

Photo Description



This image shows a small, tan-colored lizard resting on a dark, weathered piece of wood surrounded by fallen leaves and forest debris. The lizard's body color and texture match the wood and leaves around it, making it hard to spot at first glance. This is an example of how animals blend into their environment to stay safe.

Scientific Phenomena

Anchoring Phenomenon: Camouflage (also called "hiding by blending in")

Why This Happens: Animals have colors and patterns on their skin, fur, or scales that match the places where they live. When an animal's appearance matches its surroundings—like this lizard matching the brown wood—predators (animals that hunt other animals) have a harder time seeing it. This helps the animal survive because it won't get eaten as easily. Over many, many years, animals with colors that blend in with their homes survive better and have babies that also have those blending colors. This is part of nature's way of helping animals stay safe.

Core Science Concepts

- * Animals have different body colors and patterns. Some animals are bright, and some are brown, green, or gray. These colors are not accidents—they help animals survive in their specific homes.
- * The environment includes many different habitats with different colors and textures. A lizard living in a forest with brown wood and leaves needs different colors than a lizard living on green grass. Each animal "fits" its home.
- * Camouflage is a survival strategy. When animals blend into their surroundings, hungry predators cannot find them easily. This helps animals stay alive and have babies.
- * Observation skills help us learn about nature. Scientists (and first graders!) can look carefully at photos and environments to spot animals hiding in plain sight and understand how nature works.

Pedagogical Tip:

Start with a "Can you find it?" game before explaining camouflage. Show the image and ask students to locate the lizard without telling them where it is. This builds curiosity and observation skills before introducing the vocabulary and concept. Once they find it, the "aha!" moment makes the lesson stick!

UDL Suggestions:

To support multiple ways of learning: (1) Representation: Use the image projected large on a screen, and provide a highlighted version showing the lizard's outline for students who struggle with visual discrimination. (2) Action & Expression: Allow students to show understanding through drawing, acting out an animal hiding, or using colored blocks to create their own camouflaged animal. (3) Engagement: Connect to student interests by asking, "What animals live in YOUR neighborhood? Do they have colors that help them hide?"

Zoom In / Zoom Out

Zoom In: How Skin Color is Made

Even though we can't see it without special tools, animals' skin color comes from tiny bits of color inside their skin cells called pigments. These pigments are like invisible paint that makes the lizard's scales brown instead of white or green. The lizard was born with these brown pigments because its parents also had brown pigments. Over time, lizards with brown pigments survived better in brown forests, so more and more lizards became brown. This tiny change in each animal's cells adds up to big changes in nature!

Zoom Out: How Camouflage Fits Into the Whole Forest

This lizard doesn't live alone—it's part of a whole community of animals and plants called a forest ecosystem. The brown wood comes from dead trees. Those trees feed bugs and other small animals. The lizard eats the bugs. A snake or bird might eat the lizard. Because the lizard can hide using camouflage, it survives to eat bugs and eventually become food for larger predators. Camouflage helps keep the whole forest balanced, where each animal has a job and a place to fit in!

Discussion Questions

1. Why do you think this lizard is brown and not bright blue? (Bloom's: Analyze | DOK: 2)
2. If this lizard lived on bright green grass instead of brown wood, what color do you think it should be, and why? (Bloom's: Evaluate | DOK: 3)
3. Can you think of another animal that hides by blending in with where it lives? What color is it, and where does it live? (Bloom's: Create | DOK: 3)
4. What would happen to this lizard if it were bright red instead of brown? (Bloom's: Understand | DOK: 2)

Potential Student Misconceptions

Misconception 1: "The lizard turned brown because it wanted to hide."

Clarification: The lizard doesn't choose its color or decide to hide. The lizard was born with a brown color because of the genes (instructions) it got from its parents. Lizards that were already brown lived longer because they were harder to see, so more brown babies were born. Over many years, this is how the brown color became common. The lizard's color is natural—it's not trying to do anything; it just is brown!

Misconception 2: "All animals can change their color like a chameleon when they need to hide."

Clarification: Most animals cannot change their color. This lizard is always brown—it cannot turn green or red. Only some special animals, like chameleons and certain fish, can change colors quickly. This brown lizard hides because it was born brown, not because it learned to change colors.

Misconception 3: "Camouflage means the animal is invisible or completely disappears."

Clarification: Camouflage doesn't make an animal disappear! You can still see the lizard in the photo if you look carefully. Camouflage just makes it harder to notice the animal because its colors match the surroundings. A predator hunting quickly might miss the lizard, but if it looks very carefully, it can still see it.

