

Parts of a Flower

*A lesson from the New Jersey Agricultural Society
Learning Through Gardening Program*

OVERVIEW: Students create a flower with craft materials in order to learn the parts of flowers and their functions

OBJECTIVE: The student will be able to

- Identify the parts of a flower and their functions
- Explain the process of pollination and the role of pollinators



GRADES: 3-5

INTRODUCTION:

Discover what students already know about flowers and pollination. Ask what are pollinators? What is pollination? How do flowers grow seeds and fruit? Explain that students will learn that pollination enables a plant to grow seeds and that most plants need the help of pollinators - bees and other insects - for this to happen.

MATERIALS:

Parts of a Flower worksheet

Flower Anatomy worksheet

Q-Tips

Tissue paper in flower petal colors- four rectangular pieces per child, 5x7 or larger

Green pipe cleaners

Glue sticks or glue

Glitter

BACKGROUND INFORMATION: Parts of a Flower

Each part of the flower contributes to the flower's role of making seeds.

Pistil: the female part of the flower shaped like a bowling pin that is made up of the stigma, style, ovary, and ovule

Stigma: the sticky bulb at the center of the flower at the top of the pistil. Pollen grains attach to the stigma.

Style: a long stalk that holds up the stigma. Pollen travels down the style to the ovary.

Ovary: the enlarged base of the pistil where seeds develop. A mature ovary becomes the fruit of the plant.

Ovule: small parts inside the ovary that when fertilized with pollen become seeds.

Stamen: the male parts of the flower that surround the pistil

Anthers: the top of the stamen stalk that is filled with pollen. When the pollen is ready to be spread, the anthers open up to release pollen.

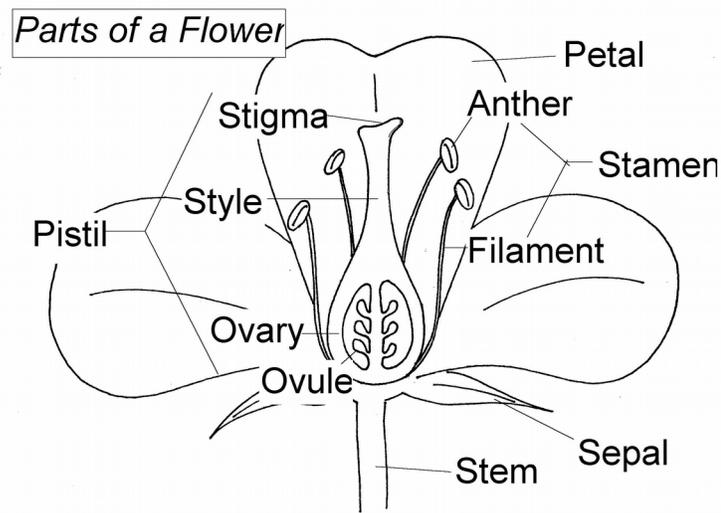
Filament: the long thin stalk that supports the anther.

Petals: the soft parts surrounding the pistil and stamen that are often brightly colored to attract pollinators.

Sepal: the small leaves directly under a flower

Nectar: a sweet sticky substance produced by flowers to attract pollinators and used by bees to make honey

Some flowers, such as those on pumpkin plants, have only stamens (the male part) or pistils (the female part). They are called imperfect flowers. Other plants, such as tomatoes, have both stamens and pistils and are called perfect plants.



BACKGROUND INFORMATION: Pollination

Pollination happens when the pollen from the male parts of one flower connects with the female parts of another flower. How does the pollen from one flower get to the ovules of another flower? Plants make flowers to attract pollinators to do this for them. Pollinators can be bees, flies, beetles, moths, hummingbirds, bats, and other creatures that visit flowers. They travel from flower to flower to gather the nectar and pollen to feed themselves and their young.

When a pollinator goes into a flower to collect the nectar or pollen, tiny grains of pollen from the anthers of the flower (the male parts) stick to their bodies. When the pollinator visits another flower of the same species, some of this pollen brushes onto the sticky stigma at the top of the pistil. The pollen travels from the stigma down the style to the ovary. When an ovule is fertilized, a seed is made. Some flowers are pollinated by the wind.



PROCEDURE:

Pass out a diagram of the parts of a flower and discuss the different parts and their functions with the students.

MAKING THE FLOWER:

Start with three to six pieces of tissue paper (5 x 7 or larger).

Fold each piece into an accordion (about 2 inches for each fold).

Place all accordion strips in one pile.

Tie the center of the pile with a green pipe cleaner, which will serve as the stem.

Pull each layer of tissue paper out around the stem, creating petals.

To create the stamens: Glue four Q-Tips to the tissue paper in a circle in the center of the flower. (The soft tips act as the anthers, while the stem acts as the filament.) For smaller (5 x 7) tissue pieces, you can cut the Q-tips in half.

