

Changes in Matter

- Use a particle model of matter to explain common phenomena involving gases, and phase changes between gas and liquid and between liquid and solid.
- Measure and graph the weights (masses) of substances before and after a reaction or phase change to provide evidence that regardless of the type of change that occurs when heating, cooling, or combining substances, the total weight (mass) of matter is conserved.
- Make observations and measurements to identify materials based on their properties.
- Conduct an experiment to determine whether the mixing of two or more substances results in new substances with new properties (a chemical reaction) or not (a mixture.)

Earth, the Moon, and the Stars

- Support an argument with evidence that the gravitational force exerted by Earth on objects is directed toward Earth's center.
- Use observations, first hand and from various media, to argue that the Sun is a star that appears larger and brighter than other stars because it is closer to Earth.
- Use a model to communicate Earth's relationship to the Sun, Moon, and other stars that explains patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.

GRADE FIVE SCIENCE

DEMONSTRATES APPLICATION OF SKILLS AND PRACTICES

- Asking questions (science) and defining problems (engineering)
- Developing and using models
- Planning and carrying out investigations
- Analyzing and interpreting data
- Using mathematical and computational thinking
- Constructing explanations (science) and designing solutions (engineering)
- Engaging in argument from evidence
- Obtaining, evaluating and communicating information

GRADE FIVE SOCIAL STUDIES
United States History, Geography, Economics, and Government:
Early Exploration to Westward Movement

DEMONSTRATES KNOWLEDGE OF LEARNING STANDARDS

Pre-Columbian Civilizations of the New World

- Identify the three major pre-Columbian civilizations that existed in Central and South America (Maya, Aztec, and Inca) and their locations. Describe their political structures, religious practices, and use of slaves.

Explorers

- Describe the earliest explorations of the New World by the Vikings, the period and locations of their explorations, and the evidence for them.
- Explain why trade routes to Asia had been closed in the 15th century and trace the voyages of at least four explorers. Describe what each explorer sought when he began his journey, what he found, and how his discoveries changed the image of the world, especially the maps used by explorers.
- Explain why the Aztec and Inca civilizations declined in the 16th century.
- Describe the goals and extent of the Dutch settlement in New York, the French settlements in Canada, and the Spanish settlements in Florida, the Southwest, and California.

Colonial America

- Explain the early relationship of the English settlers to the indigenous peoples in North America, including the differing views on ownership or use of land and the conflicts between them (e.g., the Pequot and King Philip's Wars in New England.)
- Identify some of the major leaders and groups responsible for the founding of the original colonies in North America.
- On a map of North America, identify the first 13 colonies and describe how regional differences in climate, types of farming, populations, and sources of labor shaped their economics and societies through the 18th century.
- Explain the importance of maritime commerce in the development of the economy of colonial Massachusetts, using the services of historical societies and museums as needed.
- Explain the causes of the establishment of slavery in North America. Describe the harsh conditions of the Middle Passage and slave life, and the responses of slaves to their condition. Describe the life of free African Americans in the colonies.
- Explain the development of colonial governments and describe how these developments contributed to the Revolution (e.g., legislative bodies, town meetings, and charters on individual freedoms and rights.)
- Explain the reasons for the French and Indian War, how it led to an overhaul of British imperial policy, and the colonial response to these policies.

DEMONSTRATES KNOWLEDGE OF LEARNING STANDARDS

Government

- Explain the meaning of the key ideas on equality, natural rights, the rule of law, and the purpose of government contained in the Declaration of Independence.
- Identify the Constitution of the Commonwealth of Massachusetts, including its date, its primary author (John Adams), and the basic rights it gives to citizens of the Commonwealth.
- Explain the reasons for the adoption of the Articles of Confederation in 1781 and for its later failure.
- Describe Shays' Rebellion of 1786-1787 and explain why it was one of the crucial events leading to the Constitutional Convention.
- Identify the various leaders of the Constitutional Convention and describe the major issues they debated (e.g., distribution of political power, rights of individuals, rights of states, the Great Compromise, and slavery.)
- Describe the responsibilities of government at the federal, state, and local levels (e.g., protection of individual rights and the provision of services such as law enforcement and the building and funding of schools.)
- Describe the basic political principles of American democracy and explain how the Constitution and the Bill of Rights reflect and preserve these principles (individual rights and responsibilities, equality, the rule of law, limited government, and representative democracy.)
- Identify the three branches of the United States government as outlined by the Constitution, describe their functions and relationships, and identify what features of the Constitution were unique at the time (e.g., the presidency and the independent judiciary.)
- Identify the rights in the Bill of Rights and explain the reasons for its inclusion in the Constitution in 1791.
- Explain how American citizens were expected to participate in, monitor, and bring about changes in their government over time, and give examples of how they continue to do so today.