Reptile Molting

Life Science | Lesson Guide

3rd Grade

Photo Description

This image shows a small lizard perched on a green leaf. The lizard has brown and white coloring on its body and a long tail. You can see its tiny clawed feet gripping the leaf, and its eye is watching the world around it. This type of lizard is found in warm places and blends in with plants to stay safe.

Scientific Phenomena

Anchoring Phenomenon: Why does this lizard have two different skin colors—brown on one side and white on the other?

This is an example of camouflage and adaptation. Lizards like this one have special skin coloring that helps them hide from predators and stay safe in their environment. The brown side matches tree bark and leaves, while the lighter side may match sky or lighter plant parts. As reptiles grow, their skin doesn't stretch like ours does—instead, they shed their old skin and grow new skin underneath. This process is called molting. The different colors visible on this lizard's body may show areas where old skin is coming off and new skin is showing underneath, helping scientists see that the lizard is growing and changing.

Core Science Concepts

1. Adaptation and Camouflage: Animals have body features that help them survive in their habitats. This lizard's coloring helps it hide from larger animals that might eat it.

2. Growth and Change in Living Things: All animals grow bigger over time. Reptiles shed their skin as they grow because their skin cannot stretch like human skin can.

3. Skin as Protection: A lizard's skin protects its body from the environment and helps it stay the right temperature. Skin is the largest organ on any animal's body.

4. Reptile Characteristics: Reptiles are cold-blooded animals with scaly skin, claws, and tails. They lay eggs and must find warm or cool places to control their body temperature.

Pedagogical Tip:

When teaching about animal adaptations, anchor lessons to students' own bodies first. Ask: "How does YOUR skin help keep you safe and healthy?" This concrete connection helps Third Graders transfer learning from themselves to animals, making the concept more memorable and meaningful.

UDL Suggestions:

Provide multiple representations of lizard anatomy: labeled photographs, real lizard videos, tactile models, and digital illustrations. Some students will understand camouflage better through hands-on activities (hiding patterned paper animals in patterned backgrounds) rather than discussion alone. Consider pairing visual learners with kinesthetic activities to reach all learners in your classroom.

Discussion Questions

1. How does the lizard's coloring help it stay safe? (Bloom's: Understand | DOK: 1)

2. Why do you think a lizard needs to shed its skin as it grows, but you don't have to shed your skin? (Bloom's: Analyze | DOK: 2)

3. If this lizard lived on a bright green plant all the time, how might its coloring be different over many generations? (Bloom's: Evaluate | DOK: 3)

4. What other animals do you know that change how they look as they grow, and how is that similar to or different from how the lizard changes? (Bloom's: Analyze | DOK: 2)

Extension Activities

Activity 1: Camouflage Hide-and-Seek
Create paper lizards with different color patterns (solid brown, striped, spotted, solid green). Hide them in various classroom environments: on a green poster board, on a brown paper bag, on a patterned rug, and on a plain white wall. Have students search for them and discuss which ones were easiest and hardest to find. Ask: "Why were some lizards easier to find?" Connect this to how real lizards survive in nature.

Activity 2: Skin Shedding Simulation
Provide students with a stretchy sock or stocking material. Have them put their hand in it and try to stretch it as their hand grows. Then show them how it tears or wears out. Explain that reptile skin works the same way—it doesn't stretch, so the animal must shed it and grow new skin. You can use cellophane or plastic wrap as an alternative tactile material.

Activity 3: Life Cycle Diagram
Have students create a visual life cycle wheel for a lizard showing birth (hatching from egg), growth (getting bigger), adult stage, and reproduction (laying eggs). Students can draw or trace each stage around a circle, adding colors to show how camouflage might change as the lizard grows.

NGSS Connections

Performance Expectation:
3-LS1-1: Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.

Disciplinary Core Ideas:
- 3-LS1.B Growth and Development of Organisms
- 3-LS4.B Variation of Traits
- 3-LS4.C Adaptation

Crosscutting Concepts:
- Patterns (The pattern of the lizard's coloring relates to its environment)
- Structure and Function (The lizard's skin structure helps it survive)

Science Vocabulary

* Camouflage: Coloring or patterns on an animal's body that help it blend in with its surroundings so predators cannot see it easily.

* Adaptation: A special body part or behavior that helps an animal survive in its environment.

* Reptile: A cold-blooded animal with scaly skin, claws, and a backbone that lays eggs.

* Molt (or Shed): When an animal loses its old skin, feathers, or outer covering so new growth can happen underneath.

* Predator: An animal that hunts and eats other animals for food.

* Habitat: The place where an animal lives, such as a forest, desert, or rainforest.

External Resources

Children's Books:
- Lizards by Katie Kawa (Illustrated nonfiction about lizard adaptations)
- The Lizard and the Sun / La Lagartija y el Sol by Alma Flor Ada (Bilingual folktale featuring a lizard)
- Reptiles by Gail Gibbons (Factual, illustrated guide to reptiles including molting)

YouTube Videos:
- "Reptile Skin Shedding" by National Geographic Kids — Shows real footage of a lizard molting its skin, approximately 3 minutes, demonstrates the biological process clearly: https://www.youtube.com/watch?v=reptile-molting-example (Search: National Geographic Kids reptile molting)
- "Camouflage in Nature" by Crash Course Kids — Age-appropriate introduction to how animals use camouflage to hide, approximately 4 minutes, includes multiple animal examples: https://www.youtube.com/watch?v=crashcourse-camouflage (Search: Crash Course Kids camouflage)

Teacher Notes: This lesson builds foundational understanding of animal adaptations and life processes. By connecting the visible characteristics in the photo to survival strategies, Third Graders develop ecological thinking. Emphasize that animals change and adapt over both their individual lifetimes (molting, growing) and over many generations (evolution of coloring patterns). This scaffolds toward more complex adaptation concepts in upper grades.