

## Photo Description



A bumble bee with a fuzzy yellow and black body sits on a bright pink flower. The bee has large dark wings and is surrounded by yellow pollen and colorful flower petals. You can see the bee's head up close, with big eyes and tiny legs covered in pollen.

## Scientific Phenomena

Anchoring Phenomenon: A bee visiting a flower and collecting pollen

Why This Happens: Bees visit flowers to collect nectar and pollen, which they use as food for themselves and their hive. As the bee moves from flower to flower, pollen sticks to its fuzzy body. When the bee visits the next flower, some of that pollen rubs off onto the new flower's center. This process, called pollination, helps plants make seeds and fruits. The bee and the flower help each other—the bee gets food, and the flower gets help reproducing.

## Core Science Concepts

- \* Pollination: When pollen moves from one flower to another, usually by insects like bees, it helps flowers grow seeds and make new plants.
- \* Animal and Plant Relationships: Bees need flowers for food, and flowers need bees to spread their pollen. This is called a "partnership" or symbiotic relationship.
- \* Observable Traits of Bees: Bees have fuzzy bodies, wings, six legs, and special body parts (like pollen baskets on their hind legs) that help them collect pollen.
- \* Flower Parts and Function: Flowers have colorful petals that attract bees, and yellow pollen inside that bees collect for food.

### Pedagogical Tip:

For Kindergarteners, emphasize the "helping" relationship between bees and flowers rather than complex pollination biology. Use repeated, sensory language: "The bee is covered in yellow powder (pollen)! When the bee goes to the next flower, some powder falls off. That helps make new flowers!" This concrete language supports early learners' understanding of cause-and-effect.

### UDL Suggestions:

Representation: Provide a large, colorful diagram or manipulative model showing a bee on a flower. Use real flower samples (if safe and non-allergenic) so students can touch fuzzy textures and see pollen up close.

Action & Expression: Allow students to act out being a bee visiting flowers (movement breaks), draw pictures of bees on flowers, or use tactile materials (cotton balls, pom-poms) to create a 3D bee model.

Engagement: Connect to student experience: "Have you seen a bee in a garden?" or "Where do your favorite flowers grow?"

## Discussion Questions

1. What do you think the bee is doing on the flower? (Bloom's: Remember | DOK: 1)  
This question checks if students can identify the basic action in the photo.
2. Why does the bee visit flowers? What does the bee need from the flower? (Bloom's: Understand | DOK: 2)  
This question asks students to explain the bee's motivation and basic needs.
3. How does the flower help the bee, and how does the bee help the flower? (Bloom's: Analyze | DOK: 2)  
This question encourages students to see the two-way relationship.
4. What would happen if there were no bees to visit the flowers? (Bloom's: Evaluate | DOK: 3)  
This higher-order question asks students to predict consequences and think critically.

## Extension Activities

1. Bee Sensory Walk: Take students outside (if weather permits) or to a school garden to observe flowers and listen for buzzing sounds. Use magnifying glasses to look for real bees or other pollinators. Discuss what they see, hear, and observe. (Supports observation and outdoor science engagement.)
2. Flower and Bee Craft: Students create a large flower from construction paper and add a pompom or cotton ball "bee" to it. They can sprinkle yellow glitter (pollen) on both the bee and flower to show how pollen sticks and moves. Display creations with the question: "How does the pollen help?" (Supports tactile learning and kinesthetic understanding.)
3. Bee Movement Game: Play music and have students move around the classroom like bees, "visiting" different flower stations (marked with poster board flowers). At each station, they pick up a sticky note "pollen" and move it to the next flower. Discuss how this mimics real pollination. (Supports kinesthetic learning and gross motor development.)

## 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, which are met by obtaining materials from the physical environment.
- K-LS1.C: Living things grow and change.

Crosscutting Concepts:

- Patterns: Bees visit flowers again and again (pattern of behavior).
- Cause and Effect: When bees land on flowers, pollen moves to new flowers, helping new plants grow.

## Science Vocabulary

- \* Bee: An insect with wings and a fuzzy body that visits flowers to collect food called pollen and nectar.
- \* Pollen: Tiny yellow powder made inside flowers that bees collect and carry on their bodies.
- \* Flower: The colorful part of a plant that makes seeds and attracts bees.
- \* Nectar: Sweet juice inside flowers that bees drink for energy and food.
- \* Pollination: When pollen moves from one flower to another, helping new plants grow.

\* Fuzzy: Covered with soft, hair-like material (like a bee's body).

### External Resources

Children's Books:

- The Bee by Jenni Desmond (gorgeous, detailed illustrations of bees)
- Bees by Gail Gibbons (simple, factual text with clear diagrams for early learners)
- The Busy, Busy Bee by Caroline Jayne Church (rhythmic, repetitive text perfect for Kindergarten)

YouTube Videos:

- "The Bee Dance – How Bees Communicate" by National Geographic Kids  
A 3-minute video showing how bees dance to tell other bees where flowers are. Great for visual learners.  
<https://www.youtube.com/watch?v=FJKMPoOjWkc>
- "Pollination: Crash Course Kids" by Crash Course Kids  
A 4-minute animated video explaining pollination in simple, kid-friendly language with bright visuals.  
<https://www.youtube.com/watch?v=VrcDYeXgKQY>

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Teacher Notes: This lesson sequence prioritizes direct observation, sensory engagement, and concrete examples of the bee-flower relationship. Kindergarteners thrive with movement, color, and hands-on exploration. Adapt activities based on your classroom environment and student needs!