Turtles

Life Science | Lesson Guide

Kindergarten

Photo Description

Two turtles sit on a log by the water. One turtle is small and one turtle is big. The big turtle has green stuff growing on its shell.

Scientific Phenomena

This image shows basking behavior in aquatic turtles. The turtles are thermoregulating - using the sun's energy to warm their cold-blooded bodies to an optimal temperature for biological functions. The algae growing on the larger turtle's shell demonstrates a commensal relationship where the algae benefits from the mobile surface while the turtle is generally unaffected. This basking behavior is essential for turtle health, helping with digestion, vitamin D synthesis, and parasite removal.

Core Science Concepts

1. Animal Needs: All animals need warmth, food, water, and shelter to survive
2. Body Covering: Turtle shells protect their soft bodies underneath
3. Animal Behavior: Animals do things that help them stay healthy and safe
4. Living vs. Non-living: Turtles are living things that grow, move, and need food

Pedagogical Tip:

Use the "think-pair-share" strategy when discussing animal needs. Have students think about what they need to be healthy, pair up to discuss, then share how turtles might have similar needs.

UDL Suggestions:

Provide multiple ways for students to express their observations - drawing, acting out turtle movements, or using simple words. Some students may benefit from tactile experiences like feeling different textures that represent smooth vs. rough shells.

Zoom In / Zoom Out

1. Zoom In: Inside the turtle's body, blood moves faster when the turtle is warm, helping it digest food and stay healthy
2. Zoom Out: These turtles are part of a pond ecosystem where they help keep the water clean by eating plants and small animals

Discussion Questions

1. What do you notice about where these turtles chose to sit? (Bloom's: Observe | DOK: 1)
2. Why do you think the turtle is sitting in the sunny spot instead of the shade? (Bloom's: Analyze | DOK: 2)
3. How is a turtle's shell similar to and different from your skin? (Bloom's: Compare | DOK: 2)
4. What would happen if turtles couldn't find sunny places to warm up? (Bloom's: Predict | DOK: 3)

Potential Student Misconceptions

1. Misconception: "Turtles can come out of their shells"
   Reality: A turtle's shell is part of its body, like our ribs - they cannot remove it

2. Misconception: "All turtles live in water"
   Reality: Some turtles live on land, some in water, and some in both places

3. Misconception: "The green stuff is dirt"
   Reality: The green covering is living algae that grows on the turtle's shell

NGSS Connections

- Performance Expectation: K-LS1-1 - Use observations to describe patterns of what plants and animals need to survive
- Disciplinary Core Ideas: K-LS1.C - All animals need food in order to live and grow
- Crosscutting Concepts: Patterns - Patterns in the natural world can be observed

Science Vocabulary

* Shell: The hard covering that protects a turtle's body
* Basking: Sitting in the sun to get warm
* Habitat: The place where an animal lives and finds what it needs
* Cold-blooded: Animals that need outside heat to warm their bodies
* Algae: Tiny green plants that can grow in water or on wet things

External Resources

Children's Books:
- "Turtle, Turtle, Watch Out!" by April Pulley Sayre
- "Box Turtle at Long Pond" by William T. George
- "See How They Grow: Turtle" by DK Publishing

YouTube Videos:
- "Turtle Facts for Kids" - Simple facts about turtle habitats and needs: https://www.youtube.com/watch?v=FJuJBvPFpzI
- "National Geographic Kids: Sea Turtles" - Engaging footage of turtle behaviors: https://www.youtube.com/watch?v=YWmCeCVyBvM