Snail

Life Science | Lesson Guide

2nd Grade

Photo Description

This image shows a snail slowly moving across green moss and gray rock. The snail has a brown spiral shell on its back and a soft, slimy body underneath. You can see two long tentacles (feelers) sticking out from the snail's head as it explores its surroundings.

Scientific Phenomena

Anchoring Phenomenon: Why does a snail carry a shell on its back?

Snails carry shells as their homes and protection. The shell grows with the snail as it gets bigger—it's not something the snail puts on or takes off. The shell is made of a hard material called calcium that the snail's body produces. When a snail feels scared or threatened, it can pull its soft body completely inside the shell for safety. This is an example of how animals have special body parts that help them survive in their environment.

Core Science Concepts

* Animal Structures and Functions: Snails have special body parts (shell, foot, tentacles) that help them survive. The shell protects the soft body, and the muscular foot helps the snail move slowly.

* Habitats and Adaptation: Snails live in damp places like gardens, forests, and near rocks and moss. Their moist skin and shells help them survive in these wet environments.

* Life Cycles: Snails grow bigger over time, and their shells grow with them in a spiral pattern.

* Observable Traits: All snails share characteristics like shells, soft bodies, and tentacles, but snails can look different from one another (different shell colors, sizes, and patterns).

Pedagogical Tip:

Tip for Teachers: Second graders learn best through direct observation. Consider creating a "snail observation station" where students can safely observe live snails (in a terrarium or observation container) for several minutes. Let them draw what they see and use sticky notes to label body parts. This multi-sensory approach builds scientific vocabulary naturally.

UDL Suggestions:

UDL Strategy: Provide multiple means of representation by offering both visual images and tactile models of snails. Students who are visually impaired can feel a model snail shell and learn about texture. Create anchor charts with photos, words, and simple drawings. Allow students to respond to questions through drawing, speaking, or writing—honor their different communication strengths.

Discussion Questions

1. What do you think the snail's shell is used for? (Bloom's: Understand | DOK: 1)

2. Why do you think snails like to live in wet, damp places like gardens and near moss? (Bloom's: Analyze | DOK: 2)

3. If a snail loses its shell, what do you think would happen to it? Why? (Bloom's: Evaluate | DOK: 3)

4. How is a snail's shell like a house? How is it different? (Bloom's: Analyze | DOK: 2)

Extension Activities

1. Snail Shell Rubbings: Provide paper and crayons. Have students place paper over pictures or models of snail shells and rub with crayons to create the spiral pattern. Discuss how the spiral gets bigger as it goes around, just like a real snail shell.

2. Snail Habitat Creation: In small groups, have students create a model snail habitat using a clear container, soil, moss, and rocks. (Do not place live snails in this without proper care and research.) Students can draw pictures of what snails need: moisture, places to hide, and food like leaves.

3. Snail Speed Investigation: Take students outside on a damp day and observe snails (or show video of snails moving). Have students predict how far a snail could travel in one minute, then time a snail's movement and measure the distance with string or a ruler. Compare predictions to actual results.

NGSS Connections

Performance Expectation:
2-LS1-1: Plan and conduct investigations to provide evidence that plants get the energy they need to grow chiefly from water and light, and that plants get material for growth chiefly from air and water.

Related Performance Expectation:
K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.

Disciplinary Core Ideas:
- 2-LS2.A - Some animals eat plants, others eat meat, and some eat both.
- K-LS1.A - All animals need food, water, and air to survive.

Crosscutting Concepts:
- Structure and Function - The shell protects the snail's body; the tentacles help it sense its surroundings.
- Patterns - Snail shells grow in a spiral pattern that repeats.

Science Vocabulary

* Shell: A hard, protective covering that a snail grows on its back to keep it safe.
* Tentacles: Long, thin body parts on a snail's head that help it feel and smell things around it.
* Habitat: The place where an animal lives, like a garden, forest, or under rocks.
* Spiral: A shape that curves around and around, getting bigger or smaller as it turns—like a snail's shell.
* Adaptation: A special body part or behavior that helps an animal survive in its home.

External Resources

Children's Books:

Snail, Snail, Snail!* by John Himmelman (explores snail habitats and behaviors)
The Snail and the Whale* by Julia Donaldson (picture book with snail character)
Snails* by Gail Gibbons (informational picture book with facts about snails)

YouTube Videos:
* "The Life of a Snail" by National Geographic Kids – A 3-minute video showing snails in their natural habitat, how they move, and what they eat. https://www.youtube.com/results?search_query=national+geographic+kids+snail

* "Snail Facts for Kids" by Crash Course Kids – An engaging 5-minute video explaining snail shells, movement, and adaptation with colorful animations. https://www.youtube.com/results?search_query=crash+course+kids+snails