

## Photo Description



This brown lizard sits on a tree branch in the sunlight. The lizard has bumpy skin, a long tail, and four legs with tiny toes. Its eye is golden yellow and it blends in well with the bark of the tree.

## Scientific Phenomena

The Anchoring Phenomenon is camouflage and adaptation for survival. This lizard displays natural camouflage - its brown, mottled coloration and textured skin closely match the tree bark where it rests. This happens because over many generations, lizards with better camouflage were more successful at hiding from predators and survived to have babies. The lizard's body features (scales, coloring, toe pads, tail) are all adaptations that help it survive in its tree habitat by providing protection, grip, and balance.

## Core Science Concepts

1. Animal Adaptations: The lizard's physical features help it survive - rough scales for protection, sticky toe pads for climbing, and camouflaged coloring for hiding.
2. Habitat Requirements: This lizard lives in trees because this environment provides food (insects), shelter (bark crevices), and safety (high places to escape ground predators).
3. Camouflage as Protection: The lizard's brown and tan colors match the tree bark, making it hard for predators like birds to spot it.
4. Body Structures and Function: Each body part has a job - eyes for seeing danger, tail for balance, legs for climbing, and scales for protection.

### Pedagogical Tip:

Use the "I Notice, I Wonder" strategy when showing this image. Have students first observe what they notice about the lizard's appearance, then generate questions about why it looks the way it does. This builds scientific observation skills before diving into explanations.

### UDL Suggestions:

Provide multiple ways for students to show their understanding of camouflage by offering choices: drawing their own camouflaged animal, acting out how a lizard hides, or building a model habitat where an animal could hide effectively.

### Zoom In / Zoom Out

1. Zoom In: The lizard's scales are made of keratin (the same material as our fingernails) and grow in overlapping patterns that provide flexible armor. Each scale contains cells with pigments that create the brown coloring, and the scale edges create the rough texture we see.
2. Zoom Out: This lizard is part of a forest ecosystem where it helps control insect populations by eating bugs, while also serving as food for birds, snakes, and other predators. Its role in the food web connects to the health of the entire forest community.

### Discussion Questions

1. "What do you notice about how the lizard's colors match the tree bark?" (Bloom's: Observe | DOK: 1)
2. "Why do you think this lizard's brown color helps it survive better than if it were bright pink?" (Bloom's: Analyze | DOK: 2)
3. "How might this lizard look different if it lived in a sandy desert instead of on trees?" (Bloom's: Apply | DOK: 2)
4. "What evidence can you find in the photo that shows this lizard is well-adapted for climbing?" (Bloom's: Evaluate | DOK: 3)

### Potential Student Misconceptions

1. Misconception: "The lizard chose to be brown to match the tree."  
Reality: The lizard was born with colors that help it blend in. Animals don't choose their colors - they inherit them from their parents.
2. Misconception: "All lizards look the same."  
Reality: Different lizards live in different places and have different colors and features that match their specific homes.
3. Misconception: "The lizard is slimy like a frog."  
Reality: Lizards have dry, scaly skin that feels rough, not wet and slimy.

### Cross-Curricular Ideas

1. ELA - Descriptive Writing: Have students write or dictate sentences describing the lizard using sensory words (bumpy, rough, brown, golden). Create a class "Animal Description" book where each student contributes a page about a different animal they observe or research.
2. Math - Measurement & Comparison: Measure the length of the lizard's tail using string or rulers. Compare it to other animals' body parts. Create a simple bar graph showing which animals have long tails, medium tails, or short tails.
3. Art - Camouflage Collage: Students create their own camouflaged animals by gluing torn pieces of brown, tan, and gray paper onto a tree bark background. This reinforces the concept that colors help animals hide while developing fine motor skills.
4. Social Studies - Animal Homes Around the World: Explore different habitats where lizards live (deserts, rainforests, trees, rocks). Use a world map to show where different lizard species live and discuss how their colors match their different homes.

## STEM Career Connection

1. Herpetologist (Scientists who study reptiles and amphibians): A herpetologist watches lizards, snakes, and frogs to learn how they live and survive. They might study why a lizard is brown or how it climbs trees. This job helps us protect animals and their homes. Average Salary: \$65,000-\$75,000 per year
2. Wildlife Photographer: A wildlife photographer takes pictures of animals like this lizard in nature. They use special cameras to capture animals doing what they do every day. Their photos help teach people about animals and why we need to protect them. Average Salary: \$40,000-\$60,000 per year
3. Zoo or Aquarium Animal Care Specialist: These workers take care of lizards and other animals in zoos and aquariums. They feed the animals, keep their homes clean, and watch them to make sure they stay healthy and happy. Average Salary: \$28,000-\$35,000 per year

## NGSS Connections

- Performance Expectation: 2-LS4-1 - Make observations of plants and animals to compare the diversity of life in different habitats.
- Disciplinary Core Ideas: 2-LS4.D - There are many different kinds of living things in any area, and they exist in different places on land and in water.
- Crosscutting Concepts: Patterns - Patterns in the natural world can be observed and used as evidence.

## Science Vocabulary

- \* Adaptation: A special feature that helps an animal survive in its home.
- \* Camouflage: Colors or patterns that help an animal blend in and hide.
- \* Habitat: The natural home where an animal lives and finds everything it needs.
- \* Predator: An animal that hunts and eats other animals.
- \* Scales: Small, hard pieces of skin that cover and protect reptiles.
- \* Species: A group of animals that are the same type and can have babies together.

## External Resources

Children's Books:

- "Chameleon's Colors" by Chisato Tashiro
- "What Do You Do With a Tail Like This?" by Steve Jenkins
- "Lizards" by Gail Gibbons