

STEM: Creating Currents

Learning Value:

This activity promotes development and learning by encouraging children to demonstrate an understanding of cause-and-effect and demonstrate persistence in actions and behaviors.

Materials Needed:

- ▶ Pencil with an eraser
- ▶ Aluminum tray or pie tin
- ▶ Wool cloth (ex: old sweater, edge of a blanket, hat or mitten)
- ▶ Styrofoam plate (ex: unused meat tray)
- ▶ Push pin
- ▶ Red and blue food coloring
- ▶ Blue ice cubes (made by adding a few drops of food coloring to the ice cube tray before freezing)
- ▶ Plastic container (small to medium plastic tote)
- ▶ Water

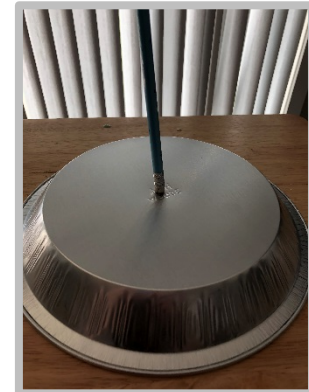
Participants:

This activity is intended for independent play, and 2 or more participants/players if desired. May require 5 minutes of adult preparation

Directions: Experience 2 ways to make currents in these hands-on weather explorations.

Electrical Currents

Step 1: Push the pushpin through the center of the aluminum tray and then stick the eraser of the pencil onto the point of the thumbtack. This creates a handle to lift the aluminum tray.



Bright Horizons.

World at Home

Step 2: Rub the wool across the styrofoam plate for two minutes. Set a timer or count to 120. Be sure to push firmly against the styrofoam plate. If you don't have wool, you can rub it on your hair for 2 minutes.



Step 3: Then pick up the aluminum tray with the pencil and set it down on the plate and watch for the spark. You just made an electrical current with static electricity!



Convection Currents

Step 1: Fill the container about half full of water. Let the water settle until it is completely still.



Step 2: Slowly and gently add a couple of blue ice cubes to one side of the container.

Convection Currents continued...

Step 3: Add a few drops of red food coloring to the other side, away from the ice cubes. Be very careful not to disturb the bin of water.



Step 4: Observe the bin and watch what happens to the red and blue water. You should see the red coloring rise to the surface and the blue water drop to the bottom. You are creating a convection current! This is where the warm water is being forced to rise up by the cooler blue water. This is what happens in the sky when a thunderstorm forms. Warm air gets pushed up higher into the sky by a cold front and it forms the tall thunderclouds that bring stormy weather.

