

Photo Description



This brown lizard sits on a tree branch, showing detailed scales covering its body and a long, thin tail. The lizard has a golden eye and mottled brown coloring that helps it blend in with the bark of the tree.

Scientific Phenomena

The anchoring phenomenon shown here is camouflage and structural adaptation. This lizard displays protective coloration where its brown, patterned skin closely matches the tree bark texture and color. This adaptation occurs because over many generations, lizards with better camouflage were more likely to survive predator attacks and reproduce, passing these beneficial traits to their offspring through natural selection.

Core Science Concepts

1. Structural Adaptations: The lizard's scales, coloring, and body shape are physical features that help it survive in its environment
2. Camouflage: The lizard's brown coloration and patterns help it blend with tree bark to avoid predators
3. Habitat Requirements: Lizards need specific environmental conditions including warmth, shelter, and food sources
4. Animal Classification: Reptiles like lizards are cold-blooded vertebrates with scaly skin that lay eggs

Pedagogical Tip:

Use the "Notice and Wonder" strategy by having students observe the image for 2 minutes, then share what they notice about the lizard's features before introducing scientific vocabulary.

UDL Suggestions:

Provide tactile experiences by bringing in tree bark samples and fabric with different textures so students can feel how camouflage works through touch, supporting kinesthetic learners.

Zoom In / Zoom Out

1. Zoom In: At the cellular level, specialized cells called chromatophores contain pigments that create the lizard's brown coloration patterns, while keratin proteins form the protective scales
2. Zoom Out: This lizard is part of a larger forest ecosystem where it serves as both predator (eating insects) and prey (for birds and mammals), helping maintain ecological balance

Discussion Questions

1. How does the lizard's coloring help it survive in its environment? (Bloom's: Analyze | DOK: 2)
2. What would happen to this lizard population if all the trees were cut down? (Bloom's: Evaluate | DOK: 3)
3. What other animals use camouflage as a survival strategy? (Bloom's: Apply | DOK: 2)
4. How might this lizard's adaptations be different if it lived in a desert instead of a forest? (Bloom's: Synthesize | DOK: 3)

Potential Student Misconceptions

1. Misconception: Lizards can change their color on purpose like chameleons
Clarification: Most lizards cannot change color - their camouflage coloring is permanent and developed over many generations
2. Misconception: All reptiles are dangerous or poisonous
Clarification: Most lizards are harmless to humans and play important roles in controlling insect populations
3. Misconception: Lizards are slimy like frogs
Clarification: Lizards have dry, scaly skin that helps prevent water loss, unlike amphibians

NGSS Connections

- Performance Expectation: 5-LS2-1 - Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment
- Disciplinary Core Ideas: 5-LS2.A - The food of almost any kind of animal can be traced back to plants
- Disciplinary Core Ideas: 3-LS4.C - The environment also affects the traits that an organism develops
- Crosscutting Concepts: Structure and Function - The way an object is shaped or structured determines many of its properties
- Crosscutting Concepts: Patterns - Similarities and differences in patterns can be used to sort and classify natural phenomena

Science Vocabulary

- * Adaptation: A special feature that helps an animal survive in its environment
- * Camouflage: Colors or patterns that help an animal blend in with its surroundings
- * Reptile: A cold-blooded animal with scaly skin that lays eggs on land
- * Predator: An animal that hunts and eats other animals
- * Habitat: The natural place where an animal lives and finds everything it needs
- * Scales: Small, hard plates that cover and protect a reptile's skin

External Resources

Children's Books:

- Lizards by Gail Gibbons
- A Lizard's Tale by Jose Aruego
- What Is a Reptile? by Bobbie Kalman

YouTube Videos:

- "Camouflage Animals for Kids" - Educational video showing various animals using camouflage including lizards: <https://www.youtube.com/watch?v=ajOGaVSLIhY>

- "Reptiles for Kids" - Overview of reptile characteristics and examples: <https://www.youtube.com/watch?v=3BLdmx2CREA>