



Tension Situation



In this lesson, children will conduct a quick experiment on surface tension.

BACKGROUND:

Water has the highest surface tension of liquids, which is due to the hydrogen bonding in water molecules. The surface tension of water causes water molecules at the surface of the liquid (in contact with air) to hold closely together, forming an invisible film or skin. This is what allows some insects, like the Water Strider, to stay on the surface of water.

MATERIALS:

- Paperclips
- Glass of water
- Small drop of dish soap



PROCEDURE:

- Fill a glass with water.
- Gently lower a paperclip flat onto the water's surface and watch how it floats on the top of the water.
- Continue to add paperclips to the water to see how many paperclips the surface tension can hold.
- Have your student redo the experiment using a fresh cup of water and only one paperclip. While the paperclip is floating, add a small drop of dish soap to the end of another paperclip and touch the water with it away from the paperclip. Have student explain what they think happened.

CONCLUSION:

- Ask your child to explain why the paperclip floats on water (especially since it is denser than water).
- Ask your child why they think soapy water caused the paperclip to fall to the bottom. (Hint: Soap is a surfactant, and that reduces the surface tension of water.)



The San Geronio Pass Water Agency has partnered with the Inland Empire Resource Conservation District to bring you a series of virtual lessons and activity write ups on water education and conservation.

