

## Photo Description



This image shows a small lizard with brown and white colored skin resting on a bright green leaf. You can see the lizard's four legs, long tail, and small eye looking toward the camera. The lizard's skin appears smooth and has a special pattern that helps it blend in with plants and branches in nature.

## Scientific Phenomena

**Anchoring Phenomenon:** This image illustrates how reptiles (like lizards) grow and shed their skin as they get bigger.

**Why This Happens (Scientific Explanation for Teachers):**

Reptiles have a protective outer layer of skin called an epidermis made of keratin. As the animal grows, this outer layer becomes too small and tight. The lizard cannot stretch the old skin indefinitely, so it sheds (molts) the outer dead skin layer to reveal fresh, new skin underneath. This is a natural process called ecdysis or molting. Unlike mammals, reptiles do not continuously shed skin in small pieces—they may shed in larger patches or complete sections. This adaptation allows reptiles to continue growing throughout their lives while maintaining healthy, flexible skin for movement and protection.

## Core Science Concepts

- \* **Growth and Change:** All living things grow and change over time. Lizards grow bigger, so they need to shed their old skin to make room for new skin underneath.
- \* **Adaptation and Survival:** The lizard's coloring (brown and white patches) helps it hide from predators and hunters by blending in with leaves and branches—this is called camouflage.
- \* **Life Cycles:** Reptiles go through stages of life: they are born or hatched, they grow and shed skin, they reach adult size, and they can reproduce.
- \* **Structure and Function:** A lizard's four legs, tail, and claws are designed to help it climb, balance, and move through plants and trees.

### Pedagogical Tip:

When introducing skin-shedding to second graders, use a relatable analogy: "Just like you outgrow your clothes and need bigger ones, lizards outgrow their skin and need to shed it!" This concrete comparison helps young learners connect to abstract biological processes. Consider letting students physically act out "shedding" by slowly peeling off a sock to demonstrate the concept kinesthetically.

### UDL Suggestions:

**Universal Design for Learning Strategy:** Provide multiple means of representation by using a visual sequence chart showing the steps of skin shedding (old skin !' shedding !' new skin). Include real photos or illustrations at each stage. For students who need tactile input, allow them to feel different textured materials (smooth fabric, rough paper, shed snake skin if available) to understand the difference between old and new skin. For English language learners, pre-teach vocabulary words with picture cards before the lesson.

### Discussion Questions

1. "Why do you think the lizard needs to shed its old skin?"  
(Bloom's: Understand | DOK: 1)
2. "How is a lizard's skin different from your skin? What happens when you grow—do you shed your skin like a lizard?"  
(Bloom's: Analyze | DOK: 2)
3. "The lizard in the picture is brown and white. Why might those colors be helpful to a lizard living on green plants?"  
(Bloom's: Analyze | DOK: 2)
4. "If a lizard keeps shedding old skin and growing new skin, how big could a lizard get? What might stop it from growing forever?"  
(Bloom's: Evaluate | DOK: 3)

### Extension Activities

#### Activity 1: Shedding Simulation

Provide each student with a small paper plate, markers, and tissue paper. Have students draw a "lizard" on the plate and color it. Then, they glue tissue paper over the drawing to represent "old skin." In the next lesson, carefully remove the tissue paper to reveal the "new skin" underneath. Discuss how the process feels and what changes happened.

#### Activity 2: Camouflage Hunt

Create a classroom "habitat" using green paper, plants, or branches. Hide pictures of lizards (printed in different colors: green, brown, white, spotted) around the habitat. Have students search for the lizards and count how many they can find. Discuss which colored lizards were easiest/hardest to find and why camouflage matters for survival.

#### Activity 3: Growth Tracking

Have students measure their own height and trace their hand on paper. Explain that just as they are growing, so are lizards. Create a simple growth chart showing a baby lizard, a growing lizard, and an adult lizard at different sizes. Students can color and sequence the images, then discuss why the adult lizard needed to shed many times to reach that size.

### NGSS Connections

Performance Expectation (K-2-ETS1-1): Ask questions, make observations, and gather information about a situation that people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

Disciplinary Core Ideas:

- K.LS1.C Organization for Matter and Energy Flow in Organisms
- 1.LS1.B Growth and Development of Organisms
- 2.LS4.D Biodiversity and Humans

Crosscutting Concepts:

- Patterns (the pattern of growth and shedding repeats throughout a reptile's life)
- Structure and Function (the lizard's skin structure allows for growth and protection)

### Science Vocabulary

\* Reptile: An animal with dry, scaly skin that lays eggs or gives birth to live babies; lizards, snakes, and turtles are reptiles.

- \* Shed (or Molt): When an animal removes or loses its outer layer of skin, feathers, or fur so a new one can grow in.
- \* Skin: The outer covering of an animal's body that protects it and helps it feel things.
- \* Camouflage: Colors or patterns on an animal's body that help it blend in and hide from other animals.
- \* Growth: Getting bigger and larger over time; all living things grow.
- \* Scales: Small, hard, flat pieces that cover a reptile's skin and protect it.

## External Resources

### Children's Books:

- Snakes Shed Their Skin by Robin Nelson (simple, photo-based exploration of shedding)
- The Lizard and the Sun by Joanne Ryder (story-based introduction to lizard life cycles)
- Reptiles by Gail Gibbons (informational picture book with clear illustrations)

### YouTube Videos:

- "How Do Snakes Shed Their Skin?" by National Geographic Kids (1:50 minutes) – Shows actual footage of shedding with kid-friendly narration.

<https://www.youtube.com/watch?v=eXfvfTqP6nE>

- "Lizard Facts for Kids" by National Geographic Kids (2:30 minutes) – Covers lizard anatomy, behavior, and adaptations including skin shedding.

<https://www.youtube.com/watch?v=gqHVPHyJu7Q>

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Teacher Tip: This lesson works best when paired with live observation (if available) or high-quality photographs. Second graders are naturally curious about animals, so allow ample time for questions and wonder!