

Content Area: Science
Standard: Earth Systems Science

Prepared Graduates:
 ➤ Evaluate evidence that Earth’s geosphere, atmosphere, hydrosphere, and biosphere interact as a complex system

Grade Level Expectation: Third Grade

Concepts and skills students master:
 1. Earth’s materials can be broken down and/or combined into different materials such as rocks, minerals, rock cycle, formation of soil, and sand – some of which are usable resources for human activity

Evidence Outcomes	21st Century Skills and Readiness Competencies
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Students can:

- a. Investigate and identify two or more ways that Earth’s materials can be broken down and/or combined in different ways such as minerals into rocks, rock cycle, formation of soil, and sand
- b. Use evidence to develop a scientific explanation about one or more processes that break down and/or combine Earth materials
- c. Utilize a variety of media sources to collect and analyze data around Earth’s materials and the processes by which they are formed

Inquiry Questions:

- What are some of the ways that Earth’s materials are formed?
- Where do these different materials such as soil, sand, rocks, and oil come from? What is the process by which the materials were formed?
- How is Earth's surface changing?
- How do rocks “cycle?”

Relevance and Application:

- Many of Earth’s materials are usable building or energy resources. Extended processes and time are required to convert fossil fuels and soil into useful material.

Nature of Science:

- Ask testable questions about the composition and formation of rocks.
- Use models to demonstrate the rock cycle or other ways Earth’s materials are broken down or combined.

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

Third Grade

Concepts and skills students master:

1. Matter exists in different states such as solids, liquids, and gases and can change from one state to another by heating and cooling

Evidence Outcomes	21st Century Skills and Readiness Competencies
<p>Students can:</p> <ol style="list-style-type: none">a. Analyze and interpret observations about matter as it freezes and melts, and boils and condensesb. Use evidence to develop a scientific explanation around how heating and cooling affects states of matterc. Identify the state of any sample of matter	<p>Inquiry Questions:</p> <ul style="list-style-type: none">• How can the state of matter of any object be decided?• Where around the school would snow take the longest to melt? Why?
	<p>Relevance and Application:</p> <ul style="list-style-type: none">• Water is distributed on Earth in different forms such as vapor, ice or glaciers, rivers, and freshwater or saltwater oceans.• There is only a certain amount of water available for human use.
	<p>Nature of Science:</p> <ul style="list-style-type: none">• Ask a testable question about the heating and cooling of a substance, design a method to find the answer, collect data, and form a conclusion.• Demonstrate the importance of keeping accurate observations and notes in science.• Share results of experiments with others, and respectfully discuss results that are not expected.