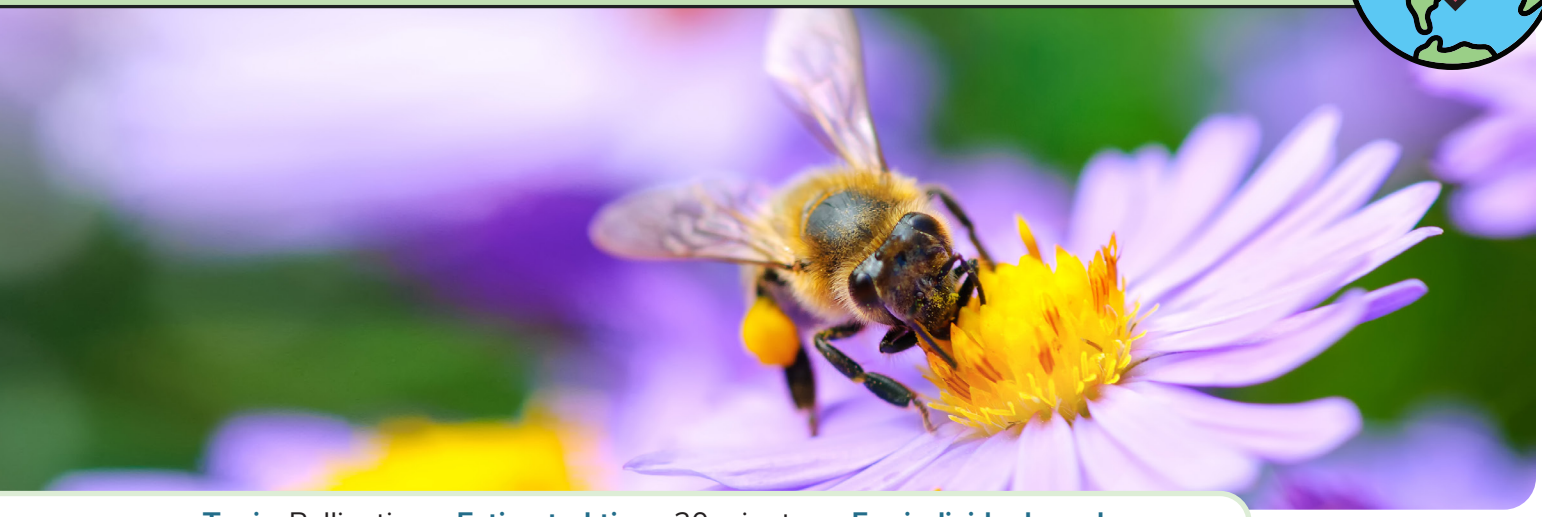
CFAES
COLLEGE *of* FOOD, AGRICULTURAL, *and* ENVIRONMENTAL SCIENCES

4-H Earth Is Our Home Activity



Topic: Pollination • **Estimated time:** 30 minutes • **For individuals and groups**

Healthy Plants Are Our Bees-ness

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Pollination is the process of transferring pollen from one plant to another so that they can reproduce. Bees are good at pollinating our plants by carrying **pollen** from one plant to another on their body and legs. Let's explore how pollen moves from one plant to another plant.

Supplies

- 2 cupcake liners or small foam cups
- cheese puffs
- 2 flower diagrams (see below)
- Candy such as M&Ms, Skittles, or Gummi Bears

Learning Outcomes
Project skill: Demonstrating the process of pollination • **Life skill:** Understanding systems
Educational standard: NGSS 2-LS2-2. Develop a model that mimics the function of an animal in dispersing seeds or pollinating plants. • **Success indicator:** Builds a model for pollination using candy and cheese puffs

