



Anatomical Dissection of Flowers **(adapted from Science Buddies, *Scientific American*)**

In flowering plants, the flower is the part of the plant that enables it to reproduce. Flowering plants reproduce sexually, using male and female parts in a process called pollination. In this activity, you will dissect three different flowering plants and learn about all of the parts that are involved in pollination.

Materials

1. Three flowering plants
2. Six paper plates
3. Tweezers
4. Scissors or exacto knife
5. Magnifying glass
6. Marker or pencil
7. Drawing materials (optional)

Directions

1. Take five plates and label each with one of the following plant parts
 - a. Stem
 - b. Petal
 - c. Leaf
 - d. Pistil
 - e. Stamen
2. Label the sixth plate "Other."
3. Divide each of the plates into three sections with a marker
4. Label each section of the plate with the name of one of the plants
5. The instructor may introduce each flowering plant. Observe (look, touch, smell).
6. Use knife, scissors, tweezers or hands to carefully separate and remove parts of the flower. If the flower has not fully bloomed, you may want to cut it in half vertically.
7. Identify the parts and place them on the matching plate sections.

8. Any parts that cannot be identified should be placed on the “Other” plate.
9. Compare and contrast the same parts of each flowering plant.
10. (Optional) Draw and label an illustration of the whole flower and its separate parts.

Keywords

Stem: long stalk of plant that carries water and nutrients and supports flower

Leaf: flat, blade-shaped part of the plant that is attached to the stem. Leaves are used in photosynthesis, the process of making glucose (food) through a chemical reaction of sunlight with carbon dioxide and water molecules.

Petals: brightly colored part of the flower that attracts pollinators.

Stamen: male part of the flower that produces and stores pollen.

- a. Filament: long stalk of the stamen
- b. Anther: round part of the stamen that contains the pollen.

Pistil: female part of the flower, located in the center. Also looks like a stalk.

- a. Ovary: bottom part of pistil that contains ovules (plant eggs). Pollen has to reach pistil to fertilize ovules, which become seeds. Ovary becomes fruit.
 - i. Inferior ovary: located below all the other flower parts
 - ii. Superior ovary: located above all the other flower parts

Discussion

1. Name some common pollinators. Bees, wasps, moths, butterflies, hummingbirds
2. What do pollinators get from flowering plants? Food: nectar and protein-rich pollen.
3. Which of the following parts of a flowering plant can be eaten? Flower, stem, leaf, fruit, seed, root
4. Give some examples for each edible part of a plant.
 - a. Flower: heads of broccoli, cauliflower (both undeveloped flower buds)
 - b. Stem: celery, asparagus, broccoli
 - c. Leaf: lettuce, spinach, collard greens, cabbage
 - d. Fruit: apple, orange, strawberry, tomato
 - e. Seed: corn, beans, peas, nuts, sunflower seeds, pumpkin seeds