



Unit 1

Plant and Animal Parts

Essential Question

This question guides the student experience throughout the unit and is open-ended and enduring.
How do the parts and behaviors of plants and animals help them grow, survive, and care for their young?

Unit Summary

This summary provides high-level information about the main learning outcomes within this unit.
Students are introduced to the unit's anchoring phenomenon of animals taking care of their young. In this unit, students examine and compare the similarities and differences between animals and plants. Students discover different animal families on a fictional safari. Students investigate how plants and animals are like others of the same kind, how plants and animals sense things, and how plants and animals meet their needs. By the time they do their Performance Assessments, students will be able to explain how offspring are like, but not exactly like, their parents. Students will also understand how plants and animals stay safe and read about how parents take care of their offspring. Then students lead a safari in their own neighborhood. Using what they know, how can students design a device to carry and protect their items while on a safari?

Guiding Questions

At the end of this unit, students should be able to respond to these questions as they demonstrate understanding of key concepts, skills and relevance to their own lives.

Content

- How do the parts of a plant help it grow and survive?
- What are some ways animal parents help protect and care for their young?
- In what ways are young plants and animals like their parents, and how are they different?

Process

- What do you notice when you compare a young animal to its parent? How are they the same or different?

- How can you use observations of plant or animal parts to explain how they survive in their environment?
- What patterns do you see in the ways animals take care of and protect their young?

Reflective

- What surprised you the most about how plants or animals use their parts to survive or stay safe?
- Have you ever seen an animal caring for its young? What did you notice and how did it connect to what we learned?
- If you were an animal or plant, which body part would you want and why? How would it help you live or grow?

Power Standards

These state standards have been identified as critical to students' long-term learning progression in this discipline. They are assessed within the scope of this unit.

- **1-LS1-1** Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.
- **1-LS1-2** Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.
- **1-LS3-1** Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.
- **K-2-ETS1-2** Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
- **K-2-ETS1-3** Analyze data from texts of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.



Unit 2

Waves: Light and Sound

Essential Question

This question guides the student experience throughout the unit and is open-ended and enduring.

How do light and sound help us see, hear, and communicate with one another?

Unit Summary

This summary provides high-level information about the main learning outcomes within this unit.

Students are introduced to the unit's anchoring phenomenon of how you can't see in the dark, but you can hear in the dark. In this unit, students explore light and sound by discovering how light helps us see, how light travels, how sound is made, and how sound travels. Students then combine both light and sound to find out about the ways people use light and sound to send messages. Using what they know, can students show how to communicate long distances by sending messages with sound?

Guiding Questions

At the end of this unit, students should be able to respond to these questions as they demonstrate understanding of key concepts, skills and relevance to their own lives.

Content

- Why do we need light to see, and how does it help us in the dark?
- What causes sound, and how does it move from one place to another?
- How can people use light or sound to send messages when they can't see each other?

Process

- What happens when you shine a flashlight on different objects? How does the light behave?
- How can you tell that sound is made by vibrations? What evidence can you observe?
- What tools or materials can you use to test how sound moves through different objects?

Reflective

- Have you ever needed a light to help you see in the dark? What did you notice about how the light helped?
- Can you think of a time when you heard something but couldn't see it? How did the sound help you understand what was happening?
- How could you use light or sound to send a message if you couldn't talk or see someone?

Power Standards

These state standards have been identified as critical to students' long-term learning progression in this discipline. They are assessed within the scope of this unit.

- **1-PS4-1** Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.
- **1-PS4-2** Make observations to construct an evidence-based account that objects can be seen only when illuminated.
- **1-PS4-3** Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.
- **1-PS4-4** Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.



Unit 3

Sky Patterns

Essential Question

This question guides the student experience throughout the unit and is open-ended and enduring.

What patterns can we observe in the sky, and what do they tell us about the Sun, Moon, and stars?

Unit Summary

This summary provides high-level information about the main learning outcomes within this unit.

Students are introduced to the unit's anchoring phenomenon of how the moon can be seen in the sky at different times. Acting as space detectives, students make careful observations and find patterns in the natural world to solve the mystery of the daytime moon as well as explain other phenomena in the sky such as the sun and stars. In this unit, students conclude the sky is light during the day and dark during the night. Students analyze patterns in images and discover that different objects, such as the sun, moon, and stars, are always, sometimes, or never seen in the day and night skies. Using what they know, can students explain the movement of the moon and when/if it is visible in the day and night skies?

Guiding Questions

At the end of this unit, students should be able to respond to these questions as they demonstrate understanding of key concepts, skills and relevance to their own lives.

Content

- What patterns can you see in the way the Sun and Moon move across the sky?
- How does the amount of daylight change during different seasons?
- What can we learn by observing stars in the night sky?

Process

- What do you notice when you observe the Moon at different times of the day or night?

- How can you use a chart or graph to show how daylight changes during the year?
- What steps can you take to compare where the Sun and Moon appear in the sky at different times?

Reflective

- What is something new you noticed about the Moon or Sun after observing the sky?
- How did recording daylight in different seasons help you understand changes in the sky?
- How did it feel to look at the stars, and what questions do you still have about the night sky?

Power Standards

These state standards have been identified as critical to students' long-term learning progression in this discipline. They are assessed within the scope of this unit.

- **1-ESS1-1** Use observations of the sun, moon, and stars to describe patterns that can be predicted.
- **1-ESS1-2** Make observations at different times of year to relate the amount of daylight to the time of year.
- **K-2-ETS1-1** Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
- **K-2-ETS1-2** Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.