

Name: _____

Flower Dissection Lab

Background Information

Every flower consists of a set of adaptations that help to ensure successful reproduction. For example, flowers often have bright colors, attractive shapes, and pleasing aromas. These traits help them attract insects and other animals that will carry pollen grains from flower to flower. Pollination also occurs by means other than animals carrying the pollen; the wind, for example, plays an important role in transferring pollen from plant to plant.



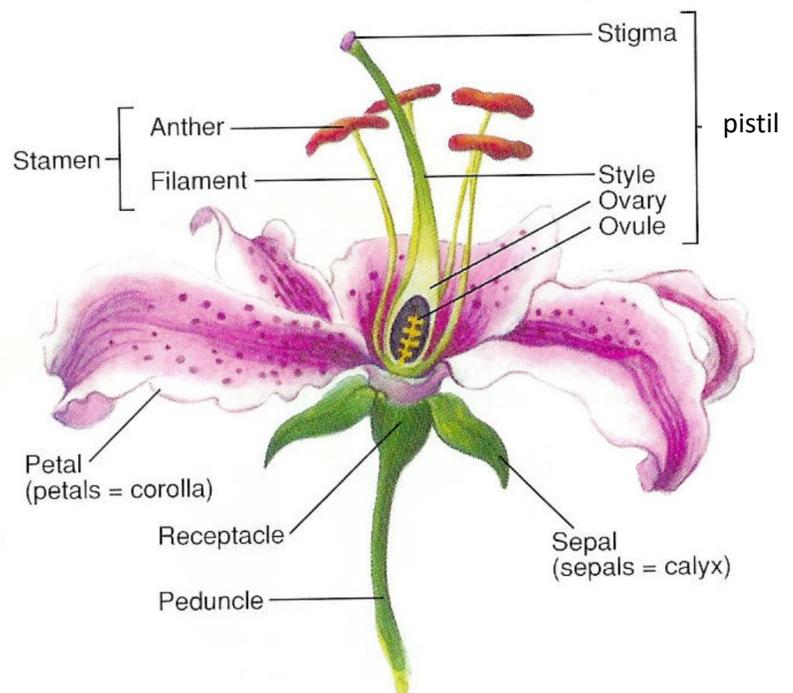
Mendel understood plant reproduction so was able to manipulate his pea plants' breeding so that he could record the quantities and types of the offspring produced in order to see if any patterns existed that could shed light on how inheritance occurred.

Flower Structure

The seed-bearing plants that produce flowers are **angiosperms**. The flower produces the **seeds**, each of which contains a new plant embryo, and a **fruit**, which may aid in protection, nourishment, or dispersal of the seeds.

The parts of the flower are usually found in whorls, or rings. **Petals** are one of the sets of whorls. They attract pollinators. **Sepals** lie outside petals. They protect the bud as it develops.

The reproductive organs, the stamens and carpels, lie inside the petals. A **stamen** is a male reproductive part. It consists of an **anther** that is held up by a **filament**. The anther produces **pollen** grains, the male gametes. A **pistil** is a female reproductive part. It is topped by the **stigma**, which is sticky to ensure that when pollen grains land on it, they stick to it. The stigma is supported by the **style**, and the large base is the ovary where the female gametes, **ovules**, are produced.



Materials

Flower Forceps Magnifying glass Tape Scalpel/Razor

Procedure

1. Locate the outermost layer of flower parts. These are the **sepals**. Carefully remove the sepals.
 - Record the number of sepals, attach one, and describe the function in your data table on the back page.
2. Identify the **petals**. These form the next layer of flower parts. Carefully remove each petal.
 - Record the number of petals, attach one, and describe the function in your data table.

a) Why are colorful petals advantageous to the flower? _____

b) Why are the sepals and petals referred to as “accessory parts” of the flower?

3. Now locate the **stamens**. These male flower parts should now be exposed.
 - Record the number of stamen, attach one, and describe the function in your data table.

c) What do anthers produce? _____

d) Name the flower part that elevates the anther. _____

e) Why is it important to elevate the anthers? _____

f) Describe two different ways that a pollen grain can travel from the stamen of one flower to the carpel of another.

1. _____

2. _____

g) Flowers usually contain more stamens than pistils. Why do you think this is?

4. The female flower part remains: the **pistils**.

- Record the number of pistils, attach one, and describe the function in your data table.

h) Name the flower part that elevates the stigma. _____

i) Why is it important to elevate the stigma? _____

j) How does the structure of the stigma aid in pollination? _____

k) Which parts of the flower develop into the seeds? _____

l) When fertilized, what will the ovary develop into? _____

Data Table:

Flower Part	Number of	Sample	Function
Sepal			
Petal			
Stamen		<i>(Label the anther and the filament)</i>	
Carpel		<i>(Label the stigma, style, and ovary)</i>	