

Fun with Surface Tension!

Experiment 1: paperclips

Materials:

Basin of water

Box of paperclips

Fork

Optionally, a rock or other sinking object

Ask students to put the rock in the water

Then to try putting their hand in the water. In both cases, obviously, the water does not hold up. Have students swish their hands in the air, then the water. Explain that the reason it is harder to swish your hand in water is because it is thicker than air. Tell the students to investigate what water will hold up. In each group, ask the students to take turns putting paperclips on the surface of the water with the fork, and recording how many paperclips float.

Experiment 2: changing surface tension

Materials:

1 penny per group

1 dropper per group

Soapy and non-soapy water

- 1) Have students slowly drop water onto the pennies, and count how many drops fit onto the penny before the water spills off.
- 2) Repeat the experiment with the soapy water, and record.

Explain that the reason less soapy water stays on the penny is because some substances lower surface tension.

Experiment 3: using surface tension

Materials (per group)

1 basin of water

1 basin of soapy water

A small piece of cork, with a sliver of soap pinned to one end

Have students swish their hands through each basin, and ask if they think it was easier to move through the soapy water.

Explain that if soapy water is easier to move through, if we make just one end of something be in soapy water, it should move in that direction.

Have the students put the cork boats in the clean water basins, and observe how they move in the direction of the end with the soap on it.