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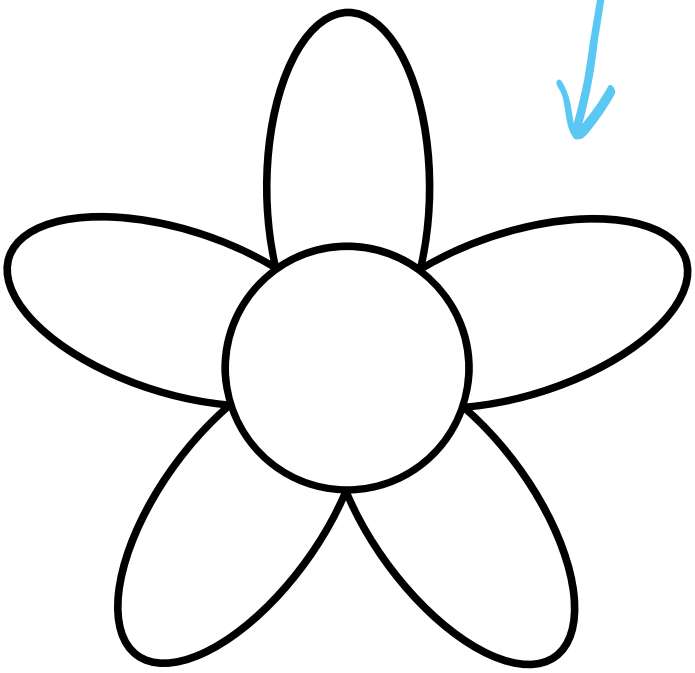
What to Do

1. Make two page-size, line drawings of a flower with a large center (similar to the one below). Place them on a flat surface.
2. Place a cupcake liner or shallow cup in the center of each flower. Place a few pieces of small candy in each one.
3. Fill ONE liner/cup the rest of the way up with cheese puffs.
4. Fold the pipe cleaner in half to imitate two bee legs. If you don't have a pipe cleaner, use your fingers.
5. Use the pipe cleaner or our fingers to retrieve some **nectar** (candy) from the flower with the cheese puffs. Put the candy you get down, but do NOT lick your fingers.
6. Now retrieve some nectar from the other flower.



Talking It Over

Write your answers to these questions on a separate piece of paper and talk about them with your project helper or another caring adult.

SHARE Did you leave any pollen (cheese puff dust), in the second flower while trying to get some nectar?

REFLECT Why is a pipe cleaner a good representation of bee leg anatomy?

GENERALIZE Use your own words to describe the role of a pollinator in spreading pollen.

APPLY Why is the work of bees and other pollinators so important?

More Challenges

Here's another way to show how bees spread pollen. Use a different colored chalk to draw and color in three pictures of a flower. Pretend a cotton ball is a bee and visit each flower by gently touching its center. How quickly are the different colors of chalk spread around to all the flowers?

Background

Pollination is important for the growth, reproduction and development of plants and seeds. During the summer, any plant that has a flower or blossom attracts **pollinators**. Bees are excellent at pollinating plants and are commonly seen during the summer flying from plant to plant. Birds, bats, butterflies and humans can also serve as pollinators but are not as efficient as bees.

Actually, bees are not after the pollen of the plant but rather the nectar in the bottom of the flower/blossom of a plant. It is just by chance that they also collect pollen that they carry to the next plant where they choose to seek nectar. Most plants do not make a lot of nectar so bees and other pollinators must visit multiple plants to get their daily dose of nectar. Pollen is present on the stamen portion of the flower and is a powdery substance that is ready to be collected by the next pollinator to visit. The next time you see bees or any other pollinator flying from plant to plant, know that they are doing important work making food for you!

Did you know?

According to the World Wildlife Federation, one out of every three bites of human food depends on pollinators.

Vocabulary Words

nectar. A sweet liquid in the flowers of most plants.

pollen. Microspores in a seed plant that appears as fine dust.

pollination. The transfer of pollen from part of one organism to another, usually from one plant to another, although some plants are self-pollinating.

pollinator. Something that pollinates, like a bee or other insect.

Sources

Pollination: A Sticky Situation. (Unknown). New Jersey Agricultural Society Learning Through Gardening program. Retrieved February 4, 2022, from **http://www.njagsociety.org/teaching-science-in-the-garden.html**.

Real Science: Powdery Pollination. (2020, April 17). Children's Museum Indianapolis. Retrieved February 4, 2022, from **https://www.childrensmuseum.org/blog/real-science-powdery-pollination**.