



Curiosity Guide #206

Liquid Forces

Accompanies Curious Crew, Season 2, Episode 6 (#206)

Dancing Droplets

Investigation #3

Description

Investigate water droplets to see what they can do.

Materials for each person or team

- Wax paper
- Clipboard
- Pipette
- Small container of water
- Wooden toothpick

Procedure

- 1) Tear off a piece of wax paper about the size of a piece of paper.
- 2) Place it on a clipboard. Lay it on the table.
- 3) Fill a pipette with a small amount of water. Drip a number of drops on the wax paper.
- 4) What do you notice about the droplets?
- 5) Hold one end of a toothpick beside a water droplet. See if you can move the droplet on the board.
- 6) Can you merge the droplets together? How big a droplet can you make?

My Results

Explanation

Water droplets are not attracted to fresh wax paper, so they bead up very well. The droplets show the power of **cohesion**, which is the attraction of the water molecules to each other. Each droplet has sides that are positively and negatively charged, which attract to each other.

When you move the toothpick into the water droplets, the droplets are also attracted to the wooden toothpick. That power of **adhesion**, which is the attraction of different molecules to each other, causes the droplets to follow the toothpick.

When a droplet comes close to another droplet, the two droplets merge together. You guessed it—it's the power of cohesion again!

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