

Grade 5

Amplify Science unit name and summary

NGSS performance expectations addressed

Modeling Matter

The Chemistry of Food

As food scientists working in a lab for a large food production company, students take on two work assignments, one related to food safety and one related to creation of a new food product. In so doing, they figure out that the properties of materials are related to the properties of the nanoparticles that make up those materials.

5-PS1-1: Matter and Its Interactions
5-PS1-2: Matter and Its Interactions
5-PS1-3: Matter and Its Interactions
5-PS1-4: Matter and Its Interactions
3-5-ETS1-2: Engineering and Design

Patterns of Earth and Sky

Analyzing Stars on Ancient Artifacts

In their roles as astronomers, students investigate an artifact found on an archeological dig that seems to show patterns in the daytime and nighttime sky. Using a computer simulation of stars, physical models, and a reference text, students figure out how the position of stars around the Earth, and the spin and orbit of the Earth, cause us to see daily and yearly patterns of stars.

5-PS2-1: Motion and Stability: Forces and Interactions
5-ESS1-1: Earth's Place in the Universe
5-ESS1-2: Earth's Place in the Universe

The Earth System

Investigating Water Shortages

As water resource engineers, students figure out what caused a water shortage on the east side of a fictional island, East Ferris, and work to design a solution to the problem. Applying their knowledge of water distribution and analyzing the flow of water between the hydrosphere, atmosphere, and geosphere, students communicate the nature of the problem and possible solutions to the people of East Ferris.

5-ESS2-1: Earth's Systems
5-ESS2-2: Earth's Systems
5-ESS3-1: Earth and Human Activity
5-PS1-1: Matter and Its Interactions
5-PS1-2: Matter and Its Interactions
5-PS1-3: Matter and Its Interactions
5-PS1-4: Matter and Its Interactions
5-LS2-1: Ecosystems: Interactions, Energy, and Dynamics
3-5-ETS1-1: Engineering and Design
3-5-ETS1-2: Engineering and Design
3-5-ETS1-3: Engineering and Design

Grade 5: Ecosystem Restoration

Matter and Energy in a Rainforest

Students engage as ecologists as they figure out why the plants and animals in a failing Costa Rican rainforest ecosystem aren't growing and thriving. Growing a terrarium, using physical models, and investigating how matter and energy flow with a computer model, students solve the mystery and create a plan for rainforest restoration.

5-LS1-1: From Molecules to Organisms: Structures and Processes
5-LS2-1: Ecosystems : Interactions, Energy, and Dynamics
5-ESS3-1: Earth and Human Activity
5-PS1-1: Matter and Its Interactions
5-PS1-4: Matter and Its Interactions
5-PS3-1: Energy
3-5-ETS1-1: Engineering and Design
3-5-ETS1-2: Engineering and Design