

Capillary Action Activity

Overview:

Have you ever wondered how a tree can take water from the ground around their roots and transport it all the way up into its highest leaves? In this activity we'll learn about capillary action and how that helps trees do just that.

Background:

A force known as cohesion allows water molecules to cling to each other via strong hydrogen bonds. Water molecules can also be attracted to other surfaces through a process called adhesion. When water is in a narrow space such as a capillary tube, the combined forces of adhesion and cohesion can propel water up the tube against the force of gravity. This process is known as capillary action. In plants, cellulose fibers form capillary tubes which helps plants draw water from the soil and transported all the way up to the leaves.

These cellulose fibers are also found in paper towels and helps make them absorbent. Today we will use the capillary action found in paper towels to transport colored water from one cup to another to make a rainbow.

What you need:

- Water
- 7 clear cups or glasses
- Paper towels
- Food coloring

Procedure:

- Place your 7 cups next to each other in a row on a table.
- Fill the 1st, 3rd, 5th, and 7th cups about $\frac{3}{4}$ full with water.
- Add red food coloring to the 1st and 7th cups.
- Add yellow food coloring to the 3rd cup.
- Add blue food coloring to the 5th cup.



- Fold 6 sheets of paper towels lengthwise into a rectangle 1-2 inches wide.



- Place one end of the folded paper towel into the 1st cup and the other end into the 2nd cup.



- Place one end of the next folded paper towel into the 2nd cup and the other end into the 3rd cup.
- Continue this until all the cups are connected by a paper towel.



- Observe what happens.



After you make your rainbow, take a photo and share it with us if you like. [Tweet](#) it at us! [Gram](#) it our way! Put it on [Facebook](#)! Tag us with #couchreach (that's outreach from your couch)!

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