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

5. Quickly sketch this stem.
6. (Using the picture on page 90), Is this a monocot or dicot?
7. Find the xylem tissue. What does xylem carry?
8. Label the vascular tissue in your drawing

STEM STATION 3

9. Quickly sketch this stem.
10. (Using the picture on page 90), Is this a monocot or dicot?
11. Find the phloem tissue. What does phloem carry?
12. 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. What are the openings in the bottom of a leaf called? (see page 96 for extra help)

3. What do these openings do?

ROOT TIP STATION 6

4. Look at the projected image of the root TIP and sketch what you see. Label the "root cap" in your drawing.

5. This is NOT a cross section, it is a LONGITUDINAL section. What does that mean?

6. What is the function of root cells?

7. Which is like a football helmet, the root tip or the root cap?

8. In one word, what is the function of the root cap?

9. Root cells are constantly grown. For this reason, where in the root do you think there will be more cell mitosis? (cell division and thus reproduction)

10. What do root caps secrete and why? (for help see page 93)

ROOT STATION 7

Refer to page 93 for help.

11. Sketch the root cross section and label the vascular tissues

12. Where are the xylem tissues more concentrated? Toward the outside or toward the inside?

13. Which type of vascular tissue has larger cell diameters? (xylem or phloem?)

14. 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

15. DRAW the parts of the flower: pistil, stigma, style, ovary, stamen, anther, filament and label the picture in your packet

16. What is the female part (in entirety) called?

17. The male part (in entirety)?

18. In what part of the stamen would you find pollen?

19. What does pollen contain?

20. Where does pollen stick?

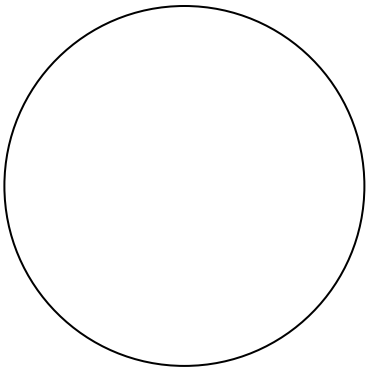
21. What is located in the ovary?

22. How does sperm get down through the style to the eggs?

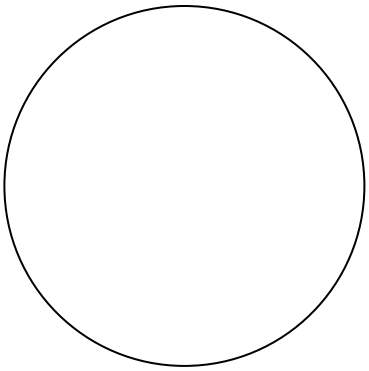
23. The moment when pollen touches the stigma is called _____

24. The moment when sperm touches the egg is called _____

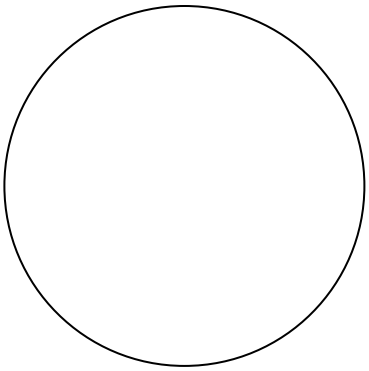
OVARY STATION 10 Examine the plant ovary. Can you tell the difference between the ovary and the ovules? How are the ovules shaped? What do you think the red parts of the cells are?



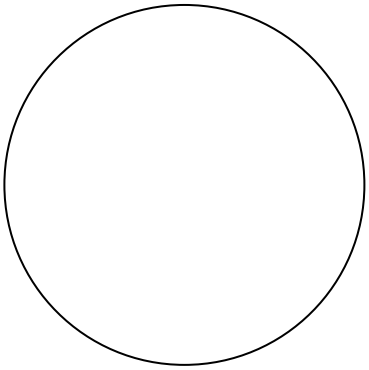
Station 1: Seed Cross section



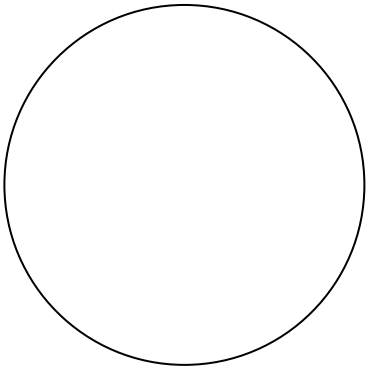
Station 2: _____ Stem



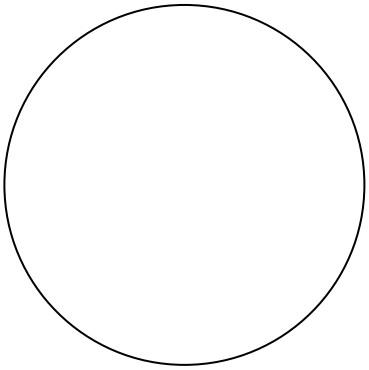
Station 3: _____ Stem



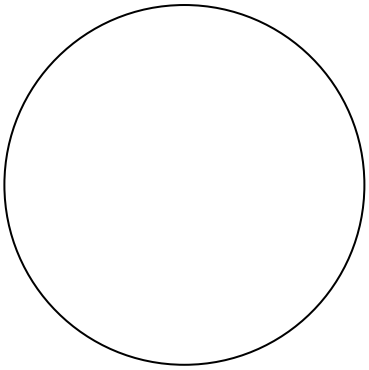
Station 4: leaf cross section



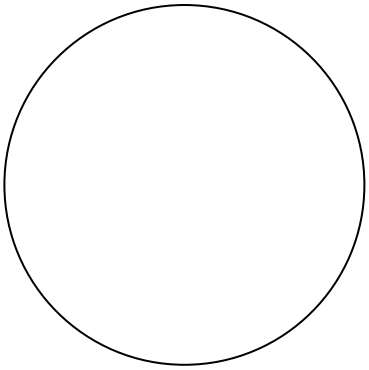
Station 5: leaf epidermis



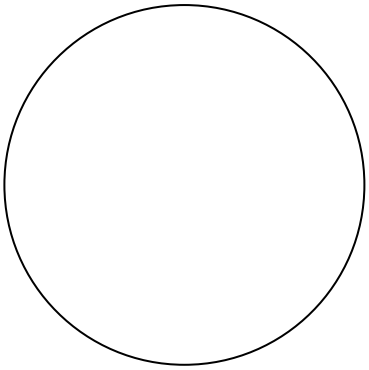
Station 6: Root tip



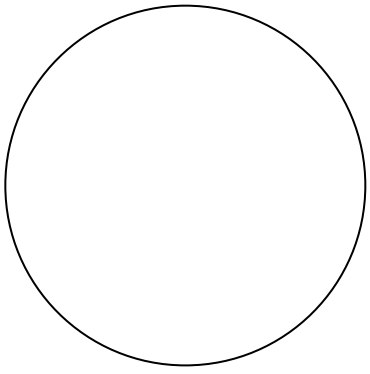
Station 7: Root Cross Section



Station 8: Pollen



Station 9: Flower



Station10: ovary