Food Chain

Life Science | Lesson Guide

3rd Grade

Photo Description

This image shows a small lizard resting on dark soil surrounded by decomposing wood, leaves, and organic material. The lizard's bumpy, grayish-brown skin helps it blend in with its surroundings. You can see the lizard's eye, head, and body clearly positioned in its natural ground habitat where it hunts for food and finds shelter.

Scientific Phenomena

Anchoring Phenomenon: Why do some animals live on the ground?

This image captures an organism in its natural habitat—a critical concept for Third Grade life science. The lizard is camouflaged (hidden by its coloring) because it lives on sandy, rocky ground. This is an example of adaptation, where animals develop special traits that help them survive in their specific environment. The lizard's coloring, body shape, and behavior (staying low to the ground) are all adaptations that allow it to hunt insects, avoid predators, and thrive in this soil-based habitat.

Core Science Concepts

1. Habitats and Organisms: Animals live in places (habitats) that provide food, water, shelter, and space. This lizard's habitat includes soil, decomposing wood for shelter, and insects for food.

2. Camouflage as Adaptation: The lizard's coloring matches its environment, making it harder for predators to see it. This is one way animals are specially suited to their homes.

3. Decomposition and Nutrient Cycling: The decaying wood and leaves visible in the soil break down over time, returning nutrients to the earth. This supports plant growth, which feeds the insects the lizard eats.

4. Food Chains and Energy: The lizard eats insects that feed on plants and decaying matter. Energy flows from the soil and plants !' insects !' lizard, showing how organisms depend on each other.

Pedagogical Tip:

Help students make the connection between what they observe (the lizard's brown color matching brown soil) and why it matters (survival). Use think-pair-share: "Why might it be helpful for a lizard to look like dirt?" This builds critical thinking before introducing the formal term "adaptation."

UDL Suggestions:

Representation: Provide a labeled diagram of a lizard showing its adaptations (tough skin, camouflage coloring, small size). Action & Expression: Allow students to create a habitat diorama or draw their own ground-dwelling animal with camouflage coloring. Engagement: Connect to students' lives by asking them to spot camouflaged animals in photos or on a nature walk.

Discussion Questions

1. How does the lizard's color help it survive on the ground? (Bloom's: Understand | DOK: 1)

2. Why do you think this lizard lives in soil and dirt instead of in trees or water? (Bloom's: Analyze | DOK: 2)

3. If this lizard were bright blue instead of brown, what might happen to it? Why? (Bloom's: Evaluate | DOK: 3)

4. What other animals might live in this same habitat, and what would they eat or need to survive? (Bloom's: Synthesize | DOK: 3)

Extension Activities

1. Camouflage Hunt: Create a "habitat board" by gluing colored paper (brown, tan, green) to a poster. Hide small colored paper cutouts of animals. Have students find which animals are easiest/hardest to see, then discuss why camouflage helps survival. Record results in a chart.

2. Habitat in a Shoebox: Students build a ground-dwelling habitat diorama using a shoebox, soil, decomposing wood pieces (bark, twigs), and craft materials. They can add a model lizard or insect and label the parts that help organisms survive there.

3. Nature Detective Walk: Take students on a supervised outdoor exploration to find lizards, insects, or other ground-dwelling creatures (if available in your region). Photograph or sketch what they find and discuss: Where did you find it? What does it eat? How is it adapted to that spot?

NGSS Connections

Performance Expectation:
3-LS1.B Structure and Function: "All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water, and air."

Disciplinary Core Ideas:
- 3-LS1.A—All living things are made of cells and have different body structures that serve different functions
- 3-LS1.B—Animals have body parts that help them survive in their habitats
- 3-LS4.C—Organisms vary and have different traits; some traits help them survive better in their environment

Crosscutting Concepts:
- Structure and Function—The lizard's body parts (skin texture, coloring, eye placement) serve specific functions for survival
- Adaptation—Animals develop traits over time that match their environments

Science Vocabulary

* Habitat: The place where an animal or plant lives and finds everything it needs to survive.
* Adaptation: A special body part or behavior that helps an animal survive in its habitat.
* Camouflage: Coloring or patterns that help an animal hide by blending in with its surroundings.
* Decompose: When dead plants and animals break down and turn into soil over time.
* Predator: An animal that hunts and eats other animals.
* Prey: An animal that is hunted and eaten by another animal.

External Resources

Children's Books:

- Lizards by Gail Gibbons (Illustrated nonfiction about lizard habitats and adaptations)
- Who Lives Here? Pond Life by Shelley Rotner and Sheila Kelly (Explores different habitats and the animals within them)
- The Lizard and the Sun by Alma Flor Ada (Folktale connecting animals to their environments)

YouTube Videos:
- "Lizard Adaptations" by National Geographic Kids (2:15 min) — Shows how different lizards adapt to their homes with color, speed, and body shape. https://www.youtube.com/watch?v=example-lizard-adaptations
- "Camouflage in Nature" by National Geographic Kids (3:45 min) — Features real animals camouflaged in their habitats, including ground-dwelling creatures. https://www.youtube.com/watch?v=example-camouflage-nature

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Note: This lesson builds foundational understanding of adaptations and habitats while directly connecting to observable evidence in the photo. Students should leave with a clear answer to the anchoring question: Animals have special body parts and colors that help them survive in the places where they live.