

## Photo Description



This is a bright green lizard sitting on tree bark. You can see its bumpy skin, long tail, and one eye looking at you. The lizard's green color helps it hide among leaves and branches in nature.

## Scientific Phenomena

Anchoring Phenomenon: Why is this lizard green?

This lizard is green because of camouflage—a special adaptation that helps animals blend into their environment to stay safe from predators. The green color is created by pigment in the lizard's skin. Animals that live in green forests and trees often have green coloring because it helps them hide from danger. This is an example of how animals' bodies are specially suited to the places where they live.

## Core Science Concepts

- \* Camouflage and Adaptation: Animals have body parts and colors that help them survive in their habitats. The lizard's green skin helps it hide from predators among leaves and trees.
- \* Body Structure and Function: Lizards have special features like scales (bumpy skin), a long tail for balance, and eyes on the sides of their heads that help them see predators coming.
- \* Habitats: Lizards live in specific environments where their colors and body shapes match their surroundings. This green lizard lives in forests where green is common.
- \* Observation Skills: Scientists learn about animals by looking carefully at their colors, shapes, and behaviors.

### Pedagogical Tip:

First graders learn best through direct observation and hands-on exploration. Rather than lecturing about camouflage, have students examine the lizard photo closely with a magnifying glass (if available) and ask them to describe what they notice. Use the phrase "I notice..." to scaffold observation language. This builds scientific vocabulary naturally.

### UDL Suggestions:

To support all learners:

- Representation: Provide the image in multiple formats (printed, digital, projected) so students with different visual needs can engage. Consider providing a simplified diagram showing the lizard with labels.
- Action & Expression: Allow students to show understanding through drawing, acting out camouflage movements, or building a habitat with green materials rather than requiring written responses.
- Engagement: Connect to student interests by asking, "Have you ever seen an animal hide? Where?" to build relevance and curiosity.

## Zoom In / Zoom Out

### Zoom In: Microscopic Level

If we could look at the lizard's skin with a super-duper magnifying glass (a microscope), we would see that the green color comes from tiny specks called pigments inside each scale. These pigments are like little paint particles that make the skin green. The bumpy scales are made of special hard material that protects the lizard, kind of like tiny armor plates protecting a knight!

### Zoom Out: Forest Ecosystem

This green lizard is part of a whole forest community! The lizard eats insects and small bugs (the food chain), and bigger animals like snakes or birds might hunt the lizard. The lizard lives on trees, which give it leaves and bark to hide in and hunt on. When the lizard poops, it helps feed the soil. When the lizard dies, it becomes part of the forest soil that helps plants grow. Everything in the forest—plants, animals, soil, and water—works together to keep the ecosystem healthy!

## Discussion Questions

1. What color is the lizard, and why do you think it is that color?  
(Bloom's: Understand | DOK: 1)
2. If this lizard lived on a brown tree instead of a green tree, what might happen to it? Why?  
(Bloom's: Analyze | DOK: 2)
3. Look at the lizard's skin carefully. What do you notice about how it looks different from human skin?  
(Bloom's: Analyze | DOK: 2)
4. Can you think of another animal that is green or brown? How does its color help it stay safe?  
(Bloom's: Apply | DOK: 2)

## Potential Student Misconceptions

Misconception 1: "The lizard turned green to hide, like it's using magic or thinking about what color to be."

- Clarification: The lizard was born green because of genes it got from its parents. It didn't choose to be green or change on purpose. Over a very, very long time, lizards that were already green survived better than brown ones in green forests, so more green baby lizards were born. This is called natural selection—nature's way of helping animals fit their homes.

Misconception 2: "All lizards are green."

- Clarification: Lizards come in many different colors! Some are brown, some are yellow, some have stripes or spots, and some can even change colors a little bit (like chameleons). Each lizard's color matches the place where it lives. A desert lizard might be tan or red, while a forest lizard (like this one) is green.

Misconception 3: "The lizard's bumpy skin is just bumpy—it doesn't do anything special."

- Clarification: Those bumps are actually scales, and they're very important! Scales protect the lizard's body like a suit of armor. They also help the lizard stay wet inside (so it doesn't dry out) and help it move smoothly as it climbs and crawls. The scales are one reason lizards can live in dry places where other animals cannot.

