

<u>Science Benchmarks</u>	
	Grade Five
	The student will:
	Standard 1: EARTH & SPACE SCIENCE Demonstrate an understanding of the structure and systems of Earth and other bodies in the universe and their interactions.
5-1a.	Observe that when liquid water disappears, it turns into gas (vapor) in the air and can reappear as a liquid when cooled.
5-1b.	Explain that clouds, like fog and steam from a kettle, are made of tiny droplets of water.
5-1c.	Document that the Sun provides the energy necessary to maintain the temperature of the Earth.
5-1d.	Know that smaller rocks come from the breakage and weathering of bedrock and larger rocks.
5-1e.	Generalize that rock is composed of different combinations of minerals.
5-1f.	Recognize that waves, wind, water, and ice constantly change the Earth's land surface by eroding rock and soil in some areas and depositing them in other areas, sometimes in seasonal layers.
5-1g.	Explain how the surface of the Earth changes; some changes are due to slow processes (e.g., erosion, and weathering), and some changes are due to rapid processes (e.g. landslides, volcanoes, and earthquakes).
	Standard 2: LIFE SCIENCE Understand the characteristics and structures of living things, the processes of life, and how living things interact with each other and their environment.
5-2a.	Observe and record that an organism's patterns of behavior are related to the nature of that organism's environment, including the kinds and numbers of other organisms present, the availability of food and resources, and the physical characteristics of the environment.
5-2b.	Simulate that when an environment changes some plants and animals survive and reproduce and others die or move to new locations.
5-2c.	Examine how organisms (including humans) cause changes in the environment where they live; some of these changes are detrimental to themselves or other organisms and others are beneficial.
5-2d.	Know that green plants make food. All animals depend on plants; some animals eat plants for food, while other animals eat the animals that eat the plants.
5-2e.	Know that decomposers break down the remains of dead organisms and organic waste.

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	Standard 3: PHYSICAL SCIENCE Demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and how matter and energy are interrelated.
5-3a.	Demonstrate that things have properties (e.g., magnetism, conductivity, density, solubility) that can be used to tell them apart and to find out which of them are alike.
5-3b.	Demonstrate how an object's properties can be measured using tools such as rulers, balances and thermometers.
5-3c.	Know that things that give off light often also give off heat.
5-3d.	Know that heat can move from one object to another by conduction.
5-3e.	Know that some materials conduct heat better than others; materials that do not conduct heat well can reduce heat loss.
5-3f.	Know that materials have different states (solid, liquid, and gas) and some common materials such as water can be changed from one state to another by heating or cooling.
5-3g.	Know that materials may be composed of parts that are too small to be seen without magnification.
	Standard 4: SOCIETY & TECHNOLOGY Demonstrate an understanding of scientific knowledge and technological design in society.
5-4a.	Analyze why the same scientific investigation often gives slightly different results when it is carried out by different persons, or at different times or places.
5-4b.	Know that if results of repeated experiments are very different, something must be wrong with the design of the investigation.
5-4c.	Compare and contrast the results of repeating an experiment many times before accepting a consistent result as true.
5-4d.	Demonstrate that tools help scientists make better observations, measurements and equipment for investigations.
5-4e.	Confirm that people have always had questions about their world; science is one way of answering questions and explaining the natural world.
5-4f.	Understand that scientific investigations involve asking and answering a question and comparing the answer to what scientists already know about the world.
5-4g.	Plan and conduct a simple investigation (e.g., systematic observations and simple experiments to answer questions).
5-4h.	Make and use simple equipment and tools to gather scientific data and extend the senses (e.g., rulers, thermometers, magnifiers, microscopes, and calculators).

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5-4i.	Demonstrate that scientists develop explanations using observations (evidence) and what they already know about the world (scientific knowledge); good explanations are based on evidence from investigations.
5-4j.	Compare the different kinds of investigations that scientists use (e.g. naturalistic observation of things or events, data collection, controlled experiments) depending on the questions they are trying to answer.