

Photo Description



This lizard sits on a tree branch with brown and tan colors that match the bark perfectly. Its skin has special patterns and bumps that help it blend in with its surroundings. The lizard's golden eye watches carefully for danger or food.

Scientific Phenomena

The anchoring phenomenon shown here is camouflage - the lizard's ability to blend into its environment. This happens because over many generations, lizards with colors and patterns that matched their surroundings were better at hiding from predators and catching prey. These successful lizards had babies that also had good camouflage colors, passing these helpful traits to the next generation through inheritance.

Core Science Concepts

1. Camouflage and Adaptation: Animals develop physical features that help them survive in their specific environments
2. Inherited Traits: The lizard's coloration and skin texture are passed from parents to offspring through genes
3. Structure and Function: The lizard's bumpy skin texture and coloring serve the specific function of helping it hide
4. Predator-Prey Relationships: Camouflage helps lizards avoid being eaten while also helping them sneak up on insects

Pedagogical Tip:

Use the "I Notice, I Wonder, It Reminds Me Of" thinking routine when first showing students this image. This helps activate prior knowledge and generates authentic questions for investigation.

UDL Suggestions:

Provide tactile materials like fabric swatches or textured paper for students to feel different textures while discussing the lizard's bumpy skin. This supports learners who benefit from hands-on experiences.

Zoom In / Zoom Out

1. Zoom In: At the cellular level, special cells called chromatophores contain pigments that create the lizard's colors. These cells can sometimes change the amount of pigment they show, making the lizard lighter or darker.
2. Zoom Out: This lizard is part of a larger forest ecosystem where many animals use camouflage - from moths that look like tree bark to deer with spotted coats. Camouflage is a survival strategy used throughout nature's food webs.

Discussion Questions

1. How does the lizard's coloring help it survive in its environment? (Bloom's: Analyze | DOK: 2)
2. What other animals can you think of that use camouflage, and how might their camouflage be different from this lizard's? (Bloom's: Apply | DOK: 2)
3. If this lizard lived in a snowy environment instead of on trees, how do you predict its appearance might be different? (Bloom's: Evaluate | DOK: 3)
4. What evidence from the photo supports the idea that this lizard is well-adapted to its environment? (Bloom's: Analyze | DOK: 2)

Potential Student Misconceptions

1. Misconception: "The lizard chose to change its colors to match the tree."
Reality: The lizard was born with these colors through inheritance, not by choice.
2. Misconception: "All lizards look exactly the same."
Reality: Different lizard species have different colors and patterns based on where they live and what helps them survive.
3. Misconception: "Camouflage only helps animals hide from enemies."
Reality: Camouflage also helps predators sneak up on their prey.

NGSS Connections

- Performance Expectation: 3-LS4-2: Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing
- Disciplinary Core Ideas: 3-LS4.B and 3-LS3.B
- Crosscutting Concepts: Cause and Effect and Structure and Function

Science Vocabulary

- * Camouflage: The way an animal's colors or patterns help it blend in with its surroundings
- * Adaptation: A special feature that helps an animal survive in its environment
- * Inherited trait: A characteristic passed from parents to their babies
- * Predator: An animal that hunts and eats other animals
- * Environment: All the living and non-living things that surround an animal
- * Species: A group of animals that are very similar and can have babies together

External Resources

Children's Books:

- What Color Is Camouflage? by Carolyn Otto
- Hidden Animals by Selma Lola Chambers
- Who's Hiding? by Satoru Onishi

YouTube Videos:

- "Animal Camouflage for Kids" - Educational video showing various animals using camouflage in their natural habitats: <https://www.youtube.com/watch?v=ajOKc7khz3w>
- "How Do Animals Camouflage?" by SciShow Kids - Explains the science behind animal camouflage with kid-friendly examples: https://www.youtube.com/watch?v=ZVa6d_9bE3o