Extension Activities

1. Camouflage Hunt: Take students outside (or use a prepared classroom space) and hide colored paper shapes or small objects in different areas. Students must find objects that blend in with their surroundings. Discuss which colors were easiest or hardest to find and why. This teaches observation and reinforces the concept that matching colors helps hide things.

2. Create Your Own Camouflaged Animal: Provide students with paper, crayons, and images of different habitats (forest, desert, ocean, grass). Have each child draw and color an animal that would blend in with one habitat. Display and have students guess which habitat each animal belongs to based on its colors.
3. Movement and Hiding Game: Play a movement game where one student is the "predator" with closed eyes, and other students move slowly across the room wearing clothes/accessories that either match or don't match the classroom colors. After opening their eyes, the predator names which children they spotted first—connecting the concept to real-world predator-prey interactions in a fun, safe way.

Cross-Curricular Ideas

ELA / Literacy Connection:

Create a class big book titled "Animals That Hide." Each student contributes one page with a sentence like "The brown rabbit hides in the brown grass" and an illustration. Students can practice phonics with color and animal words while reinforcing the camouflage concept. Read together and take turns being the "finder" who spots each hidden animal in the pictures.

Art Connection:

Students create a mixed-media habitat collage. Provide natural materials (leaves, twigs, bark, sand, torn brown/green paper) and have students glue them onto a large paper to make a forest or desert scene. Then, they cut out and color an animal shape and glue it into their scene, trying to match their animal's color to the habitat so it "blends in." Display all habitats and play "I Spy" to find each hidden animal.

Math Connection:

Practice counting and comparison by playing a "Camouflage Counting Game." Hide different numbers of colored objects (e.g., 3 red buttons, 5 brown buttons) in a sensory bin filled with materials. Students search for and count each color, discussing which color was easiest/hardest to find. Chart the results: "Brown was hiding best because there were more brown things to hide in!"

Social Studies / Community Connection:

Invite a local nature center worker, park ranger, or wildlife photographer to talk about animals in your area and how they hide in local habitats. Students can ask questions like "What animals live near our school? What colors help them hide?" This connects the science lesson to the real community and shows how people work to protect animals in nature.

STEM Career Connection

Wildlife Biologist

Wildlife biologists are scientists who study animals in nature. They watch animals like lizards, take pictures, and learn about how they survive. A wildlife biologist might spend time in forests observing lizards to understand camouflage and how to keep animals safe. They help protect animals and their homes so animals can keep living and hiding successfully. This job helps nature stay healthy!

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

Nature Photographer

Nature photographers take beautiful pictures of animals, plants, and habitats. They use cameras to capture animals like this lizard in their homes. Some nature photographers work for magazines, websites, or nature centers. To be good at this job, you need to be very patient, have good eyes for spotting hard-to-see animals, and understand where animals live and how to find them. Their pictures help teach other people about animals!

Average Annual Salary: \$45,000–\$70,000 USD (varies widely)

Habitat Restoration Specialist

These scientists work to keep forests and wild areas healthy for animals. They plant trees, clean up pollution, and make sure animals have good places to live where they can use their camouflage to hide safely. A habitat specialist might replant a forest so that lizards have the right brown wood and leaves to blend in with. This job protects animals by protecting the places they live!

Average Annual Salary: \$50,000–\$68,000 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 - All organisms have basic needs, which include access to resources. (Animals need to stay safe from predators.)
- 3-LS4.B - Individuals of the same kind have different characteristics, and sometimes the differences give the individual an advantage in surviving or reproducing.

Crosscutting Concepts:

- Patterns - Patterns in nature help us understand how animals survive.
- Structure and Function - The color and pattern of an animal's body help it survive in its environment.

Science Vocabulary

- * Camouflage: Colors and patterns on an animal's body that help it blend into its surroundings so predators cannot see it easily.
- * Habitat: The place where an animal lives, including the plants, rocks, soil, and weather in that area.
- * Blend in: To match the colors and textures around you so you are hard to see.
- * Predator: An animal that hunts and eats other animals to survive.
- * Survival: Staying alive by meeting your needs for food, water, shelter, and safety.

External Resources

Children's Books:

- The Best Hide-and-Seek Game Ever by Paul Meisel (a simple story about animals hiding in nature)
- Who Hides in the Snow? by Carol Lindeen (explores winter camouflage)
- Hiding Places by Giles Laroche (non-fiction exploration of animal camouflage)