



Capillary Action

Observe how roots give water to the rest of the tree

Materials

6 jars or glasses
Food coloring
Paper towels
Water
Scissors

Procedure

1. Fill 3 jars with water.
2. Add a few drops of food coloring to the water, one color per jar. Primary colors work best.
3. Place all 6 jars in a circle, alternating the empty jars with the water jars.
4. Vertically fold 6 paper towels in half. Fold again.
5. For each jar, add the end of a paper towel, connecting it with the jar next to it. Each jar should have two paper towels, each going in a different direction.

Results

In just a few minutes, you can observe water being transported into the empty jars through the paper towels. The colored water will blend together to make new colors.

Why?

Paper towels, and the plants they are made of, consist of a sugar compound called cellulose. Cellulose can resist gravity and pull water upwards through a process called capillary action. When water molecules cling to a different substance — in this case, the paper towels — the process is called adhesion. However, when water molecules cling to each other, the process is called cohesion. Capillary action occurs when adhesion is stronger than cohesion.