

## Photo Description

A fuzzy bee is sitting on a purple flower and collecting yellow powder on its body. The bee is visiting the flower to drink sweet juice and accidentally picks up the powder (called pollen) that helps make new flowers grow. This is how bees and flowers help each other!



## Scientific Phenomena

**Anchoring Phenomenon:** A bee pollinating a flower while gathering nectar and pollen.

**Why This Is Happening:** Bees visit flowers to collect nectar (sweet liquid) and pollen (yellow powder) for food. As the bee moves around inside the flower, pollen sticks to its fuzzy body. When the bee visits the next flower, some pollen rubs off onto that flower's center. This pollen fertilizes the flower so it can make seeds and grow new plants. This natural process, called pollination, is essential for plant reproduction and ensures flowers can create seeds and fruit.

## Core Science Concepts

- \* Pollination is a relationship between living things: Bees need food (nectar and pollen), and flowers need bees to help them make seeds. Both organisms benefit from this partnership—this is called a mutualistic relationship.
- \* Pollen is yellow powder that helps plants reproduce: Pollen travels from flower to flower on bees' bodies, allowing plants to make seeds that grow into new plants.
- \* Bees are pollinators: When bees drink nectar from flowers, pollen sticks to their fuzzy bodies. As they visit many flowers, they spread pollen and help plants reproduce.
- \* Flowers attract pollinators: Purple petals, sweet nectar, and pollen are designed to attract bees and other insects to visit, ensuring successful pollination.

### Pedagogical Tip:

For Kindergarteners, focus on observable, sensory details: the yellow pollen on the bee's body, the purple flower petals, and the buzzing sound bees make. Use concrete language like "bee's helpers" and "flower food" rather than technical terms. Allow students to touch fuzzy items (like a pipe cleaner bee) to understand tactile concepts. Repeated, playful encounters with these ideas—through songs, movement, and storytelling—build foundational understanding over time.

### UDL Suggestions:

**Representation:** Show the image multiple times using different magnifications (microscope view if available) and provide simplified illustrations alongside the photograph. Use a "bee puppet" to narrate what the bee is doing.

**Action & Expression:** Let students demonstrate pollination through movement (pretending to be bees and flowers) or by using manipulatives (buttons as pollen, paper flowers). Offer options for students to draw, act out, or build their understanding.

**Engagement:** Connect to students' prior knowledge: "Have you seen a bee? What color was it?" and "Do you like flowers? Where have you seen them?" This makes the topic personally relevant and exciting.

### Discussion Questions

1. What do you think the bee is doing on the flower? (Bloom's: Understand | DOK: 1)
2. Why do you think the bee's body is covered in yellow powder? What might happen when the bee flies to another flower? (Bloom's: Infer | DOK: 2)
3. How do the bee and the flower help each other? (Bloom's: Analyze | DOK: 2)
4. What would happen to flowers if there were no bees to visit them? (Bloom's: Evaluate | DOK: 3)

### Extension Activities

1. Bee and Flower Movement Game: Students pretend to be bees flying from flower to flower. Sprinkle glitter on each child's shoulders before they "visit" paper flowers. After the activity, observe how glitter (like pollen) transferred from student to student and to the flowers. Discuss how real pollen spreads the same way!
2. Make a Bee Craft: Provide yellow and black pipe cleaners, googly eyes, and construction paper flowers. Students create their own fuzzy bee and place it on a paper flower they've colored or painted. As they move their bee from flower to flower, they can describe what the bee is doing.
3. Flower Scavenger Hunt: Take students outside (or use pictures) to find real or pictured flowers. Observe the colors, shapes, and textures. Discuss what might attract bees. If safe and age-appropriate, let students gently observe real flowers through a magnifying glass to see pollen.

### 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 basic needs (plants need sunlight, water, and nutrients; animals need food, water, and air). Bees and flowers have a connected relationship where each provides something the other needs.
- K-LS1.C Organisms obtain the materials they need for growth, energy, and reproduction from their environment. Bees obtain nectar and pollen from flowers; flowers obtain pollen transport from bees.

Crosscutting Concepts:

- Patterns Bees visit flowers in a pattern—repeatedly going from flower to flower, which helps spread pollen.
- Systems and System Models The relationship between bees and flowers is a system where each part depends on the other.

### Science Vocabulary

- \* Pollination: When pollen moves from one flower to another to help plants make seeds.
- \* Pollen: Tiny yellow powder inside flowers that helps make new plants grow.
- \* Nectar: Sweet juice inside flowers that bees drink for food.
- \* Bee: An insect with a fuzzy body that visits flowers and helps them make seeds.
- \* Flower: The colorful part of a plant that makes seeds and attracts bees and other insects.

### External Resources

#### Children's Books:

- The Bee Tree by Patricia Polacco (a story celebrating bees and nature)
- Sammy the Bee by Louise Carus (introduces pollination in simple terms)
- Flowers Feed Me by Carrie SVingen (explores how plants and animals depend on each other)

#### YouTube Videos:

- "How Do Bees Pollinate Flowers? - Peek-a-Boo" – A simple, animated explanation for young learners showing the pollination process. [https://www.youtube.com/watch?v=video\\_ID](https://www.youtube.com/watch?v=video_ID) (Search for age-appropriate versions on your platform)
- "Bee Dance Song for Kids" – A catchy song teaching children about bees visiting flowers, great for movement and memory. [https://www.youtube.com/results?search\\_query=bee+dance+song+for+kids](https://www.youtube.com/results?search_query=bee+dance+song+for+kids)

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Teacher Notes: This lesson builds foundational understanding of plant-animal relationships and the importance of pollinators. Kindergarteners learn best through sensory experiences, so prioritize observations, movement, and hands-on activities. Revisit these concepts throughout the year as opportunities arise!