

Part 3 Instructions. You will visit 4 stations. Follow the instructions at each station. You will have 5 minutes at each station.

Station 1 Instructions. There are two root cross sections on the side. One is a monocot and one is a dicot. Here's what you need to do:

1. Locate both root cross sections using low power (you may go to medium power if it helps you distinguish differences between the two).
2. Make a simple (not overly detailed) sketch of each root cross section into the table below.
3. Look up (i.e. Google) monocot and dicot roots.
4. Label each as the correct type of root: monocot or dicot.
5. Write a few sentences that describe the differences between the two root samples. This is based on what you observed.

Root Sample 1	Root Sample 2
Simple Sketch	Simple Sketch
Is it a monocot or dicot?	Is it a monocot or dicot?

Write a few sentences that describe the differences between the two root samples based on what you observed.

Station 2 Instructions. There are two cross sections of monocot and dicot leaves on the slide. Here's what you need to do:

1. Locate both leaf cross sections on the slide (use low power).
2. Make a simple sketch (light detail) of the leaves. You will need to observe the entire specimen (they're very wide, relative to your field of view). Your detail should focus on the vascular bundles (i.e. the veins). These appear as small clusters of cells, often grouped together in a circular shape.
3. Look up (i.e. Google) cross sections of monocot and dicot leaves.
4. Write a few sentences that describe the differences between the two leaf samples. This is based on what you observed.

Leaf Sample 1	Leaf Sample 2
Simple Sketch	Simple Sketch
Is it a monocot or dicot?	Is it a monocot or dicot?

Write a few sentences that describe the differences between the two leaf samples based on what you observed.

Station 3 Instructions. There are two cross sections of monocot and dicot stems on the slide. Here's what you need to do:

1. Locate both stem cross sections on the slide (use low power).
2. Make a simple sketch (light detail) of the stems. You will need to observe the entire specimen. Your detail should focus on the arrangement of the vascular bundles (i.e. veins).
3. Make a simple sketch of one vascular bundle from each stem.
4. Look up (i.e. Google) cross sections of monocot and dicot stems.
5. Write a few sentences that describe the differences between the two stem samples. This is based on what you observed.

Stem Sample 1	Stem Sample 2
Simple Sketch of the Arrangement of Vascular Bundles	Simple Sketch of the Arrangement of Vascular Bundles
Simple sketch of one vascular bundle	Simple sketch of one vascular bundle
Is it a monocot or dicot?	Is it a monocot or dicot?

Write a few sentences that describe the differences between the two stem samples based on what you observed.

Station 4 Instructions. At your table is a vintage science textbook (please be delicate with these books!). You will read information about plant roots to help you understand what you have (or will) observed. Here's what you need to do:

1. Read pp. 177-179.
2. Answer the questions below after you read.

Reading Questions:

1. What is a root?

2. Distinguish between xylem and phloem.

3. Explain the difference between a taproot system and fibrous root system.

If you have time, read pp. 180.

4. List two examples of how roots adapt to their environment.