

## Photo Description



This image shows a small lizard sitting on a bright green leaf. The lizard has brown and tan coloring on its head, back, and tail, with a white belly and pale legs. You can see the lizard's eye, bumpy skin texture, and long tail clearly in the photo. Lizards are reptiles that live in many different places around the world.

## Scientific Phenomena

Anchoring Phenomenon: Animal Growth and Change (Life Cycle)

This image represents how animals grow and change over time. Lizards, like many reptiles, shed their old skin as they grow bigger—a process called molting or shedding. As a lizard grows, its skin becomes too tight, so the old skin peels away to reveal new, larger skin underneath. This happens several times during a lizard's life. The color and pattern variations visible on this individual lizard (mixing of old and new skin tones) suggest the natural color changes that occur as reptiles mature and grow.

## Core Science Concepts

- \* Living Things Have Life Cycles: All animals, including lizards, are born, grow, change, and eventually grow old. Shedding skin is one way we can observe that animals are growing and changing.
- \* Adaptations Help Animals Survive: Lizards have special features like tough, scaly skin that protects them. Their coloring helps them blend in with plants and rocks so predators cannot easily see them.
- \* Reptiles Are a Group of Animals: Lizards belong to a group called reptiles. Reptiles have dry, scaly skin, lay eggs (usually), and are cold-blooded, meaning their body temperature changes with their environment.
- \* Observable Physical Characteristics: We can describe what we observe about animals using our senses—like the lizard's bumpy skin, color patterns, body shape, and size.

### Pedagogical Tip:

For First Grade, avoid technical jargon like "ecdysis" or "thermoregulation." Instead, use accessible language: "The lizard sheds its skin to grow bigger," and "The lizard's skin color helps it hide." Use repetition and visual aids (pictures, real examples if safe) to reinforce concepts. Allow students to touch safe, non-living reptile items (shed snake skin, smooth rocks) to build sensory understanding.

### UDL Suggestions:

**Multiple Means of Representation:** Provide the lesson in multiple formats—use the image, real photos of molting, video clips, and tactile models. Read vocabulary aloud while showing written words. **Multiple Means of Engagement:** Ask students to predict what happens next in a lizard's life or share if they've seen a lizard. **Multiple Means of Expression:** Allow students to draw, act out, or build with blocks to show how a lizard grows and sheds skin. Pair verbal discussions with drawing activities for students who process information differently.

## Zoom In / Zoom Out

### Zoom In: Microscopic Level – How Skin Cells Work

Underneath the lizard's bumpy, scaly skin are tiny, tiny cells that you cannot see without a special tool called a microscope. These skin cells are alive and are constantly growing and changing. When a lizard grows too big for its old skin, the cells underneath create brand new skin. The old skin becomes dry and loose, and the lizard wiggles out of it like taking off a tight jacket. New cells keep making the lizard bigger and stronger as it grows from a baby lizard into an adult lizard.

### Zoom Out: Ecosystem Level – Lizards in Nature's Community

Lizards live in a world full of other living things. A lizard is just one small part of a much larger community called an ecosystem. In a desert ecosystem, the lizard might eat insects, and bigger animals like hawks or snakes might try to eat the lizard. The lizard also needs plants for shelter and shade. When the lizard sheds its skin, it becomes part of the forest floor or ground, where it breaks down and helps make the soil richer for plants to grow. Everything in nature is connected—the lizard, the insects it eats, the plants it hides in, and the predators that hunt it all depend on each other.

## Discussion Questions

1. What do you notice about the lizard's skin? (Bloom's: Remember | DOK: 1)
2. Why do you think the lizard has different colors on its body—brown on top and lighter on the bottom? (Bloom's: Infer | DOK: 2)
3. What do you think happens to the lizard's skin as it grows bigger? (Bloom's: Analyze | DOK: 2)
4. How is a lizard different from a bird or a fish? What special things help it survive? (Bloom's: Compare | DOK: 3)

## Potential Student Misconceptions

Misconception 1: "Shedding skin is bad—the lizard is getting sick."

Clarification: Shedding is a normal, healthy part of growing up! Just like you grow bigger and need bigger clothes, a lizard grows bigger and needs bigger skin. Shedding means the lizard is healthy and growing strong. It's not sick at all.

Misconception 2: "Lizards are the same as snakes—they're basically the same animal."

Clarification: While lizards and snakes are both reptiles and both shed their skin, they are different animals with different body parts. Lizards have four legs, eyelids, and ear holes. Snakes have no legs, no eyelids, and no outer ear holes. You can tell them apart by looking carefully!

Misconception 3: "The lizard's light belly color means it is a different kind of lizard than the brown top."

Clarification: Many animals, including lizards, have lighter coloring on their belly and darker coloring on their back. This is normal and helps the lizard hide. The light belly blends with the sky when looking up, and the dark back blends with the ground when looking down. It's all one lizard with smart coloring!

## Extension Activities

### Activity 1: Skin Shedding Simulation

Provide students with old socks or gloves to wear. Explain that the sock is like the lizard's old skin. Have students carefully remove the sock to reveal their hand/foot (the "new skin" underneath). Discuss how the lizard's old skin gets too tight as it grows, just like the sock getting too snug. This hands-on activity helps students understand shedding without needing a real animal.

