

## Grade Band Theme: Observations of the Environment

*This theme focuses on helping students develop the skills for systematic discovery to understand the science of the physical world around them in greater depth by using scientific inquiry.*

### Earth and Space Science (ESS)

<b>Topic: Earth's Resources</b>
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This topic focuses on Earth's resources. While resources can be living and nonliving, within this strand, the emphasis is on Earth's nonliving resources, such as water, air, rock, soil and the energy resources they represent.

#### Content Statements

- Earth's nonliving resources have specific properties.
  - Soil is composed of pieces of rock, organic material, water and air and has characteristics that can be measured and observed. Rocks have unique characteristics that allow them to be sorted and classified. Rocks form in different ways. Air and water are nonliving resources.
- Earth's resources can be used for energy.
  - Many of Earth's resources can be used for the energy they contain. Renewable energy is an energy resource, such as wind, water or solar energy that is replenished within a short amount of time by natural processes. Nonrenewable energy is an energy resource, such as coal or oil that is a finite energy source that cannot be replenished in a short amount of time.
- Some of Earth's resources are limited.
  - Some of Earth's resources become limited due to overuse and/or contamination. Reducing resource use, decreasing waste and/or pollution, recycling and reusing can help conserve these resources.

## Physical Science (PS)

### Topic: Matter and Forms of Energy

This topic focuses on the relationship between matter and energy. Matter has specific properties and is found in all substances on Earth. Heat is a familiar form of energy that can change the states of matter.

#### Content Statements

- All objects and substances in the natural world are composed of matter.
  - Matter takes up space and has mass.
- Matter exists in different states, each of which has different properties.
  - The most common states of matter are solids, liquids and gases.
  - Shape and compressibility are properties that can distinguish between the states of matter.
  - One way to change matter from one state to another is by heating or cooling.
- Heat, electrical energy, light, sound and magnetic energy are forms of energy.
  - There are many different forms of energy. Energy is the ability to cause motion or create change.

## Life Science (LS)

### Topic: Behavior, Growth and Changes

This topic explores life cycles of organisms and the relationship between the natural environment and an organism's (physical and behavioral) traits, which affect its ability to survive and reproduce.

#### Content Statements

## Science Grade 3

- Offspring resemble their parents and each other.
  - Individual organisms inherit many traits from their parents indicating a reliable way to transfer information from one generation to the next.
  - Some behavioral traits are learned through interactions with the environment and are not inherited. Individuals of the same kind differ in their traits and sometimes the differences give individuals an advantage in surviving and reproducing.
  - Plants and animals have physical features that are associated with the environments where they live.
  - Plants and animals have certain physical or behavioral characteristics that improve their chances of surviving in particular environments.
  - Individuals of the same kind have different characteristics that they inherited. Sometimes these different characteristics give individuals an advantage in surviving and reproducing.
- Plants and animals have life cycles that are part of their adaptations for survival in their natural environments.
  - Over the whole earth, organisms are growing, reproducing, dying and decaying. The details of the life cycle are different for different organisms, which affects their ability to survive and reproduced in their natural environments.