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HOME SCIENCE TOOLS®

Flower Dissection Lab

This simple project is an easy hands-on way to learn more about plants and flowers. Perfect for siblings or groups to do together as it appeals to many ages.

Background

A good way to learn about the reproductive parts of a plant is by dissecting a flower.

Lilies, irises, or any flower with large parts work well for this project.

Use flowers from your yard or check with a local florist for free discarded flowers.

You will need a scalpel or sharp knife to cut through the flower parts, and a magnifying glass to view pollen and other small parts of the flower. (Adult supervision recommended.)

What You Need:

- ☐ Scalpel or sharp knife
- ☐ Magnifying glass
- ☐ Flower(s) (Lilies, irises, or any flower with large parts)

Flower Observation: External Anatomy

Start by identifying each main outside part of the flower.

1. Beneath the petals, there should be smooth, leaf-like projections called sepals.
2. The male part of the flower is called the stamen; there are usually multiple stamens on each flower. The long stalk of the stamen is called the filament.
3. At the top of the filament is the anther, which holds pollen.
4. The female part of the flower is called the pistil.
5. At the top of the pistil is the stigma, which collects pollen and carries it down through its hollow body, called the style, to the ovary, where the pollen fertilizes the flower's eggs.
6. Some flowers have all male or all female parts (melons and pumpkins for example) and are called imperfect. Most flowers are perfect: they have both male and female flowers.

Flower Observation: Internal Anatomy

1. The first step in this dissection is to remove the sepals and petals, by pulling them down toward the stem. If you have a microscope, look at the tip of the petal at low magnification. If you don't have a microscope, use your magnifying glass to examine the petal. What is the petal's texture like?

2. Next, remove the flower's stamens; break or cut them off of the stem. Examine the pollen with your magnifying glass or microscope. Can you see what shape each pollen grain is? Make a drawing of the pollen.

3. As you dissect the flower, you should be able to identify the plant as either a monocot or a dicot. Almost all grasses are monocots, as are irises, lilies, and some other flowering plants. Monocots have petals in multiples of three and usually have parallel veins in their leaves. Most woody and common flowering plants are dicots. They have petals in multiples of four or five and have branched veins in their leaves.

4. After you have finished with the pollen, remove all parts except the pistil so that it remains alone on the stem.

5. Carefully cut the pistil in half lengthwise, making sure that your fingers are out of the way. Use your magnifying glass to look at the inside of it. You should be able to see that the style is a long, hollow tube that carries pollen from the stigma to the ovary. You might be able to see tiny eggs, or ovules, in the pistil's ovary.

6. If there are any buds or half-opened flowers that were on the same stalk as your flower, pull them open and identify any of the parts that you can find. Do any look different than on the opened flower?

7. Please note that sometimes a part of the flower, such as the anther on top of the stamen, will be broken off, so you might not be able to observe all parts. If this happens, try using another flower.

8. For simple diagrams showing the parts of a flower, visit https://web.extension.illinois.edu/gpe/case4/c4facts1a.html