

Photo Description



A small insect with orange, black, and brown colors sits on top of a white daisy flower. The insect has long thin legs and antennae, and the flower has white petals around a bright yellow center.

Scientific Phenomena

This image demonstrates the Anchoring Phenomenon of insect-flower interactions for survival. The insect is likely feeding on nectar from the daisy while potentially transferring pollen between flowers. This mutualistic relationship occurs because insects need food (nectar) for energy, while flowers need help moving their pollen to reproduce. The insect's body structure - including long legs for perching and antennae for sensing - helps it successfully interact with flowers.

Core Science Concepts

1. Animal body parts help them survive: The insect has specific body parts (legs, antennae, mouthparts) that help it get food from flowers.
2. Plants and animals depend on each other: Flowers provide food for insects, while insects help flowers reproduce by moving pollen.
3. Living things have basic needs: Both the insect and flower have needs for survival - the insect needs food, and the flower needs help reproducing.
4. Body parts match what animals do: The insect's long legs help it walk on flower petals, and its antennae help it find flowers.

Pedagogical Tip:

Use hand gestures and body movements when discussing insect body parts. Have students pretend to be insects by using their arms as antennae to "sense" flowers around the classroom.

UDL Suggestions:

Provide tactile experiences by bringing in plastic insects and flowers for students to manipulate while learning about body parts and functions. This supports kinesthetic learners and students who benefit from hands-on exploration.

Zoom In / Zoom Out

Zoom In: Nectar Production Inside the Flower

Deep inside the flower's yellow center, there are tiny tubes called nectaries that make sweet nectar. We can't see this happening without a microscope, but the flower is working hard to create this sugary liquid to attract insects. When the insect drinks the nectar, it's getting energy from the flower's special food factory!

Zoom Out: The Neighborhood of Pollinators

This one flower and insect are part of a much bigger community in a garden or meadow. Hundreds of different insects visit flowers all day long - bees, butterflies, beetles, and wasps. Together, all these insects help pollinate thousands of flowers in the area. Without this "insect neighborhood," gardens would have very few seeds and new plants!

Discussion Questions

- What body parts help this insect get food from the flower? (Bloom's: Analyze | DOK: 2)
- How do you think the insect and flower help each other? (Bloom's: Evaluate | DOK: 3)
- What would happen if there were no insects to visit flowers? (Bloom's: Create | DOK: 3)
- What patterns do you notice about how the insect's body parts match what it needs to do? (Bloom's: Apply | DOK: 2)

Potential Student Misconceptions

Misconception 1: "The insect is eating the flower petals."

- Clarification: The insect is only drinking the sweet nectar from inside the flower, like drinking juice through a straw. The petals are just the pretty outside part - the insect doesn't eat them.

Misconception 2: "The insect is hurting the flower."

- Clarification: The flower actually wants the insect to visit! The flower and insect help each other. The insect gets food, and the flower gets help making new flowers. It's a helpful friendship, not a harmful one.

Misconception 3: "All insects are the same and do the same things."

- Clarification: Insects come in many different sizes, colors, and shapes, and they visit flowers for different reasons. Some drink nectar, some eat pollen, and some are just walking by. Each insect has its own job in nature.

Extension Activities

1. Insect Body Part Investigation: Provide magnifying glasses and plastic insects for students to identify and count body parts, then draw and label their observations.
2. Flower Dissection: Use real daisies or other large flowers to let students gently take apart petals and observe the yellow center where pollen and nectar are located.
3. Pollination Simulation: Students use cotton swabs dipped in colored powder to transfer "pollen" between artificial flowers, mimicking how insects move pollen.

Cross-Curricular Ideas

Mathematics: Counting and Comparing Body Parts

Have students count the legs, antennae, and body segments on insects in photos, then create a simple chart or tally to compare different insect types. Students can practice one-to-one correspondence and data organization while learning insect anatomy.

English Language Arts: "An Insect's Day" Story Writing

Students write or dictate a short story from the perspective of an insect visiting flowers. Prompt them with questions: "Where does the insect go? What flowers does it visit? What does it find?" This combines narrative writing with science vocabulary practice and creative thinking.

Art: Nature Collage and Observation Drawing

Students create mixed-media artwork combining colored paper flowers and insects, or draw detailed pictures of insects and flowers using magnifying glasses for observation. This develops fine motor skills while reinforcing scientific observation of natural details.

Social Studies: Helpful Jobs in Nature

Connect the insect's "job" of pollination to community helpers. Discuss how the insect, like a mail carrier or teacher, has an important role to play. Students can draw or talk about how different living things have jobs that help their community (the garden).

STEM Career Connection

Entomologist (Insect Scientist)

An entomologist is a scientist who studies insects - their bodies, what they eat, where they live, and how they help us. They might watch insects in gardens or labs, take pictures and measurements, and learn how insects help flowers grow. Some entomologists teach other people about insects. Average Salary: \$63,000-\$75,000 per year

Beekeeper/Pollinator Farmer

A beekeeper raises insects like honeybees to help pollinate crops and flowers. They take care of the insects, collect honey, and make sure the bees and plants stay healthy. Beekeepers help farmers grow fruits and vegetables by keeping pollinating insects safe and happy. Average Salary: \$45,000-\$65,000 per year

Botanist (Plant Scientist)

A botanist is a scientist who studies how plants grow and survive. They learn about flowers, seeds, and how insects help plants make new plants. Botanists might work in gardens, greenhouses, or laboratories, and they help us understand how to grow better flowers and food. Average Salary: \$61,000-\$78,000 per year

NGSS Connections

- Performance Expectation: 2-LS4-1 - Make observations of plants and animals to compare the diversity of life in different habitats.
- Disciplinary Core Ideas: 2-LS4.D and 1-LS1.A
- Crosscutting Concepts: Structure and Function and Patterns

Science Vocabulary

- * Insect: A small animal with six legs and three body parts
- * Nectar: Sweet liquid inside flowers that insects drink for food
- * Antennae: Long thin body parts on an insect's head used for smelling and feeling
- * Pollen: Tiny yellow powder that helps flowers make new flowers
- * Pollination: When pollen moves from one flower to another with help from insects

External Resources

Children's Books:

- The Magic School Bus: Inside a Beehive by Joanna Cole
- What Do Insects Do? by Susan Canizares
- From Seed to Plant by Gail Gibbons