# Wildflower Exploration: Directions for Flower Dissection Activity

**Materials:** Print the Four Parts to a Flower.pdf activity sheet (and the Flower Parts.pdf sheet if you don't have a real flower). For this lesson you need scissors and Elmer's glue or scotch tape. You also need a flower but ask for permission before you pick one from a garden. Please don't pick any native woodland flowers as some are protected by law. If a real flower isn't available, cut the Flower Parts sheet using scissors. A hand lens is optional.

**Teacher directed questions and discussions:**

In this activity we are going to study a flower to help us understand why plants put so much energy into making flowers and to see how the flower parts work together to accomplish their goal. Observe your flower. What do you notice? How many different parts do they have? How do they smell? Do you see any interesting lines? What is in the center?

You are going to dissect a flower by taking it apart very carefully as you study the parts. Flower parts are arranged in rings called **whorls**—circular patterns of attachment. Typical flowers have four whorls: sepals, petals, stamens and pistil.

Turn your flower **upside down** to begin this dissection.

Sepals are found in the outside whorl that protects a flower's inside parts from drying out and insect damage. If you look at a flower bud, what you see are the green sepals. In some flowers, the sepals fall off as the flower opens. Other flowers have sepals that stay attached but remain small and green. In still other flowers, the sepals grow in size and become colorful and petal-like to help the petals do their job.
Carefully take off the outside whorl of sepals and put them in the sepals box.

Petals are found in the next whorl as you look at a flower upside down. You recognize petals as the colorful part of a flower. Why do flowers have colorful petals? Colorful petals attract and guide insects and other pollinators to a flower. Plants can't move their own pollen around so they attract animals—mainly insects—to move pollen for them. Insects and other animals are lured in by the color of petals, by pollen, and by nectar if available. There is a lot of variety in petal colors, shapes, markings, and odors. Different petals attract different pollinators. I want you to think about this question. What color would petals be if your flower is wind pollinated?
Now carefully remove the petals and put them in the petals box.

Stamens are found in the next whorl. They are the male part of the flower. Did you know that plants have male parts? Sta**men**s has the word "men" in it so that helps you remember that stamens are the male parts. What do you think stamens produce? These male parts produce pollen, and you might see colorful pollen grains attached to the top of mature stamens. Insects or other animals often get pollen stuck on their bodies when they are searching for pollen or nectar inside a flower.
Pollination happens when pollen is moved from stamens to the female part of a flower. Pollination works best if pollen is moved to another flower of the same kind.

Gently pick off the stamens being careful not to break the middle part that we will look at next. Put the stamens in the stamens box.

Pistil(s) are located in the center of a flower and are the female part of the flower. Do you know what a pistil grows into? A pistil grows into a fruit that contains seeds. The purpose of a flower is to make seeds protected in a fruit!

Insects or other animals often drop pollen on the top of a pistil by accident when they crawl over it while searching for pollen or nectar. Pollen is alive. A tube grows from each pollen grain down the pistil to reach its base called the ovary. Can you see the swelling in the base of the pistil? That's the ovary. Inside the ovary are ovules that grow into seeds when fertilized by the male cells that move down inside the pollen tubes to reach these ovules. The cells from one pollen grain can fertilize one ovule. The ovary develops into a fruit protecting the developing seeds and then often helps with seed dispersal—the movement of seeds away from a parent plant.

Open the base of the pistil with your fingernail and look closely at the cross section with your hand lens. Can you see the ovules that will turn into seeds?
Put your cut pistil in pistil box.

**Activity:** Ask students to follower your example and dissect their flower. Glue all the parts in the correct box and compare this flower's parts to other flowers you see. Cut the paper flower parts if you don't have a real flower.
Optional: Dissect a flower bud. Can you find all four parts of a flower in miniature inside the bud?

**Summary:** The four parts of a flower work together to make a fruit that contains the seeds.

The sepals protect the flower bud and may help attract pollinators if he sepals are colorful.

The petals attract pollinators.

The stamens produce pollen.

The pistil produces seeds inside a fruit.

The fruit protects seeds. The fruit can help seeds move away from their parent plant when the fruit is carried away by wind, water, insects, or animals.

# Flower Parts

(cut and glue to correct box)

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(cut and glue to correct box)

# Four Parts to a Flower

KDT Wildflower Exploration at Cornell Botanic Gardens

Name _____

Vegetative Parts

2

Petals

Reproductive Parts

3

Stamens

Peruvian Lily

1

Sepals

4

Pistil

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