



## WALKING WATER

### SCIENCE SAFETY

PLEASE follow these safety precautions when doing any science experiment.

- **ALWAYS** have an adult present.
- **ALWAYS** wear the correct safety gear while doing any experiment.
- **NEVER** eat or drink anything while doing any experiment.
- **REMEMBER** experiments may require marbles, small balls, balloons, and other small parts. Those objects could become a CHOKING HAZARD. Adults are to perform those experiments using these objects. Any child can choke or suffocate on uninflated or broken balloons. Keep uninflated or broken balloons away from children.

### INGREDIENTS

- 3 9oz Transparent Plastic Cups
- 2 Paper Towels
- Yellow and Blue Food Coloring

### INSTRUCTIONS

**STEP 1:** Fill two of the cups with warm water. Add yellow food coloring to one of the cups and mix. Add blue food coloring to the other cup and mix.

**STEP 2:** Place an empty cup in the middle of the cups filled with water.

**STEP 3:** Twist the paper towels lengthwise.

**STEP 4:** Place one end of a twisted paper towel into the cup with yellow food coloring and the other end into the empty cup. Place the end of the other twisted paper towel into the blue food coloring and the other end into the empty cup and observe. Using this model of capillary action, construct an argument that plants have internal and external structures that function to support survival, growth, behavior, and reproduction.

### EXPLANATION

Thanks to capillary action, which is the movement of water within the spaces of a porous material due to the forces of adhesion, cohesion, and surface tension, the yellow and blue water moves or “walks” through the paper towel to the empty cup. As the yellow and blue colors mix, in the empty cup, green appears. When two primary colors are mixed together, you create a secondary color. Mixing blue and red creates purple, mixing red and yellow creates orange, and mixing yellow and blue creates green.



### SCIENCE BACKGROUND

Plants have internal and external structures that support survival, growth, behavior, and reproduction. Leaves, stems, flowers, and roots are important external structures. Leaves, stems, flowers, and roots contain important internal structures. Through capillary action, roots take in water and nutrients from the soil. Tubes inside the stem carry water and nutrients from the roots up to the leaves and flowers. You can't see some internal structures without a magnifying glass or microscope.

### I CAN STATEMENT

- ✓ I can construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

### NEXT GENERATION SCIENCE STANDARDS CONNECTION

4 – Structure, Function, and Information Processing I System and System Models