COSI connects

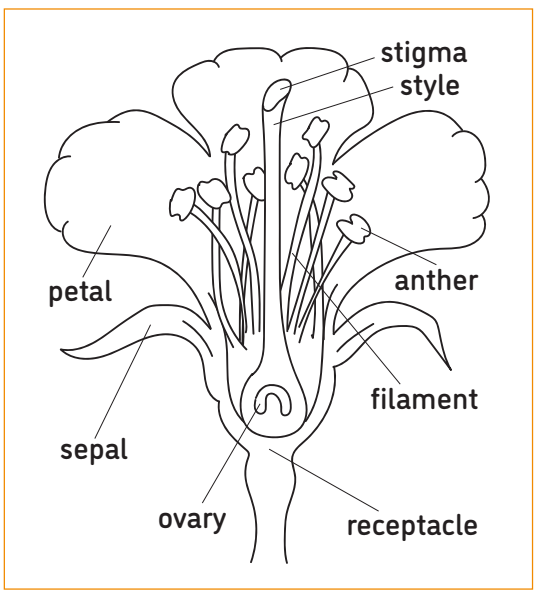
GRADES 1-8

ACTIVITY: **Flower Dissection**

Perform a plant dissection to gain a better understanding of a plant's structure and function.

VIDEO

Watch the video [Parts of a Plant]



MATERIALS

- flowers
- kitchen plate
- scissors
- tweezers (optional)
- magnifying glass (optional)

INSTRUCTIONS

1. Look at your flower. What do you see? Can you identify any of the plant structures?
2. Use scissors to carefully snip the flower off the stem at the base of the flower. Also snip off any leaves on the stem.
3. Cut the stem in half, long ways. What do you notice? Observe the hollow area inside the stem.
4. Take a closer look at the leaves. Can you locate the large line (**midrib**) running through the center of the leaf? Do you see smaller lines (**veins**) round running through the leaf. How many veins do you count?
5. Cut the leaf in half through the midrib. Look closely – can you see the open tube that allows water to move through the leaves?
6. Take a closer look at the flower, and compare it to the image shown. Can you find some or all of the parts listed on the picture on the flower in front of you? Use the descriptions below to help you understand the purpose of each part:

- **Sepals** are modified leaves that protect the flower when it is a bud.
- **Petals** are modified leaves whose bright colors attract pollinators like bees, butterflies, bats and hummingbirds. Pollinators help to transfer pollen from one flower to another. Did you know? Many flowers have "landing strips" that can only be seen by organisms who can see ultraviolet light, like bees! These landing strips are invisible to humans.
- The **stamen** is made up of the anther, where pollen is made, and the filament that holds it up. In many flowers, the yellow flakes are pollen. This pollen needs to be spread from flower to flower (often by pollinators) in order for the flower to make seeds.
- The **carpel** is made of the **stigma**, the **style** and the **ovary**. Inside the ovary are small round objects called ovules - unfertilized seeds. In order to create fertilized seeds, pollen needs to attach to the stigma to eventually make its way to the ovule. It will then fertilize the ovule, creating a seed. A good example of a pollen tube is the silk found in corn!

Interactive Questions:

- Why might each of these parts of the plant be important?
- What animals do you think would pollinate the flower you just dissected?
- Can you think of some plants that do not have flowers? How do they create new plants?
- What are some uses for flowers, other than pretty bouquets?
- What other flowers or plants do you think would be interesting to dissect?

Extension:

Perform a dissection on other flowers and plants, and compare the different types of plants. How are they similar or different?

What's going on?

The hollow area inside the plant is used to transport water. Water flows through a plant by capillary action. You can see capillary action very easily at home – just dip the bottom of a paper towel into a bowl of water and observe. Do you see water "climbing" up the towel? Capillary action allows the water in the paper towel or the stem of a plant to move against the force of gravity. The veins and midrib help move water from the ground, through the roots, and up to the leaves.

The parts of the flower you labeled in Step 6 are responsible for helping the flower to reproduce by making new seeds.

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Additional Resources:

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