# Grasshopper Eating Hibiscus Bud

Kindergarten

Life Science | Lesson Guide

## Photo Description

A green grasshopper sits on a flower bud. The grasshopper is eating the red flower parts. The flower has green leaves around it.

## Scientific Phenomena

This image demonstrates the Anchoring Phenomenon of herbivory - when animals eat plants for food. The grasshopper is consuming the hibiscus flower bud because it needs energy and nutrients to survive. This represents a feeding relationship where the grasshopper acts as a primary consumer, obtaining energy directly from plant material. The grasshopper's specialized mouthparts allow it to chew and process plant tissue, while the plant represents a food source in the local ecosystem.

## Core Science Concepts

1. Animals need food to survive - The grasshopper must eat plants to get energy for growing and moving
2. Living things interact with each other - The grasshopper and plant have a relationship where one eats the other
3. Animals have body parts that help them get food - The grasshopper has strong jaws and legs to hold and eat the plant
4. Plants and animals live together in the same place - Both the grasshopper and flower are part of the same outdoor environment

**Pedagogical Tip:**

Use this image to help students make connections to their own eating habits. Ask them to compare how they eat food to how the grasshopper eats the flower, emphasizing that all living things need food to survive.

**UDL Suggestions:**

Provide multiple ways for students to express their observations - through drawing, acting out the grasshopper's movements, or using simple words. Consider having students use magnifying glasses to examine real plants and look for signs of insect feeding.

## Zoom In / Zoom Out

1. Zoom In: Inside the grasshopper's mouth are tiny cutting edges that work like scissors to slice through plant material. The grasshopper's digestive system breaks down the plant cells to release nutrients and energy.

2. Zoom Out: This feeding relationship is part of a larger food web where grasshoppers may be eaten by birds, spiders, or other predators. The grasshopper helps control plant growth while also serving as food for other animals in the ecosystem.

## Discussion Questions

1. What do you notice about how the grasshopper is using its body parts to eat? (Bloom's: Analyze | DOK: 2)
2. Why do you think the grasshopper chose to eat this flower instead of something else? (Bloom's: Evaluate | DOK: 3)
3. What other animals have you seen eating plants? (Bloom's: Remember | DOK: 1)
4. How is the way the grasshopper eats similar to or different from how you eat? (Bloom's: Compare | DOK: 2)

## Potential Student Misconceptions

1. Misconception: "The grasshopper is hurting the plant on purpose or being mean."
   Clarification: The grasshopper is just trying to get food to survive, just like when we eat vegetables.

2. Misconception: "Only big animals eat plants."
   Clarification: Many small animals like insects, caterpillars, and grasshoppers eat plants too.

3. Misconception: "The plant will die if the grasshopper eats it."
   Clarification: Plants can often grow back after being eaten, and many plants can survive losing some parts.

## Cross-Curricular Ideas

1. Math - Counting and Patterns: Have students count the legs on the grasshopper (6 legs) and look for repeating patterns on the insect's body. Create a simple bar graph showing "What do different insects eat?" using pictures of grasshoppers, caterpillars, and beetles.

2. ELA - Descriptive Writing and Storytelling: Students can draw the grasshopper and write or dictate simple sentences like "The grasshopper eats the flower" or "The grasshopper is green." Read and act out stories about insects, such as The Very Hungry Caterpillar, and have students create their own "food chain" story using picture cards.

3. Art - Nature Collage and Observational Drawing: Students can create a collage using real leaves, flower petals, and drawings of insects. They can also practice observational drawing by sketching grasshoppers and flowers they see outdoors, using green and red crayons to match the colors in the photo.

4. Social Studies - Living Things in Our Community: Take students on a nature walk around the school or classroom garden to observe insects eating plants. Discuss how plants and animals live together in our neighborhood and create a class "nature journal" documenting what they find.

## STEM Career Connection

1. Entomologist (Insect Scientist): An entomologist studies insects like grasshoppers to learn how they live, what they eat, and how they help or hurt plants. They use magnifying glasses and microscopes to look closely at bugs and help farmers keep grasshoppers from eating their crops. Average Salary: $65,000 - $75,000 per year

2. Botanist (Plant Scientist): A botanist studies plants and learns how they grow, what eats them, and how to keep them healthy. They might study why grasshoppers like to eat certain flowers and how to protect gardens and farms. Average Salary: $63,000 - $73,000 per year

3. Farmer or Gardener: Farmers and gardeners grow plants like flowers, vegetables, and fruits. They watch for grasshoppers and other insects that might eat their plants, and they work to keep both the plants and helpful insects healthy in their gardens and fields. Average Salary: $52,000 - $68,000 per 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
* Herbivore: An animal that only eats plants
* Energy: The power living things need to grow and move
* Survive: To stay alive and healthy
* Consumer: A living thing that eats other living things for food

## External Resources

Children's Books:
- The Very Hungry Caterpillar by Eric Carle
- What Do Insects Do? by Susan Canizares
- From Seed to Plant by Gail Gibbons