

# Breaking the Tension

## Materials (per pair of children):

- 1 pie pan half filled with water
  - Be sure to use a clean pan and fresh water each time the experiment is repeated
- 1 pinch of cornstarch or baby powder
- Liquid dish soap
- Paper towels

## What to do:

The child(ren) should sit near the pan of water. Invite them to observe the water and describe what they see. Ask what they think will happen if we sprinkle powder on top of the water, then allow them to do so and have them observe again (hint: the powder floats!).

Predict what would happen to the powder if someone dipped one of their fingers into the water. Try dipping one finger. Describe what happened. Predict what will happen when the soapy finger is added then allow them to do so. Discuss what happened.

## Ask these questions:

- Why does the powder float on top of the water?
  - Surface tension (the natural attraction between water molecules)
- What happened when you added the soap to the water?
  - The soap breaks the surface tension where your soapy finger touches.
- Why do you think this happens?
  - The powder is drawn by the stronger surface tension at the other non-soapy areas.
- What happens when you add more soap? Why?
- Why do we add soap to water when we want to clean our clothes or dishes?

## Application:

Ask the children if they've ever seen insects sitting on top of the water. Based on the experiments they just tried, how do insects do that?

