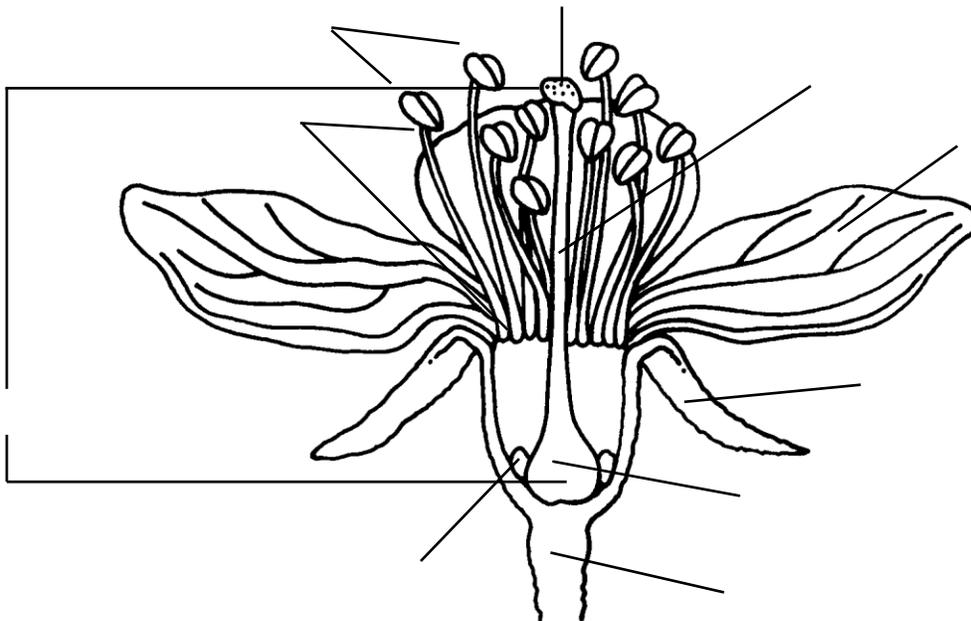


Flower Dissection

A.P. Biology

Instructions: Follow directions as you carefully dissect the flower.

1. Label the diagram below.
2. Is the flower a monocot or dicot? How can you tell?
3. Make a cross section of the stem by the receptacle. Examine it with a dissection scope and then tape it in the box marked "stem" on the Parts of a Flower data sheet. Complete the rest of the information in the box.
4. Locate the *sepals*, *petals*, *stamens*, and *pistil*. Count their number and write this in the boxes.
5. Gently pull off the sepals and tape a specimen in the sepal box. Describe how it feels.
6. Smell the flower; if it has a fragrance, describe it in the petal box. Carefully remove the petals and tape one to the data sheet. Answer the question about the flower's color and fragrance.
7. Examine a stamen, the male part of the flower. Look at the top of the stamen (*anther*) with a dissection scope to see the pollen grains. Put your fingertip against the anther. Did the pollen stick to your finger? This is what happens when a bee touches it. Rub the pollen between your fingers and then describe what it feels like in the pollen box.
8. Prepare a wet mount of some pollen and examine. Sketch what the pollen grains look like when magnified.
9. Take a sample of pollen grains using the sticky side of a piece of scotch tape. Put a sample of pollen grains in the pollen box.
10. Remove the stamens and tape one of them in the box. Describe what you see on the anther and draw a magnified view of it.
11. Examine the pistil, the female part of the flower. Feel the stigma, the top of the pistil. Describe how it feels. At the bottom of the pistil is a swollen area (*ovary*). Cut it open with a scalpel. Use your dissection scope to see if you can find any tiny seeds inside the ovary. Cut the stem of the pistil (*style*) lengthwise to see if you can locate the pollen tube which has grown from the stigma to the ovary.
12. Tape the remaining stem on a blank piece of paper. Label stem, axillary bud, blade, petiole, terminal bud, node, and internode.



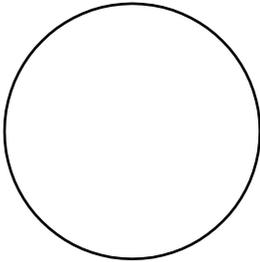
Flower Anatomy

To the Student: Tape the parts of the flower in the correct boxes below and then complete the information.

Stem

Description:

Magnified view of the tip of the stem:



Sepal

Number of sepals:
Description of how it feels:

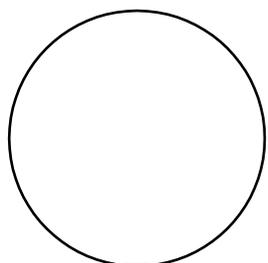
Petal

Number of petals:
Why do flowers have colored petals and sometimes have a fragrance?

Pollen

Describe how it feels:

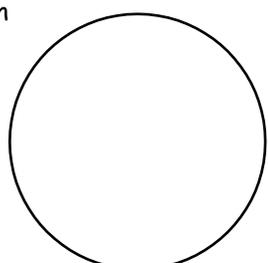
Magnified view of pollen grains:



Stamen

Number of stamens:
Describe what you saw on the anther:

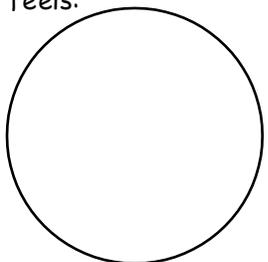
Magnified view of anther:



Pistil

Number of pistils:
Describe how the stigma feels:

Magnified view inside the ovary:



How Flowers Reproduce

1. Each pollen grain is a single cell. Pollen forms on the top (anther) of the stamen.
2. Pollen is carried by insects, wind, or birds to the stigma, the sticky top of the pistil.
3. Once on the stigma, the pollen grain absorbs moisture from the pistil and breaks open.
4. Its contents form a pollen tube, growing down into the pistil.
5. The pollen tube grows until it reaches the ovule containing an egg cell.
6. Sperm from the pollen travels down the tube to the ovule and unites with the egg cell.
7. A seed now begins to develop inside the ovary.
8. An ovary may have a single seed (avocado) or more than one seed (apple).
9. The ovary develops into a fruit enclosing the seed(s).
10. Label the reproductive structures below.

