

Photo Description



This image shows a bright pink flower with a special stick in the middle called a stamen. The stick has yellow and orange bits at the top and sides that look like tiny dust. The flower's pink parts are called petals, and they help attract bees and other insects to visit the flower.

Scientific Phenomena

Anchoring Phenomenon: Why do flowers have colorful petals and special dusty parts?

This flower displays the reproductive structure of a flowering plant. The colorful pink petals attract pollinators (insects, birds, and other animals) through visual signals. The stamen—the central structure visible here—produces pollen (the yellow/orange granules), which is necessary for plant reproduction. When pollinators visit flowers to collect nectar or pollen, they inadvertently transfer pollen between flowers, enabling fertilization and seed production. This is a natural process that has evolved over millions of years as flowers and pollinators developed mutually beneficial relationships.

Core Science Concepts

- Flower structures have specific functions: Petals attract pollinators; stamens produce pollen; pistils receive pollen
- Plants reproduce sexually: Flowers are the reproductive organs of flowering plants, and pollen is essential for making seeds
- Pollinators and flowers have a relationship: Animals visit flowers for food (nectar and pollen), and in doing so, help the plant make seeds
- Observable patterns in nature: Bright colors, sweet smells, and special shapes are all adaptations that help flowers attract visitors

Pedagogical Tip:

For Kindergarteners, focus on the observable and sensory—the bright color, the dusty pollen they can see, and the idea that "bugs love pretty flowers!" Avoid overly technical vocabulary during whole-group lessons. Use repeated, simple language: "This is pollen. Pollen helps make seeds. Bees carry pollen." Repetition and concrete examples build foundational understanding.

UDL Suggestions:

Multiple Means of Representation: Provide real flower samples (or images) for students to observe directly alongside this photo. Use hand motions to "show" pollen moving from flower to flower. Consider a short video showing a bee visiting a flower in real time—this brings the phenomenon to life.

Multiple Means of Action & Expression: Allow students to draw or paint their own flowers, fingerpaint pollen on a picture, or use manipulatives (cotton balls, yellow paint, craft pollen) to create a 3D flower model rather than just answering questions.

Multiple Means of Engagement: Connect flowers to students' own experiences: "Do you have flowers in your home or garden? Have you seen bees or butterflies near flowers?" Personal relevance increases motivation.

Discussion Questions

1. What color is the flower in the picture? Why do you think it is so bright? (Bloom's: Remember | DOK: 1)
2. What do you see in the middle of the flower that looks like dust? Who might visit this flower to get that dusty stuff? (Bloom's: Understand | DOK: 2)
3. If a bee visits many flowers, what do you think happens to the dusty powder on the bee? Why might that be helpful to the flowers? (Bloom's: Infer | DOK: 3)
4. Where have you seen flowers in real life? What insects or animals have you seen near them? (Bloom's: Apply | DOK: 2)

Extension Activities

1. Flower Exploration Walk: Take students on a nature walk to observe real flowers on the playground or in a garden. Have them point out petals, try to spot pollen, and look for insects visiting flowers. Encourage them to use their senses: "What colors do you see? Do you smell anything?" Return indoors and draw or paint what they observed.
2. Pollen Transfer Game: Place washable yellow paint or powder on a student's finger (like pollen). Have them touch it to a paper flower, then another paper flower. Discuss how the "pollen" moved from flower to flower—just like a real bee does! Extend by showing how much pollen transfers (or doesn't) depending on how the "pollinator" moves.
3. Build a Flower with Craft Materials: Provide students with pipe cleaners, tissue paper, buttons, and paint to construct their own 3D flowers. As they build, name the parts: "This is the petal. This is the stamen with pollen." Display their creations and have a "flower gallery walk" where students describe their flowers to classmates.

NGSS Connections

Performance Expectation:

K-LS1-1: Use observations to describe patterns of what plants need to grow.

Disciplinary Core Ideas:

- K-LS1.C Organization for Matter and Energy Flow in Organisms: Plants need water and light to grow
- K-LS1.A Structure and Function: All organisms have external parts that help them survive and grow

Crosscutting Concepts:

- Structure and Function: The flower's structure (petals, pollen) relates directly to its function (attracting pollinators, making seeds)
- Patterns: Flowers show patterns in color and shape that help identify them

Science Vocabulary

- Petal: The colorful, soft leaf-like parts of a flower that help attract insects and animals
- Stamen: The male part of a flower in the middle that makes yellow dusty pollen
- Pollen: Tiny yellow or orange dust made by flowers that helps make new seeds
- Pollinator: An animal (like a bee or butterfly) that carries pollen from one flower to another
- Flower: The special part of a plant that makes seeds and is often colorful and pretty

External Resources

Children's Books:

- The Bee Tree by Patricia Polacco – A beautifully illustrated story about bees, flowers, and the natural world
- From Seed to Plant by Gail Gibbons – Clear, simple diagrams and text explaining how flowers and seeds grow
- Planting a Rainbow by Lois Ehlert – A colorful, interactive book about planting flowers and watching them grow

YouTube Videos:

- "How Do Bees Help Flowers? | National Geographic Kids" – Short, age-appropriate video showing real bees pollinating flowers with stunning close-up photography. (https://www.youtube.com/watch?v=example_bees) Note: Search on YouTube Kids for verified, safe content.
- "The Life Cycle of a Flower" by Crash Course Kids – Simple animation showing how flowers grow, bloom, and make seeds in about 4 minutes. (https://www.youtube.com/watch?v=example_flower) Slightly advanced for early K, but excellent for reviewing with small groups.

Teacher Notes: This lesson invites wonder about the natural world while building foundational understanding of plant structures and the interdependence of plants and animals. Encourage students to be "flower detectives" and notice the details visible in this photograph—the bright color, the special middle part, and the dusty pollen. Real observations lead to genuine curiosity and deeper learning.