



Plant Parts: Pollination

Lesson Description





In this lesson, students are introduced to the role of flowers in the process of pollination. They will review the six plant parts and explore the “flower” plant part category by tasting some edible flowers. Students will visit the garden to observe flowers and pollinators. The lesson concludes with a Tribal Elder discussing traditional uses of flowers and/or pollen from plants native to the area.

- Time required: 60 minutes
- Location of lesson: Classroom and garden

Learning Objectives



- Describe the purpose of flowers in the lifecycle of a plant.
- Understand the relationship between flowers and pollinators.
- List methods that flowers of varying characteristics use to attract pollinators.
- Identify traditional uses of flowers and/or pollen.

Materials and Preparation


- Invite a Tribal Elder to discuss traditional uses of flowers and/or pollen
- Variety of edible flowers for tasting (examples include: cauliflower, broccoli, squash blossoms, violets, chive flowers, artichokes, chrysanthemum, hibiscus, nasturtiums, etc.) See teacher resource,  **Choosing and Using Edible Flowers** for an extensive list of safe ideas.
- Paper plates, several
- Preparation for Flower Tasting Activity: Wash and cut selected edible flowers into bite sized pieces. Set them out on the paper plates at a table, buffet style, so students may taste a few samples of each variety.
- Preparation for Pollination Activity: Write the information about pollinators/type of flower preferred on the board. See the chart within the lesson plan below.
-  **Edible Flowers**
-  **Pollination Observation**
-  **Choosing and Using Edible Flowers**
- Prepared vegetable snack of the week – 1 for each student
- Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student

Class Warm-up: Champion Cheer and Veggie Taste Test (5-10 minutes)

- Give each student a cup of water or ensure that they have a filled water bottle in front of them.

- Give each student the prepared veggie snack of the day.
- Lead the students in enthusiastically reciting the  **Champion Cheer**.
- At the end of the cheer, drink water and eat the veggie snack together.
- Have students complete their  **Taste Test Observations** about the vegetable snack of the week.

Review of Last Lesson (2-3 minutes)

- Review the evaluation questions from last week's lesson. Evaluation questions from all lessons are listed at the end of the workbook .






Class Discussion (10 minutes)


*What comes to mind when you think of flowers? What comes to mind when you think about pollen? Flowers and pollen are more important than you may think. When pollen from one flower gets to the pistil of another flower, fruits and seeds are made. This process of pollen getting from one flower to another is called **pollination**. How does the pollen travel to the flower? Flowers can't walk! **Pollinators** help spread pollen. There are all kinds of pollinators: birds, bees, insects, bats, the wind and water. Without pollinators, flowers and pollen, there could be no fruits and no new seeds for plants to continue their lifecycle.*

Why are flowers brightly colored, scented, and beautiful? Why are there so many different types of flowers? Each flower is a unique expression of nature that is trying to attract the attention of pollinators. If a flower successfully attracts a pollinator, it can reproduce. A flower's purpose is to attract a pollinator and make fruits and seeds.

Today, we will taste some edible flowers and explore the process of pollination. We will discover how different types of flowers attract different pollinators to make seeds.

Activities (40 minutes)

-   **"Flower Tasting" (10 minutes):** Students sample several varieties of edible flowers. Prior to class, prepare a buffet of flowers to taste. Refer to the teacher resource  **Choosing and Using Edible Flowers** for ideas for edible flowers.
 1. Refer students to the workbook page,  **Edible Flowers**.
 2. Encourage students to taste the various edible flowers on the table.
 3. Have students record their observations and preferences on the workbook page,  **Edible Flowers**.
 4. Discuss:
 - a. Which flowers are your favorites? Why?
 - b. Are you surprised that some of these flowers are edible?

-  **“Pollination” (10 minutes)**: Students first learn about the relationship between flower characteristics and pollinators. Then they go outside to observe flowers and pollinators.


1. Prior to class, write the following information on the board:

Pollinator	Type of Flower Preferred
Beetle	Small white or light green flowers that hang down near the ground and have very little scent
Honeybee	Flowers with sweet smells and show, bright petals often blue or yellow
Fly	Reddish flowers that smell like rotten meat
Butterfly	Bright-colored, sweet-smelling flowers
Bat	Large sweet-smelling, white flowers that bloom at night
Hummingbird	Bright red or yellow flowers with long tubelike shape and very little scent
Moth	White or yellow flowers with sweet smell
Wind and Water	Small, odorless flowers with pollen that can get picked up in the wind or float on water

(Chart source: Flower Power, Part Two Lesson from Life Lab’s The Growing Classroom text)

2. Discuss:

- a. *What do plants use to attract pollinators to them?* (Answer: smell, color, location, shape of petals, etc.)
- b. *Why are there so many different shapes, sizes and types of flowers?* (Answer: different flowers are trying to attract different pollinators)
- c. *Why do flowers depend on pollinators coming to visit them?* (Answer: without pollination, a flower cannot make new fruits or seeds)

3. Outside activity: Refer students to their workbook page,  **Pollination Observation**. Students will go outside and look for different flowers. They will predict which pollinators may visit the flowers by observing the characteristics of the flower. If they are lucky and sit quietly for a few minutes, they might observe a pollinator visiting a flower.

- a. Have students draw a flower and write down any observations about its characteristics (colors, smells, markings on petals, shape, etc.) in their workbook.

- **“Elder Discussion” (20 minutes)**: Students listen to a Tribal Elder speak about traditional uses of flowers and/or pollen from plants.

1. Encourage the Elder to speak about flowers that are native to the area. If possible, take the students out for a brief hike to observe flowers.

Evaluation Questions (5 minutes)

1. *How do flowers attract pollinators?* (Answer: bright colors, sweet smell, etc.)
2. *What do flowers do for the plant; what is their purpose?* (Answer: they make seeds)
3. *Do all flowers need insect pollinators?* (Answer: no, some use the wind or water to spread pollen)
4. *How much water should you drink every day?* (Answer: at least 6 cups of water a day)
5. *How many fruits and vegetables should you eat every day?* (Answer: at least 5 fruits and vegetables a day)
6. *Does gardening connect you to your culture and help you learn new words in your language?* (Answer: yes)

Preparation for Future Lessons – Reminder for the Instructor

- Review the materials and preparation needed for the next lesson.
- Remember that an Elder guest instructor is needed for these Spring lessons: lesson 1 (Eating A Rainbow), lesson 4 (The Water Cycle), and lesson 9 (Plant Parts: Pollination).

Notes
