

THIRD GRADE

FOSS: Water and Climate

Anchor phenomenon: Weather in diverse climates

How is water involved in weather?

Are weather conditions the same around the world and throughout the year?

Water is the most important substance on Earth. Water dominates the surface of our planet, changes the face of the land, and defines life. Weather is driven by the Sun and involves the movement of water over the earth. Climate is determined in part by the amount of precipitation in a region and by temperature fluctuations. Students engage with these ideas as they explore the properties of water, the water cycle, interactions between water and other earth material, and natural hazards due to weather interactions. They learn how humans use water as a natural resource and how societies depend on water and new technologies to conserve and protect this resource.

New York State Science Learning Standards:

Earth Sciences: 3-ESS2-1, 3-ESS2-2, 3-ESS3-1, 2-ESS2-3*

Physical Sciences: 2-PS1-1*

Engineering Design: 3-5 ETS1-1, 3-5 ETS1-2, 3-5 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
- Systems and system models

FOSS: Structures of Life

Anchor phenomenon: Diversity of plants and animals we observe in our world

Where do organisms come from and how do they survive?

How are all the different kinds of plants and animals able to continue to exist on Earth?

Students experience that organisms exhibit a variety of strategies for life, have a variety of observable structures and behaviors, have varied but predictable life cycles, and reproduce their own kind by passing inherited characteristics to offspring. Students explore how individual organisms have variations in their traits that may provide an advantage in surviving in a particular environment, and how our knowledge of animals that survived in past environments is inferred by studying fossil characteristics.

New York State Science Learning Standards:

Life Sciences: 3-LS1-1, 3-LS2-1, 3-LS3-1, 3-LS3-2, 3-LS4-1, 3-LS4-2, 3-LS4-3, 3-LS4-4

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
- Systems and system models
- Structure and function

Amplify: Balancing Forces

Anchor phenomenon: The town of Faraday is getting a new train that floats above its tracks

How is it possible for a train to float?

People in Faraday are excited to hear that a new train service will be built for their city, but concerned when they hear that it will be a floating train. Students are challenged to figure out how a floating train works in order to explain it to the citizens of Faraday. They develop models of how the train rises, floats, and then falls back to the track, and then write an explanation of how the train works.

New York State Science Learning Standards:

Physical Sciences: 3-PS2-1, 3-PS2-2, 3-PS2-3, 3-PS2-4

Engineering Design: 3-5-ETS1-1, 3-5-ETS1-2

Practices

- Asking questions and defining problems
- Planning and carrying out investigations
- Constructing explanations and designing solutions
- Developing and using models

Crosscutting Concepts

- Patterns
- Cause and effect
- Structure and function
- Systems and system models