### **AGES 4-8**

**TIME** 10 minutes

# **CHEESE PUFF POLLINATION**

Lilly Girls & Young Women In

At The Children's Museum of Indianapolis



# **CHEESE PUFF POLLINATION**

Investigating STEM as a family is a great way to build a child's confidence and interest in STEM topics. This short investigation is designed to be completed with an adult. A video is available on the museum's website to help with the investigation.

### **INVESTIGATION QUESTION**

- How is pollen transferred from one flower to another?
- Do insects transfer pollen on purpose?
- What are some insects that are great pollinators?



### WHAT'S THE SCIENCE?

- For plants to reproduce, pollen grains must move from one part of the plant to the other. **Pollen** is found on the **anthers** (found on the male parts of the flower) and must make contact with the **stigma** (found on the female parts of the flower) in order to reproduce. The pollen fertilizes egg cells, which eventually develop into seeds, often with fruit surrounding them. While some plants can self-pollinate, many require the aid of animals to spread pollen from plant to plant.
- Pollinators include butterflies, bats, some birds, and even mosquitoes, but the most famous pollinators are bees. **Pollination** is a side effect of bees gathering pollen and nectar to feed their hives. As they move from flower to flower, pollen sticks to them and also falls off to fertilize different plants.



#### MATERIALS

- Cheese puffs
- Gummy bears
- Large glass or plastic container
- Fake flower preferably white



# **Pollinating a Flower**

#### **INSTRUCTIONS**

Grab your container and pour the gummy bears in a layer across the bottom of the bowl. The container will act as the flower, and the gummy bears will act as the sweet nectar (or food) that insects enjoy eating.



2

Next, empty the cheese puffs onto the gummy bears. Be careful not to mix the two. The cheese puffs represent the pollen found on the anthers inside the flower.





Your fingers will act as the insects! Take your fingers and dig around the cheese puffs (pollen) until you encounter a gummy bear (nectar). Remove the gummy bear and set it aside. Take a look at your fingers.



4

The insects are still hungry! Pick up the fake flower with your clean hand. Using the same hand you previously used with the cheese puffs and gummy bears, pretend to look for nectar in the fake flower.





Look at the fake flower. Make an observation. Did the "pollen" from your hands transfer to the fake flower? How is this helpful to the flower?



# FAMILY SCIENCE TIPS

- Pollination is a very important part of the life cycle of plants.
  Dissecting your own flower and comparing structures to an illustration is very helpful in understanding the parts of a flower.
  The best flowers to use in dissection are lilies, tulips, daffodils, Peruvian lilies, and gladiolus. Making a vertical cut using a knife or sharp scissors, you should be able to see and identify all the main flower structures including the pistil and stamen.
- Students can use a cotton swab to visually see how pollen is transferred from one flower to another. Use the swab to lightly dab the tops of the anthers and you will see a dusting of pollen coating the cotton swab. Bees need to eat from multiple flowers to get their fill. Every time they feed on a flower, more and more pollen sticks to their bodies. Some of the pollen will fall off of their bodies as they eat the nectar in the next flower. That fallen pollen will touch the stigma (located at the top of the pistil) and fertilize the egg cells creating a new seed and the next generation of plants.

## Resources

- *Pollen: Darwin's 130-Year Prediction* by Darcy Pattison
- What Lily Gets from Bee: And Other Pollination Facts by Ellen Lawrence
- Experiment with Pollination by Nadia Higgins
- What is Pollination? by Bobbie Kalman

#### VOCABULARY

Pollination

• Anthers

• Pollen

#### • Stigma

# INTERESTED IN MORE SCIENCE INVESTIGATIONS?

- Visit The Children's Museum website for more at-home science investigations.
- Explore the museum's ScienceWorks and Beyond Spaceship Earth exhibits to learn more about plants.
- Visit the STEMLab, located in ScienceWorks, for a fun, family science experience.



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