To create a pistil: Students trace precut samples in the shape of a bowling pin about the height of the Q-tips. Put glue on the top of this bowling pin piece and dip it in glitter for the pollen. Glue the pistil in the center of the Q-Tips.

Ask students in small groups to explain the parts of their flowers to one another.

EVALUATION:

Students complete Flower Anatomy Worksheet.

Students can verbally explain parts of the paper flower they have made.

EXTENSION:

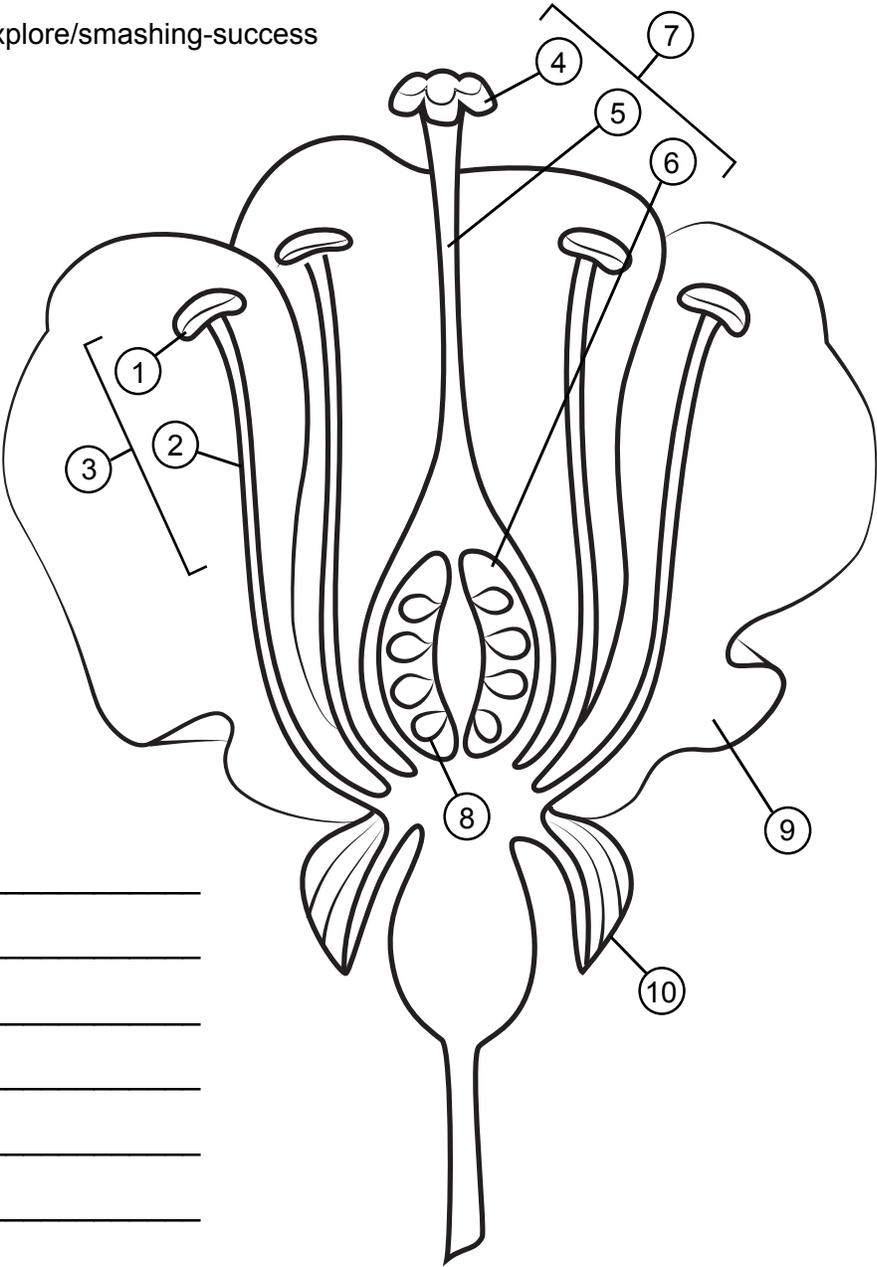
Students dissect real flowers to observe the various parts. Distribute a flower to each student or group of students. Lilies and tulips are preferable because they have large petals, stamens, and pistils that are easy to identify. Ask your local florist or grocery store to donate leftover flowers. Ask students to identify the flower parts and observe them under a microscope.



Flower Anatomy Activity

The parts of a flower have been labeled.
Your challenge is to write the correct name for each part.

To learn more, visit
<http://askabiologist.asu.edu/explore/smashing-success>



- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____
- 7. _____
- 8. _____
- 9. _____
- 10. _____