

## Walking Rainbows

Put your lab coat on, we're getting scientific! With this experiment, discover how colors interact to form rainbows and observe the natural process of capillary motion in action!

### Supplies:

- Red, blue and yellow food coloring
- 6 mason jars (clear if possible). If you don't have jars use cups or bowls.
- 6 full sheets of paper towels
- Timer



### Instructions:

*Before you get started, review the color wheel on page two and remember the colors you need to form a rainbow. Feel free to experiment to see how mixing certain colors will create different colors. Together, determine how you will create a rainbow using only red, blue and yellow.*

1. Fill three jars full of water. Add red food coloring to one, blue to another and yellow to another, 4-6 drops each.
2. To form a circle place the empty jars between the red, yellow and blue jars.
3. Roll each sheet of paper towel into tubes. Drape one side into a full jar and the other into an empty jar until each jar is connected with paper towels.
4. Start your timer to see how long it takes for the colored water to move from one jar to the next. Water will begin absorbing right away, but the whole process will take around 48 hours, so check back every few hours to see how it has changed.



## What's Going On?

Capillary motion is the ability of a liquid to flow without the assistance of gravity through a hollow tube or porous material. In this case, the water has the ability to flow against the forces of gravity up through the paper towel. The water molecules adhere to the molecules of the paper towel which causes the upward force of the water. This process is also observed in plants which allows water to be transported from the roots to the leaves as well as tears moving through your tear ducts.

As the water moves into the empty jars the water levels will equal out and the colors from the colored jars will mix to create the colors you need for form a complete rainbow.

*Try this experiment again and see what happens when you mix up the color order! Will it still form a rainbow?*

## Color Wheel:

