Katydid Camouflage

Life Science | Lesson Guide

Kindergarten

Photo Description

This image shows a green katydid (a large grasshopper-like insect) sitting on green grass and plant stems. The katydid's body and wings are almost the same color as the plants around it, making it very hard to see. The katydid has long legs, long antennae, and wings that look like leaves.

Scientific Phenomena

Anchoring Phenomenon: Camouflage

This image illustrates camouflage—when an animal's color or shape helps it blend in with its environment. The katydid's green color matches the green plants around it, which helps keep it safe from predators (animals that hunt it). This happens because katydids that match their environment are harder to find and eat, so they survive longer and have babies. Over many, many years, katydids developed green coloring through a process called natural selection.

Core Science Concepts

* Camouflage: Animals can hide by blending in with their surroundings using color and shape.

* Adaptation: Special features that help animals survive in their homes. A katydid's green color is an adaptation that helps it hide.

* Predator and Prey: Some animals hunt other animals for food. Katydids must hide from predators to stay safe.

* Habitat: The place where an animal lives. Katydids live in grassy, leafy areas where green helps them blend in.

Pedagogical Tip:

For Kindergarteners, focus on the concrete observation first: "Can you find the katydid in the grass?" This engages their natural curiosity before introducing the "why" (it hides because of its color). Use the photo as a visual puzzle rather than diving into evolutionary language. Repeat the word "camouflage" consistently so students build familiarity with scientific vocabulary through repetition and context.

UDL Suggestions:

Representation: Provide a printed photo of the katydid image alongside a highlighted or circled version showing where the insect is located. This supports students with visual processing differences. Consider also describing the image aloud ("I see green leaves, green stems, and a green insect that looks like a leaf").

Action & Expression: Allow students to show their learning through multiple modalities—pointing, drawing, acting out (pretending to hide), or verbally describing what they see. Not all students will be ready to write or speak formally; some may express understanding through movement or dramatic play.

Engagement: Connect to students' real-world experience: "Have you ever played hide-and-seek? This katydid plays hide-and-seek every day to stay safe!"

Discussion Questions

1. "Why is it hard to see the katydid in the grass?" (Bloom's: Understand | DOK: 1)

2. "How does the katydid's green color help it stay safe?" (Bloom's: Analyze | DOK: 2)

3. "What do you think would happen if this katydid lived on a brown tree instead of green grass?" (Bloom's: Evaluate | DOK: 3)

4. "What other animals do you know that blend in with where they live?" (Bloom's: Remember | DOK: 1)

Extension Activities

1. Hide-and-Seek Camouflage Game: Color paper cutouts of katydids green, brown, yellow, and red. Hide them around the classroom on different colored paper (green paper, brown paper, etc.). Have students find the katydids and notice which ones are easiest and hardest to find. Discuss why: "The green katydid hides best on green paper because it blends in!"

2. Nature Scavenger Hunt: Take students outside to hunt for animals or insects that blend in with their surroundings (green bugs on green leaves, brown bugs on brown bark, etc.). Photograph or sketch what they find and create a class "Camouflage Gallery" of observations.

3. Dress-Up Camouflage: Provide green, brown, yellow, and red clothing items or fabric scarves. Have students "dress up" as different animals and decide which colors would help them hide in grass, dirt, flowers, or leaves. This kinesthetic activity helps them internalize how color and environment work together.

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 structures that serve different functions in survival, growth, behavior, and reproduction.

Crosscutting Concepts:
- Patterns - Patterns in nature help animals survive; the katydid's color pattern matches the plants.
- Structure and Function - The katydid's green color serves the function of helping it hide.

Science Vocabulary

* Camouflage: When an animal's color or shape helps it hide in its home.

* Adapt or Adaptation: A special body part or color that helps an animal survive.

* Predator: An animal that hunts other animals for food.

* Prey: An animal that is hunted by another animal.

* Habitat: The place where an animal or plant lives.

* Blend in: To look the same as the things around you so you are hard to see.

External Resources

Children's Books:
- Who Hid the Egg? by Kazue Mizumura (explores hiding and camouflage concepts)
- The Mixed-Up Chameleon by Eric Carle (camouflage and adaptation through a familiar character)
- Hide and Seek by John Burningham (reinforces camouflage and observation skills)

YouTube Videos:
- "Camouflage Animals for Kids" – National Geographic Kids (2:15)
  Brief description: Colorful, fast-paced video showing real animals using camouflage in nature, including insects and larger animals. Perfect for capturing Kindergarten attention.
  URL: https://www.youtube.com/watch?v=Kh0Y2hVe_bw

- "Can You Spot the Camouflaged Animals?" – Crash Course Kids (3:45)
  Brief description: Engaging visual puzzle format where students try to spot hidden animals, followed by clear explanations of why camouflage works. Highly interactive for young learners.
  URL: https://www.youtube.com/watch?v=GFpPMJrFe1s