Make a Walking Rainbow

TechJunior – STEM Education

WEEKEND
STEM ACTIVITY

Make a Walking Rainbow

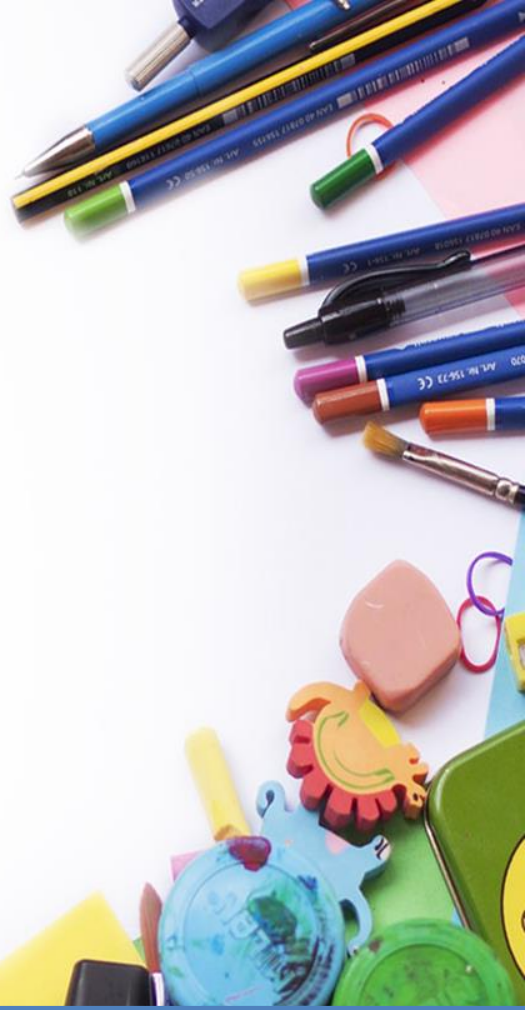
Sometimes the severe weather we see in the spring brings us a rainbow — in this activity you can create a "walking" rainbow in your home.

Get Ready to have a fun-filled weekend with your kids & teach them science too.

Make a Walking Rainbow

Here's what you need:

- 7 small, clear cups
- Paper towels - six half-sheets, or three full paper
- towels cut in half
- Red, yellow, and blue food coloring
- Water



Let's Start

1) Place seven cups in a row. Fill the first, third, fifth, and seventh cups with water — they should be full, but not overflowing. The other cups should remain empty.

2) Add five drops of red food coloring in the first and seventh cup.

3) Add five drops of yellow food coloring to the third cup.

Next

4.) Add five drops of blue food coloring to the fifth cup.

5). Fold a paper towel into a narrow strip about 1" wide. If you're using half-sheet paper towels, fold it in half lengthwise and then in half again. Full sheet paper towels are probably large enough to be cut in half and then folded. .

Next

6) . Place one end of your paper towel in the bottom of your first cup and place the other end in the bottom of the cup next to it. Submerge the paper towels as much as possible to reduce the length of loose paper towel between the cups. Repeat this until each cup is connected to the cup next to it with a paper towel.

Next

7). Watch for a few minutes as the colored water "walks" to the empty cups. Periodically check on the cups. What changed after 15 minutes, 30 minutes, and one hour? To see the changes happen quickly after the fact, try setting up a time-lapse video before you start!

What's happening:

What's happening: It may appear that the colored water is defying gravity when it goes up the paper towel and walks to the once empty cup, but actually it moves because of a process called capillary action. Capillary action is the ability of a liquid to flow upward against gravity in narrow spaces within porous or spongy solids. Capillary action is the result of the cohesion, adhesion, and surface tension of the water. Cohesion describes how a substance, such as water, sticks to itself.

Adhesion is the tendency of a substance, such as water, to stick to a surface. Surface tension is the result of cohesion, and makes the water's surface strong. Basically, though we don't often think of it this way, water has some really sticky qualities! This is the same thing that helps water climb from a plant's roots to its leaves.