Water Properties

Explore the properties of water with these easy at home experiments. Be careful, these could get messy!

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Key Terms

Adhesion: the attraction of water molecules to each other
Cohesion: the attraction of water molecules to other materials
Surface Tension: the attraction among water molecules at the surface of the liquid; creates a skin like barrier between air and water molecules

Materials

2 clear plastic cups
Pennies (a good amount, 50-100)
Eye dropper or pipette
Paperclips
Hand lens (optional)
Fork
1 piece of yarn about 1 ft long
Water

Experiment 1

Fill a clear plastic cup with water until it is even with the rim of the cup. Add pennies, one at a time, until the water begins to spill over the side of the cup.

How many pennies were you able to add to your cup? _____
What did you observe about the surface of the water as you added more pennies?

_____

Which key term(s) did you observe in this experiment?

_____

Experiment 2

Using an eye dropper or pipette, place as many drops of water on the penny as possible without spilling over the edge. Make sure to add drops one at a time, and keep track. Continue adding drops until water spills over the edge or the water rope collapses.

How many drops were you able to fit on top of the penny?

_____

What did the drops do, or how did the water behave when you added each drop?

_____

What happened when you added the last drop?

_____

Which key term(s) did you observe in this experiment?

_____

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Experiment 3

Try placing a paperclip on the surface of the water (hint: lay the paper clip on the prongs of a fork and lower it onto the surface of the water.) Use the hand lens to observe the surface of the water where it touches the paperclip.

How many paperclips were you able to float on the surface of the water?

_____

Describe what the surface of the water looked like where it touched the paper clip (hint: use a hand lens to look closely).

_____

Which key term(s) did you observe in this experiment?

_____

Experiment 4

Fill a cup about halfway with water. Place the yarn into the cup so it soaks up water and is now soaking wet. Pinch each end of the yarn to the side of the cup and slowly pour the water into the empty cup- the water should walk right down the yarn!

Did your water walk the tightrope from one cup to the other?

_____

What did the water look like while it moved from the full cup to the empty cup? _____

What key term(s) did you observe in this experiment?

_____