



## Challenger's Morning Science Segment:

February 5, 2018

**Topic:** Capillary Action

**Build:** Walking Water

### Credit:

<http://thestemlaboratory.com/walking-water-rainbow/>

**Materials Needed:** 3 drinking glasses [clear preferred] / water / paper towels / food coloring [red, yellow, blue] / spoon

**Make the colors walk:** Line up the 3 empty glasses in a row. Next fill the first and third glass  $\frac{3}{4}$  full with water, and leave the second [middle] glass empty. In the first glass put in 10 drops of yellow food coloring and in the third glass put in 10 drops of red food coloring. Mix each glass until the food coloring is dispersed well. Next take 1 paper towel sheet and roll it tightly and fold in the middle to form a "U" shape. Repeat this step again so there are two paper towel "U" shapes formed. Next drape over the sides of the cups so that the ends are close to or are touching the bottoms of the cups. The first paper towel should go from the first glass to the empty second glass. Then the second paper towel should go from the empty second glass to the third glass. It forms a paper towel chain between the glasses. Very quickly the color water will start to travel up the paper towels. What happens in the empty glass between them?

**The science:** [<http://thestemlaboratory.com/walking-water-rainbow/>]

Capillary action helps water travel up a plant from roots to leaves. In this experiment, it helps water travel up the paper towels and to the adjacent glass. "Capillary action is the ability of a liquid to flow upward, against gravity, in narrow spaces." The paper towel contains plant cellulose fibers and water molecules adhere to these fibers. Plus "water molecules are also attracted to each other and stick close together, a process called cohesion." The adhesive and cohesive forces cause the water to move upward on the paper towel and into the adjacent glass.

**Upcoming at the Challenger Learning Center of Maine:** Challenger's 5K Space Race is set for March 31! Begin your race season with a great race in Bangor! New this year is a reduced price for youth. FMI-  
[www.astronaut.org](http://www.astronaut.org)