

Walking Water

[Walking Water | STEM Activity](#)

This experiment will help you learn more about water properties but also about primary and secondary colors using water and food coloring. If you need to move water out of one cup into another, you are most likely going to just pick up the cup and pour it, but what if you were playing a game where you had to do it without picking up any of the cups. This experiment will use the **capillary action** of water that allows it to move up an object into another location. This process is helped by cohesion and adhesion which allows the plant to soak up water from its roots and carry it to its leaves. **Cohesion** is when the water molecules are attracted to each other and **adhesion** is when they are repelled from each other but attracted to different types of materials. Paper towels are made from trees and have strong fibers that have gaps, which enables them to soak up water in a spill. Additionally, due to the polarity of the paper towel and the water, the paper towel will attract the water and will be soaked up easier.



Materials

- 5 short cups
- water
- Paper towels
- 3 primary colors of food coloring
- Time

Directions

1. Place the cups in a line. The 1st, 3rd and 5th should be at least half full with water.
2. In the first cup of the line add red food coloring into the water, in the third cup add yellow food coloring and in the fifth cup add blue food coloring so every other cup is colored with water. Stir the food coloring into the water.

3. Take 4 separate sheets of paper towel and roll them up to about a $\frac{1}{2}$ " width and fold them in the middle to create a "V" shape. The paper towel should be slightly longer than the cup is tall.
4. Use the paper towel to connect adjacent glasses. Place one end of the first paper towel in the red cup and the other in the empty cup beside it. Next, place one end of the second paper towel in the same empty cup and the other end in the yellow cup. Then, place one end of the 3rd paper towel in the yellow cup and the other end in the empty cup next to it. Add the final paper towel with one end in the empty cup and the other end in the blue cup.
5. Allow time for the water to "walk". This will take a while (days) so come back to see what happened. Record your findings.

Time	Observations
30 minutes	
2 hours	
6 hours	
Overnight	
Day 2	

Discussion: Did you notice the capillary action? Why did the water stop when the water levels were even in the cup? What are the new colors?