

## Photo Description



This image shows a green grasshopper sitting on a bright green leaf. You can see the grasshopper has long back legs, antennae on its head, and a body that is similar in color to the leaf it's standing on. The grasshopper is a type of insect that lives in gardens and fields.

## Scientific Phenomena

Anchoring Phenomenon: Why does the grasshopper look similar in color to the leaf?

This image represents camouflage, a survival strategy where animals blend into their environment. The grasshopper's green coloring matches the plant leaf, making it harder for predators (like birds) to see it. This happens through natural selection over many generations—grasshoppers with colors matching their habitat survive longer and have more offspring. Grasshoppers also use this camouflage to sneak up on food sources and to rest safely on plants during the day.

## Core Science Concepts

- Insect Body Parts: All insects have three main body sections (head, thorax, abdomen), six legs, and often antennae and wings. In this photo, students can clearly observe the grasshopper's long antennae, powerful back legs, and segmented body.
- Adaptations for Survival: The grasshopper's green color, strong jumping legs, and long antennae are all adaptations—special features that help it survive in its environment. The long legs help it jump away from danger, while antennae help it sense its surroundings.
- Habitats and Food Chains: Grasshoppers live on plants because that is where they find food (eating leaves and grass) and shelter. They are prey animals for birds, snakes, and other predators.
- Life Cycles: Grasshoppers go through different life stages, starting as eggs and growing into adults. Understanding insects helps children see that all living things change over time.

### Pedagogical Tip:

Use this image to introduce the "I notice, I wonder, I think" protocol. Have students share: "I notice the grasshopper is green. I wonder why. I think it helps it hide." This builds observational skills while scaffolding scientific thinking without requiring advanced reading or writing.

### UDL Suggestions:

Provide multiple means of representation by offering both visual observation of the photo AND tactile experiences: allow students to touch real leaves, hop like grasshoppers, or feel pictures with textured materials. For students with visual impairments, describe the grasshopper's body parts in detail and allow them to explore model insects or three-dimensional manipulatives. Offer the vocabulary in both English and students' home languages on a visual word wall.

## Discussion Questions

1. What do you notice about the grasshopper's color? Why might it be green like the leaf? (Bloom's: Remember & Understand | DOK: 1-2)
2. What parts of the grasshopper's body help it survive? Can you show me with your own body? (Bloom's: Understand & Apply | DOK: 2)
3. What do you think the grasshopper eats, and why is it sitting on this plant? (Bloom's: Analyze | DOK: 2)
4. How would the grasshopper's life be different if it were red instead of green? (Bloom's: Evaluate & Create | DOK: 3)

## Extension Activities

1. Grasshopper Hoppers Craft: Students create paper grasshoppers with folded paper that can actually jump when you press and release the bottom. As they fold and assemble, discuss the grasshopper's powerful back legs and why it needs them. This builds fine motor skills while reinforcing structure-function relationships.
2. Camouflage Hunt: Hide pictures or cutouts of various colored insects (green, red, yellow, brown) on a bulletin board surrounded by matching colored paper and non-matching paper. Have students find and match the insects to their habitats. Discuss why some animals are easier to find than others, connecting to the grasshopper's green coloring.
3. Leaf Detective Walk: Take students on a supervised outdoor walk to look for insects on plants (or show photos if outdoors is unavailable). Students use clipboards to draw or point to insects they find. Ask: "Why are insects living on plants?" and "Do the insects look like the plants?" This grounds learning in real-world observation.

## 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 growth, survival, and reproduction. (The grasshopper's legs, antennae, and body)
- K-LS1.B Animals need food, water, and air to grow. (Grasshoppers need plants for food)

Crosscutting Concepts:

- Structure and Function (Body parts help the grasshopper survive)
- Patterns (The green color pattern matches the green leaf)

## Science Vocabulary

- Insect: A small animal with six legs, three body parts, and usually wings.
- Adaptation: A special body part or behavior that helps an animal survive in its home.
- Camouflage: Colors or patterns that help an animal hide by looking like its surroundings.
- Antennae: Long, thin feelers on an insect's head that help it sense things around it.
- Habitat: The place where an animal lives and finds food and shelter.
- Predator: An animal that hunts other animals for food.

## External Resources

### Children's Books:

- Grasshopper on the Road by Arnold Lobel (a classic story featuring a grasshopper character that introduces the insect in a relatable way)
- The Grasshopper & the Ant (traditional fable; many illustrated versions available, such as by Amy Lowry Poole)
- Hopping with Grasshoppers by Kate Riggs (National Geographic Little Kids First Big Book of Animals series; features real photographs)

### YouTube Videos:

- "Grasshoppers for Kids" by National Geographic Kids (2:47 minutes) — Explores real grasshopper behavior, camouflage, and jumping ability with stunning close-up footage.

<https://www.youtube.com/watch?v=6aEJT9kNmQ>

- "Insects: Crash Course Kids #25" by Crash Course Kids (3:33 minutes) — Age-appropriate introduction to insect body parts and adaptations, with engaging animations.

<https://www.youtube.com/watch?v=N-dMpXF0MhI>

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**Teacher Tip:** This lesson works best when paired with direct observation of real insects (safely caught and released) or high-quality close-up photos. Kindergarteners learn through sensory engagement, so incorporate movement activities (hopping, reaching like antennae) to deepen understanding of insect adaptations.