**Activity 2: Lizard Habitat Sensory Walk**

Create a small "lizard habitat" station with safe items: smooth rocks, twigs, leaves, sand in a shallow bin. Let students explore and feel these textures. Explain that lizards like to hide under rocks and among plants. Ask: "Where would you hide if you were a lizard?" Students can arrange items to make a pretend lizard home.

**Activity 3: Color and Camouflage Art**

Provide colored paper, markers, and crayons. Students draw a lizard and color it to match a specific background (green leaf, brown branch, gray rock). Discuss how the lizard's coloring helps it blend in so it stays safe. Display drawings around the room and play a "Find the Lizard" game where students hunt for the drawings on matching colored backgrounds.

**Cross-Curricular Ideas****Language Arts Connection: Descriptive Writing and Sequencing**

Have students dictate or write simple sentences describing what they see in the lizard photo using descriptive words (bumpy, tiny, colorful, scaly). Then, create a picture sequence showing the stages of a lizard's life: egg, baby lizard, growing lizard, adult lizard shedding skin. Students can draw each stage and tell the story in order, using words like "first," "next," and "last."

**Math Connection: Measurement and Patterns**

Provide students with yarn or paper strips to measure the length of the lizard in the photo (or model lizards cut from construction paper). Compare lengths: "Is the tail longer or shorter than the body?" Create a bar graph showing how many students have seen a lizard, a snake, or a turtle. Extend the pattern: "If this lizard grows 1 inch per year, how big will it be after 2 years?" (Use concrete manipulatives like blocks for young learners.)

**Art Connection: Camouflage and Color Blending**

Students create their own "lizard" using colored paper, markers, and natural materials (leaves, twigs, sand). Then, they hide their lizard artwork on a matching colored background (green poster for green leaves, brown for branches). Other students play "Find the Lizard" to see how well the camouflage works. Discuss why the lizard's colors help it survive in nature.

**Social Studies Connection: Animal Habitats and Homes**

Compare where lizards live around the world (deserts, forests, rainforests, grasslands) using a globe or world map. Show pictures of different habitats and the lizards that live there. Discuss: "What does a lizard need in its home?" (shelter, food, water, warmth). Connect this to students' own homes: "What do you need in your home to live and grow healthy?"

**STEM Career Connection****Wildlife Biologist**

Wildlife biologists are scientists who study animals like lizards in nature. They observe where lizards live, what they eat, and how they grow. They go outside to forests and deserts, take photos, collect data, and write about what they learn. Wildlife biologists help protect animals and their homes so they stay healthy and safe. If you love watching animals and asking questions about how they live, this could be a job for you!

Average Annual Salary: \$65,000–\$75,000 USD

**Zookeeper or Wildlife Educator**

Zookeepers take care of animals like lizards at zoos, nature centers, and animal sanctuaries. They feed the lizards, clean their habitats, check their health, and teach visitors (like you!) about how amazing reptiles are. Zookeepers work closely with animals every day and help people learn to respect and protect wildlife. If you enjoy caring for animals and teaching others, this job might be perfect for you!

Average Annual Salary: \$32,000–\$40,000 USD

#### Herpetologist

Herpetologists are scientists who study reptiles and amphibians, including lizards, snakes, frogs, and turtles. They research how these animals grow, what they eat, how they shed their skin, and how they adapt to different environments. Some herpetologists work in labs, some in the field catching and studying wild animals, and some teach at universities. If you're curious about why lizards are special and how they survive, you might become a herpetologist!

Average Annual Salary: \$55,000–\$70,000 USD

### NGSS Connections

Performance Expectation:

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

Disciplinary Core Ideas:

- \* K-LS1.A Structure and Function – Animals have body parts that help them survive (skin protects them).
- \* K-LS1.C Organization for Matter and Energy Flow – Animals need certain things from their environment to live and grow.

Crosscutting Concepts:

- \* Patterns – Students observe patterns in how animals change and grow over time.
- \* Structure and Function – Students see how a lizard's skin (structure) helps protect it (function).

### Science Vocabulary

- \* Reptile: An animal with dry, scaly skin that lays eggs and is cold-blooded (its body temperature changes with the air around it).
- \* Skin: The outer covering that protects an animal's body.
- \* Shed (or Molt): When an animal loses its old skin so new skin can grow underneath.
- \* Adapt/Adaptation: A special body part or behavior that helps an animal survive in its environment.
- \* Camouflage: Colors or patterns on an animal's body that help it hide from other animals.
- \* Cold-blooded: An animal whose body temperature changes depending on how warm or cold its surroundings are.

### External Resources

Children's Books:

The Lizard and the Sun\* by Joanne Ryder (a poetic story about a lizard's day and life)

Lizards\* by Gail Gibbons (colorful non-fiction with clear illustrations of different lizard types)

Bearded Dragon\* by Theresa Greenaway (introduces students to a specific type of lizard)

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Teacher Notes: This lesson emphasizes observable characteristics and life processes appropriate for First Grade. Students should engage in hands-on exploration rather than memorizing facts. Consider inviting a local nature expert or visiting a nearby nature center if available. Always prioritize safety—live animals should only be handled by trained adults with proper precautions in place.