

Content Area: Science
Standard: Earth Systems Science

Prepared Graduates:
 ➤ Describe how humans are dependent on the diversity of resources provided by Earth and Sun

Grade Level Expectation: First Grade

Concepts and skills students master:
 1. Earth’s materials can be compared and classified based on their properties

Evidence Outcomes	21st Century Skills and Readiness Competencies
<p>Students can:</p> <ul style="list-style-type: none"> a. Identify and represent similarities and differences such as the texture, size, color, and shape of various materials on Earth b. Sort, group, and classify Earth’s materials based on observations and explorations c. Make predictions about how a material on Earth might be useful based on its properties d. Communicate ideas about the differences between soils from different places e. Use a variety of tools to observe, analyze, record, and compare Earth’s materials f. Analyze the impact of reducing, reusing, and recycling various materials 	<p>Inquiry Questions:</p> <ul style="list-style-type: none"> • How are various materials on Earth similar and different? • How do the properties of various materials on Earth affect the way we can use them? • How does soil differ from different places? <p>Relevance and Application:</p> <ul style="list-style-type: none"> • Humans use natural resources in our daily lives and in a variety of ways. For example, wood for building and furniture. • There are limits on resources and materials extracted from the natural environment. <p>Nature of Science:</p> <ul style="list-style-type: none"> • The same materials can be sorted in a number of ways based on different characteristics. • Scientists make predictions based on what they know.

Content Area: Science

Standard: Life Science

Prepared Graduates:

- Analyze how various organisms grow, develop, and differentiate during their lifetimes based on an interplay between genetics and their environment

Grade Level Expectation: First Grade

Concepts and skills students master:

1. Offspring have characteristics that are similar to but not exactly like their parents' characteristics

Evidence Outcomes

Students can:

- a. Use evidence to analyze similarities and differences between parents and offspring in a variety of organisms including both plants and animals
- b. Analyze and interpret data regarding the similarities and differences between parents and offspring
- c. Question peers about evidence used in developing ideas about similarities and differences between parents and offspring
- d. Interpret information represented in pictures, illustrations, and simple charts

21st Century Skills and Readiness Competencies

Inquiry Questions:

- How are you like your parents?
- In what ways do offspring resemble their parents?

Relevance and Application:

- Diversity – or variation – exists within populations of living organisms.
- Family photographs often reveal similar physical traits.
- Parents eye color can be different their child's.

Nature of Science:

- Compare and contrast data, recognizing that this is a process scientists would do in their work.
- Question peers about the evidence used in developing their ideas about the similarities and differences between parents and offspring.

Content Area: Science

Standard: Physical Science

Prepared Graduates:

- Apply an understanding of atomic and molecular structure to explain the properties of matter, and predict outcomes of chemical and nuclear reactions

Grade Level Expectation: First Grade

Concepts and skills students master:

1. Solids and liquids have unique properties that distinguish them

Evidence Outcomes

Students can:

- a. Analyze and interpret observations about solids and liquids and their unique properties
- b. Identify the similarities and differences of two or more groups of solids or liquids
- c. Classify solids and liquids based on their properties, and justify your choice based on evidence

21st Century Skills and Readiness Competencies

Inquiry Questions:

- What do all liquids have in common? What are some differences they can have and still be considered liquids?
- What do all solids have in common? What are some differences they can have and still be considered solids?
- What properties of liquids can be used to sort them?
- What properties of solids can be used to sort them?

Relevance and Application:

- The properties of solids and liquids help us understand how to use matter. For example, we not build a bridge out of tissue because it is not strong enough.
- There are practical reasons for sorting liquids or solids.

Nature of Science:

- Share results of experiments with others.
- Recognize that observations are an important part of science.
- Conduct collaborative experiments.