

SECOND GRADE

FOSS: Pebbles, Sand, and Silt

Anchor phenomenon: Earth materials cover the surface of our planet

What are the properties of earth materials?
How do earth materials interact and change?

Students observe the properties of rocks and soil, study the results of weathering and erosion, locate natural sources of water, and determine how to represent the shapes and kinds of land and bodies of water on Earth. They use simple tools to observe, describe, analyze, and sort solid earth materials and learn how the properties of the materials are suited to different purposes. Students explore how wind and water change the shape of the land and compare ways to slow the process of erosion. The investigations complement the students' experiences in the Solids and Liquids Module with a focus on earth materials and the influence of engineering and science on society and the natural world.

New York State Science Learning Standards:

Earth Sciences: 2-ESS1-1, 2-ESS2-1, 2-ESS2-2, 2-ESS2-3

Physical Sciences: 2-PS1-1, 2-PS1-2

Engineering Design: K-2 ETS1-1, K-2 ETS1-2, K-2 ETS1-3

Practices

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

Crosscutting Concepts

- Patterns
- Cause and effect
- Scale, proportion, and quantity
- Energy and matter
- Stability and change

FOSS: Solids and Liquids

Anchor phenomenon: Matter in two phase—solid and liquid

How are solid and liquid materials similar and different?

How do the properties of solid and liquid materials relate to how they can be used and how they can change?

Students engage with physical sciences core ideas dealing with matter and its interactions and engineering design. Students build on the science concepts of matter and its interactions developed in kindergarten using new tools to enrich observations. Students observe, describe, and compare properties of solids and liquids. They conduct investigations to find out what happens when solids and water are mixed and when liquids and water are mixed. They use their knowledge to conduct an investigation on an unknown material (toothpaste). They gain firsthand experience with reversible changes caused by heating or cooling, and read about changes caused by heating that are irreversible.

New York State Science Learning Standards:

Physical Sciences: 2-PS1-1, 2-PS1-2, 2-PS1-3, 2-PS1-4

Engineering Design: K-2 ETS1-1, K-2 ETS1-2, K-2 ETS1-3

Practices:

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

Crosscutting Concepts

- Patterns
- Cause and effect
- Scale, proportion, and quantity
- Energy and matter
- Structure and function
- Stability and change

Amplify: Plant and Animal Relationships

Anchor phenomenon: No new chalta trees are growing in the fictional Bengal Tiger Reserve in India

What is happening to the chalta trees in the Bengal Tiger Reserve?

In their role as plant scientists, students work to figure out why there are no new chalta trees growing in the Bengal Tiger Reserve, which is part of a broadleaf forest. Students investigate what the chalta tree needs to survive, then collect and analyze qualitative and quantitative data to solve the mystery.

New York State Science Learning Standards:

Life Sciences: 2-LS2-1, 2-LS2-2, 2-LS4-1

Earth's Systems: 2-ESS2-2

Practices

- Developing and using models
- Planning and carrying out investigations

Crosscutting Concepts

- Cause and effect
- Structure and function
- Patterns