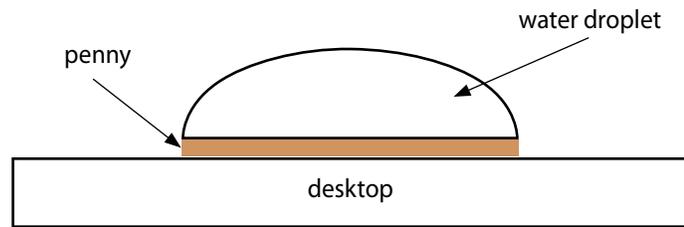




# Stacking Water

Grades 3 – 6



## BACKGROUND:

Water has something called **surface tension**. Surface tension acts like skin (via water molecules hanging on to each other) and holds water together. As water droplets are stacked on top of each other they line up and cling to one another until the outward push of the water becomes strong enough to overcome surface tension.

Pollutants such as: soap, etc ... can also overcome surface tension. Pollutants such as these weaken and break the surface tension of water and act kind of like kryptonite (soap) to Superman (surface tension).

## OBJECTIVES:

The student will do the following:

- See how many droplets they can fit onto a penny before it overflows.
- Observe how surface tension holds water together.
- Observe how surface tension breaks with the addition of pollution.
- Draw/record their observations.

**TIME:** 30 minutes

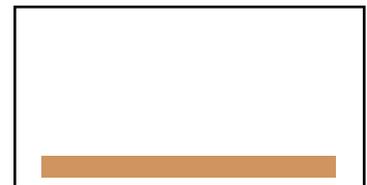
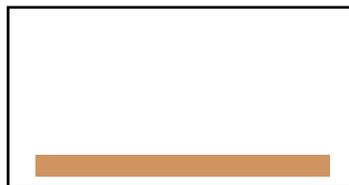
## MATERIALS:

- 1 new penny (for each student)
- 1 dropper (for each student)
- Water
- Dish soap
- Paper towels
- Pencil & paper (to draw & record observations)

## PROCEDURE:

Have students first guess how many drops of water a penny will hold.

- 1) Fill the dropper with water and count how many drops of water you can stack on top of the penny until it can't hold any more and the water spills over. Use the illustration above as a guide to what it should look like before it tumbles over onto the table.
- 2) Dry the penny off and add drops again until it almost spills but don't add that last drop.
- 3) Observe what happens when you touch a little soap at the end of a pencil to the water on top of the penny. **What happens?**
- 4) Draw a side view picture of the penny just before it spilled.



## QUESTIONS:

- What happened when you added the soap to the water droplet? Why did this happen?
- Can you relate this experiment to a real-life event? (Storm drain pollution, local creeks, runoff etc...)

Adapted from *How to Turn Kids On to Science* By B.K. Hixson

