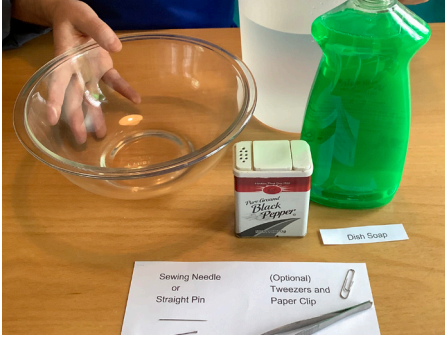


Science at Home

Are you looking for something to do to keep your brain active and engaged? We're here to help with Science at Home! You can conduct these fun science experiments using commonly found items. You can also visit us at the Museum's [Science at Home](#) page for additional resources.

Experiment: Water Tension



Materials Needed:

Large bowl
Dish soap
Black pepper
Needle or straight pin
Water
Optional items: paper clip, tweezers

What We've Learned

Water forms a skin-like surface called water tension. This occurs because the water molecules at the surface are pulled closer together than the ones directly below the surface.



Instructions:



Step 1: Fill the bowl with water. Wait until water is still.



Step 2: With care, place a needle or straight pin on the surface of the water without sinking it. Tip: avoid touching the water with your fingers (this is where the tweezers will come in handy).



Optional Step: If you are successful with the needle or pin, really challenge yourself by trying to float a paperclip!



Step 3: Remove objects from water. Then, sprinkle black pepper across the surface of the water.



Step 4: Place just a bit of dish soap on your fingertip.



Step 5: Touch the tip of your finger in the center of the pepper-covered surface and watch what happens!

Natural Connections

Water Striders are insects that exploit this property of water, living their entire lives in this unique environment between air and water.

Another insect, a species of Rove Beetle, uses a surfactant (similar in action to the dish soap you used). When threatened, the insect dips its abdomen into the water and exudes a drop of surfactant which interferes with the water tension. The beetle is then quickly propelled by the expanding edge away from a hungry predator, just like the pepper!

Having Fun?

We want to see! Tag [@naturalsciences](#) on social media, so we can see you and your loved ones enjoying our Science at Home experiments.