



Flower Dissection

Connected Next Generation Science Standards

2-ETS1-2 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

Featured Science and Engineering Practices

Constructing Explanations and Designing Solutions

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Structure and Function

Overview

Deepen students' understanding of pollination with a close observation of flower parts. This dissection lesson will help students visualize how pollinators and plants are connected and can reinforce ecosystem relationship concepts. See the side bar for a simpler flower dissection modification for younger students.

Students will

- Observe and dissect flowers.
- Identify specific flower parts.
- Learn about a flower's function and it's relationship with pollinators

Teacher Preparation

- Either identify schoolyard flowers, purchase, or harvest beforehand enough flower samples for students to dissect individually or in small groups. The best flower types to dissect are lilies, tulips, and daffodils. Avoid daises, calla lilies, roses, and iris.

Guiding Question - Why do plants have flowers?



Flower Dissection

Materials

- Teacher - small whiteboard, chalkboard, or poster-board
- Flower parts worksheet
- Pencil
- Magnifying glasses
- Tape
- Construction paper

Setting

- School garden or classroom if flowers harvested beforehand
- All year round if purchasing flowers, early fall or late spring if harvesting flowers

If easier, students can draw flower parts instead of taping them to the worksheet.

Explore

- One your way out to the garden, ask students, Where have you seen flowers before? or What is your favorite flower? Have students pair share their responses.
- Tell students, today we are going to investigate the different parts of the flower and see if that helps us figure out the purpose of the flower.
- Pass out the flowers and magnifying glasses to each student or pair. Keep a flower for yourself.
- Without breaking the flower, students write or draw their initial flower observations. What do they think is the purpose of the flower? Does it have a smell? How many different colors do they notice on the flower?

Digging Deeper

- Pass out the Flower Dissection worksheets and/or construction paper and tape. Each pair or student is going to carefully pull apart the flower to label each flower part. Students will tape and label the parts of the flower on construction paper or the back of the worksheet.
- Refer to the worksheet for flower part descriptions.
- Working from the outside in, start with the **sepals** that look like thick green leaves. Students then count and write the number of sepals on the front of the worksheet. This number will vary. Then, remove the sepals, tape one to the sheet, and label. Encourage students to use their magnifying glasses and label details they notice on the worksheet too.



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Younger student variation:

Either harvest beforehand or harvest with the class flowers from the garden that are still alive and flowers that have dried up outside. Observe and draw the differences between the flowers. Then pull apart the dried flowers to find the seeds inside. Discuss how flowers make seeds. Keep seeds in a dry jar to plant the following year. Lesson works best in the fall.

Marigolds, sunflowers, and many native flowers like coneflowers work well.

- Students then continue to work inward to remove, count, identify, label, and observe each plant part.
 - **Petals**
 - **Stamens**
 - **Filament**
 - **Anther** - Is there any pollen on it?
 - **Pistil**
 - **Stigma** - Encourage students to feel the sticky substance at the top.
 - **Style**
 - **Ovary** (Ovule)
- Circulate around the room to help identify parts and make sure they are labeling them correctly.

Making Connections

- When students have finished their flower dissections, have them brainstorm in small groups or pairs what the function of each plant part might be. Students write their ideas on the worksheet.
- Bring the class back together and review their ideas.
- As needed, provide additional functions of flower parts:
 - **Sepals**: protect and support the flower bud.
 - **Petals**: bright colors attract pollinators
 - **Stamen**: contain the pollen to be picked up by pollinators. The male part of the flower.
 - **Pistil**: where pollen is received. The part of the flower that makes the seed.
- Give students a few minutes to revise their flower part function chart.



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- Based on the function of the flower parts, what is the purpose of the flower? Have students think-pair-share.
- The purpose of the flower is to make seeds so the plant can grow again. Pollination happens at a flower so seeds can be produced.
- Press the worksheet or construction paper with the flower parts by laying heavy books on top to better preserve the flower.
- Flowers are also used by people. How do people use flowers? What have you done with flowers before?

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