Grasshopper

Life Science | Lesson Guide

Kindergarten

Photo Description

A green grasshopper sits on top of a brown flower. The grasshopper has long back legs and two antennae on its head. The flower looks dried up and has many small seeds.

Scientific Phenomena

This image represents the Anchoring Phenomenon of animal feeding behaviors and habitat interactions. The grasshopper is likely feeding on the flower head (appears to be a sunflower or similar composite flower), demonstrating how insects obtain energy from plants. This phenomenon occurs because grasshoppers are herbivores that need to consume plant material to survive and grow. The dried seed head provides both nutrition and a stable platform for the insect.

Core Science Concepts

1. Living vs. Non-living: The grasshopper is a living thing that moves, eats, and grows, while the flower (though once living) is now dried and serves as food.

2. Animal Needs: All animals, including grasshoppers, need food, water, and shelter to survive.

3. Body Parts and Functions: The grasshopper's strong back legs help it jump, its antennae help it sense the world, and its mouth parts help it eat plants.

4. Plant and Animal Interactions: Animals like grasshoppers depend on plants for food, showing how living things need each other.

Pedagogical Tip:

Use the "I Notice, I Wonder" thinking routine with this image. Have students share what they notice about the grasshopper's body parts before explaining their functions. This builds observation skills and activates prior knowledge.

UDL Suggestions:

Provide multiple ways for students to express their observations: drawing, acting out grasshopper movements, or using simple gestures to show jumping. This supports different learning styles and keeps kinesthetic learners engaged.

Zoom In / Zoom Out

1. Zoom In: Inside the grasshopper's mouth are special chewing parts that work like tiny scissors to cut up plant material. The grasshopper's stomach breaks down the plant pieces into energy the insect can use to grow and move.

2. Zoom Out: This grasshopper is part of a larger food web where it eats plants and may become food for birds, spiders, or other animals. Many grasshoppers in a field help spread seeds and are important food sources for other creatures.

Discussion Questions

1. What body parts help the grasshopper get its food? (Bloom's: Analyze | DOK: 2)
2. How do you think the grasshopper uses its strong back legs? (Bloom's: Apply | DOK: 2)
3. What would happen if there were no plants for grasshoppers to eat? (Bloom's: Evaluate | DOK: 3)
4. What other animals do you think might eat the same kind of food as this grasshopper? (Bloom's: Apply | DOK: 2)

Potential Student Misconceptions

1. Misconception: "Grasshoppers are bad because they eat plants."
   Clarification: Grasshoppers are important parts of nature that help control plant growth and provide food for other animals.
2. Misconception: "All insects bite or sting people."
   Clarification: Grasshoppers are harmless to people and only eat plants, not people or other animals.
3. Misconception: "The flower is dead so it's not useful."
   Clarification: Even dried flowers and plants provide food and homes for many animals and contain seeds for new plants.

Cross-Curricular Ideas

1. Math - Counting & Patterns: Count the seeds on the flower head together. Look for color patterns in the grasshopper's body (green and brown stripes). Create a simple bar graph showing "grasshoppers we've seen" vs. "other insects we've seen."

2. ELA - Storytelling & Descriptive Language: Read The Very Quiet Cricket by Eric Carle together. Have students act out the grasshopper's movements and use describing words like "green," "jumpy," and "hungry." Create a class book where each student draws a grasshopper and dictates one sentence about what it eats.

3. Art - Nature Collage & Movement: Students create grasshoppers using green and brown paper scraps, pipe cleaners for antennae, and real dried flowers or seeds glued onto paper. Play music and have students move like grasshoppers, exploring how their "strong back legs" help them jump high.

4. Social Studies - Habitats & Community: Discuss where grasshoppers live (gardens, fields, meadows). Take a nature walk around the school to find where grasshoppers and other insects might live. Talk about how we can help insects by planting flowers and leaving some areas "wild."

STEM Career Connection

1. Entomologist (Bug Scientist): An entomologist is a scientist who studies insects like grasshoppers. They learn about what insects eat, where they live, and how they help nature. Some entomologists help farmers grow food by studying which insects are helpful and which ones cause problems. Average Salary: $63,000/year

2. Botanist (Plant Scientist): A botanist is a scientist who studies plants like flowers and seeds. They learn which plants are healthy, how plants grow, and which animals eat which plants. Some botanists help create gardens and farms where insects and plants live together. Average Salary: $64,000/year

3. Nature Photographer: A nature photographer takes pictures of animals and plants in their habitats, just like the photo you're looking at! They travel to different places, observe insects and flowers, and use cameras to show people how amazing nature is. Their photos help teach others about science and animals. Average Salary: $35,000/year

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.C - All animals need food in order to live and grow
- Crosscutting Concepts: Patterns - Patterns in the natural world can be observed and used as evidence

Science Vocabulary

* Grasshopper: A jumping insect that eats plants and has strong back legs.
* Antennae: The two long parts on an insect's head that help it smell and feel.
* Herbivore: An animal that only eats plants for food.
* Habitat: The place where an animal lives and finds everything it needs.
* Survive: To stay alive by getting food, water, and shelter.

External Resources

Children's Books:
- The Very Quiet Cricket by Eric Carle
- Grasshopper on the Road by Arnold Lobel
- From Egg to Grasshopper by Gerald Legg