

“Be a Botanist”

Job Task:

You are a botanist, a scientist who studies plants. Just like animals, plants have tissues to transport water, nutrients, and minerals. Plants have two sets of these tissues: xylem and phloem. The xylem tissue transports water and minerals up from the roots through the entire plant. The phloem tissue transports sucrose and amino acids from the leaves to other parts of the plant. A local school has asked you to demonstrate how xylem works in a way that students can see it. Your job is to model how the xylem carries water and minerals throughout the plant in a visible way.

Time Frame: 1-2 hours (30 minutes a day for three or more days)

Materials:

- Leaves, freshly fallen off a plant
- Scissors
- Clear cups
- Water
- Red food coloring

Procedure:

1. Begin by walking around outside and collecting leaves that have just fallen off a plant (they should still be green).
2. Using your scissors, carefully snip off the bottom of each leaf stem.
3. Fill some clear cups about a third of the way with water.
4. Add some red food coloring to the water.
5. Place a leaf, stem side down, into each cup.
6. Observe the leaves over the next few days.