Plant Structure + Function Lab NAME\_\_\_\_\_\_\_\_\_\_\_hr\_\_

**SEED STATION 1**(see page 87 for additional help)

1. Sketch the opened bean seed. Label the cotyledon and the embryo.
2. What is the function of a seed?
3. What is the embryo going to become?
4. What is the function of a cotyledon?

**STEM STATION 2**

1. Quickly sketch this stem.
2. (Using the picture on page 90), Is this a monocot or dicot?
3. Find the xylem tissue. What does xylem carry?
4. Label the vascular tissue in your drawing

**STEM STATION 3**

1. Quickly sketch this stem.
2. (Using the picture on page 90), Is this a monocot or dicot?
3. Find the phloem tissue. What does phloem carry?
4. Label the vascular tissue in your drawing

**LEAF STATION 4**

1. Try to determine which is the up and which is the down side of the leaf. Is the upper layer or the bottom layer more tightly packed with cells?
2. What special substance (or name the organelle) is found in these cells that perform photosynthesis?

**LEAF EPIDERMIS STATION 5**

1. What is the function of these cells? (what do they make?)
2. Find the mouth/lip like cells in this slide. What are these openings called? (see page 96 for extra help)
3. What do these openings do?

**ROOT TIP STATION 6 (IPAD)**

1. Be sure to focus in on the root TIP and sketch what you see. Label the “root cap” in your drawing.
2. This is NOT a cross section, it is a LATERAL section. What does that mean?
3. What is the function of root cap cells?
4. Root tip cells are often destroyed. For this reason, where do you think there will be more cell mitosis? (cell division and thus reproduction)
5. What do root tips secrete and why? (for help see page 93)

**ROOT STATION 7**

Refer to page 93 for help.

1. Sketch the root cross section and label the vascular tissues
2. Where are the xylem tissues more concentrated? Toward the outside or toward the inside?
3. Which type of vascular tissue has larger cell diameters? (zylem or phloem?)
4. Hypothesize why this might be.

**POLLEN STATION 8**

Draw at least 3 different types of pollen

Hypothesize: Why might pollen cases have different shapes?

**FLOWER STATION 9**

1. DRAW the parts of the flower: pistil, stigma, style, ovary, stamen, anther, filament and label the picture in your packet
2. What is the female part (in entirety) called?
3. The male part (in entirety)?
4. In what part of the stamen would you find pollen?
5. What does pollen contain?
6. Where does pollen stick?
7. What is located in the ovary?
8. How does sperm get down through the style to the eggs?
9. The moment when pollen touches the stigma is called \_\_\_\_\_\_\_\_\_\_
10. The moment when sperm touches the egg is called \_\_\_\_\_\_\_\_\_\_\_

IF YOU FINISH EARLY:

**OVARY STATION 10** Examine the plant ovary. Can you tell the difference between the ovary and the ovules? How are the ovules shaped? What do you think the red parts of the cells are?

Station 1 : Seed Cross section

Station 2: \_\_\_\_\_\_\_\_\_ Stem

Station 3: \_\_\_\_\_\_\_\_ Stem

Station 6: Root tip

Station 8: Pollen

Station 7: Root Cross Section

Station 5: leaf epidermis

Station 4: leaf cross section

Station 9: Flower