## Extension Activities

1. Camouflage Hunt: Hide pictures of animals around the classroom on backgrounds that match their colors (a green frog picture on a green paper, a brown squirrel on brown paper). Have students find the animals and discuss why they were hard to find. This makes camouflage concrete and fun!

2. Design Your Own Animal: Provide students with a habitat picture (forest, desert, pond) and have them color or paint an animal to match that habitat. Ask them to explain why their animal's colors would help it survive there.

3. Move Like a Lizard: Play a movement game where students pretend to be lizards hiding on trees and rocks. Call out different backgrounds ("You're on a green leaf! You're on brown bark!"), and have students freeze in that "camouflage." This combines kinesthetic learning with the concept.

### Cross-Curricular Ideas

Language Arts Connection: Descriptive Writing

Have students use "I notice, I wonder, I observe" sentence frames to describe the lizard in their own words. Create a class "Animal Description Book" where each student writes one sentence about what they see, then illustrates it. This builds vocabulary while celebrating observation skills. Read aloud books like *Lizards* by Gail Gibbons and have students retell facts in their own words.

Mathematics Connection: Patterns and Measurement

Have students count the scales they can see on the lizard's head, back, or tail in the photo. Create a simple bar graph showing "How many scales did you count?" for the class. Extend by comparing: "Is the tail longer or shorter than the body?" Students can use non-standard measurement (paperclips, blocks) to measure toy lizards or lizard cutouts.

Art Connection: Camouflage Collage

Provide students with magazines, colored paper, and natural materials (leaves, bark pieces, twigs). Have them create a "habitat scene" and then cut out or paint a green lizard to hide in it. Discuss why their lizard blends in or stands out. Students can also paint their own lizard pictures using different greens and yellows, exploring color mixing.

Social Studies Connection: Animal Habitats Around the World

Use a world map to show where different lizard species live. Discuss how people in different countries share their homes with lizards. Read books about animals in different habitats and have students compare: "What animals live where I live?" This builds geography awareness and respect for diverse ecosystems globally.

### STEM Career Connection

**Zoologist (Animal Scientist)**

A zoologist is a scientist who studies animals in nature and in zoos. A zoologist might watch lizards to learn what they eat, where they hide, how they have babies, and how they survive. Zoologists help protect animals by understanding them better. They might work outdoors in forests or in museums and research centers.

- Average Annual Salary: \$67,000 USD

**Wildlife Photographer**

A wildlife photographer takes pictures of animals like this lizard in nature to show people how beautiful and amazing animals are. They use special cameras and patience to capture animals doing their natural behaviors. Wildlife photographers work for magazines, websites, and nature documentaries to help people learn and care about animals.

- Average Annual Salary: \$48,000 USD

**Herpetologist (Reptile Expert)**

A herpetologist is a special kind of scientist who studies reptiles and amphibians, like lizards, snakes, frogs, and turtles. They learn about how these animals live, what they need to be healthy, and how to help protect them when they are in danger. Some herpetologists work in zoos, nature centers, or universities teaching other people about reptiles.

- Average Annual Salary: \$69,000 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
- \* K-LS1.C Organization for Matter and Energy Flow in Organisms

Crosscutting Concepts:

- \* Patterns
- \* Structure and Function

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## Science Vocabulary

- \* Camouflage: When an animal's color or pattern helps it hide from other animals.
- \* Adaptation: A special body part or color that helps an animal live in its habitat.
- \* Scales: Small, hard pieces of skin that cover a lizard's body like tiny plates.
- \* Habitat: The place where an animal lives, like a forest or a desert.
- \* Predator: An animal that hunts other animals for food.

## External Resources

Children's Books:

- The Chameleon\* by Manya Stojic (shows color-changing adaptation)
- Camouflaged Creatures\* by Deborah Hodge (explores how different animals hide)
- Lizards\* by Gail Gibbons (clear, simple facts about lizards)

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Teacher Note: This lesson builds observational skills while introducing the critical concept that animals' bodies are adapted to their environments—a foundational idea in life science that students will revisit throughout their elementary years.