

Secondary Science Course



Overview

Aligned with the Disciplinary Core Ideas (DCIs) of the Next Generation Science Standards (NGSS), the secondary science course focuses on the knowledge and key ideas needed for scientific application. The content of the course encompasses three domains of the NGSS: Engineering, Technology, and Application of Science; Earth Science; and Life Science. Within these three domains, the grade 6 science course is broken down into six units, each made up of seven lessons.

Alignment to NGSS Domains

Secondary Science

Engineering, Technology, and Application of Science	Students discover the traits of a good scientist, such as curiosity, reasoning, creativity, skepticism, and open-mindedness. Through their exploration of these traits, students learn about real-life scientists and experiments that prove why these traits are important.
Earth Science	In these units, students learn all about the layers of Earth, the theory of continental drift, and how plate tectonics explain the movement of and interactions between Earth's plates. Additionally, students uncover how these concepts explain earthquakes, tsunamis, volcanoes, and the formation of mountains and deserts.
Life Science	Students begin by learning about desert biomes. Specifically, they explore desert land formations and the adaptations plants and animals have made to survive in these harsh conditions. Students are also introduced to Charles Darwin and his theory of evolution. They explore different types of adaptations that aid in survival, as well as how some species form special relationships to ensure their mutual survival.

Secondary Science Units and Lessons

Unit

Character Traits of Good Scientists

Summary

This introductory unit discusses the traits and qualities that make a good scientist.

Lessons

- Becoming a Good Scientist
- Curiosity
- How Do Scientists Use reason?
- How Do Scientists Use Creativity?
- Do you Have the Patience to Be a Scientist?
- Why Should Scientists Be Open to New Ideas?

Unit

Our Big, Delicious Earth

Summary

From the Earth's layers to its magnetic field, there is a lot happening below the surface that students explore throughout this unit.

Lessons

- Exploring Inside Earth
- The Big Bang: How It All Started
- The Crust: First Layer of Earth
- Feeling Hungry? Breakfast Foods Can Help Us Understand Earth's Mantle
- Earth's a Peach: The Core
- A Positive Attraction: Earth's Magnetic Field
- Studying the Depths of Earth

Unit

On the Move: Plate Tectonics

Summary

In this unit students discover that the Earth's crust is constantly moving and changing due to plate tectonics.

Lessons

- Plate Tectonics and What It's Like Inside Earth
- Convection and the Movement of Tectonic Plates
- Plate Movement: Convergent, Divergent, and Transform
- Subduction and Seafloor Spreading
- Earthquakes, Tsunamis, and Volcanoes, Oh My!
- Plate Tectonics in Space

Unit

Formation of Mountains and Deserts

Summary

Building on the understanding of plate tectonics forged in the previous unit, students discover how different types of mountains are formed. Then students also learn about the different kinds of deserts and how they are created.

Lessons

- How Mountains Form: Volcanic Mountains
- The Formation of Fold Mountains
- The Formation of Dome Mountains
- The Formation of Fault-Block Mountains
- Erosion and Plateau Mountains
- How Rain Shadow Deserts Are Formed
- Different Kinds of Deserts and How They Form

Unit

Desert Biome

Summary

Continuing from the previous unit, here students learn all about deserts. From the unique characteristics that differentiates one desert from another to the plants and animals that have adapted to life there, students discover that deserts are more than just hot and dry.

Lessons

- What Makes a Desert a Desert?
- The Magnificent Hot Deserts of North America
- Cold Deserts
- Wind and Water at Work: Desert Formations and Landscapes
- Survival in the Desert: Adaptions Make It Happen
- The Amazing Adaptions of Desert Animals
- The Amazing Adaptions of Desert Plants

Unit

Surviving in Nature

Summary

This unit is an introduction to Darwin and his theories of natural selection. Students explore various animal and plant adaptations that allow them to survive and thrive in their environments.

Lessons

- Darwin's Finches
- Fooling Your Enemies
- Birds: What's for Dinner and How Do They Eat It?
- Adaption—A change to Fit the Environment
- Living Together and Loving It!
- Commensalism: You Help Me, I Leave You Alone
- Social Insects—Living and Working Together