

## WHAT YOU WILL NEED:

- One penny
- Paper towel
- Eyedropper or pipette
- Sod or grass grown from seed
- Water
- A flat surface or countertop
- Safety goggles



# DROPS ON A PENNY

## Overview and objective:

Students will learn about the properties of **hydrogen bonds** and **surface tension**.

**Cohesion** is the attraction of like molecules to one another. In this experiment, we're examining like H<sub>2</sub>O molecules in the water drops. **Surface tension** describes the cohesion between water molecules.

Water's cohesion and surface tension are unique due to hydrogen bonds. **Hydrogen bonds** are formed by the hydrogen atoms of one molecule being attracted to the oxygen atoms of another molecule.

## Procedure:

1. Wash and rinse a penny in tap water. Dry it completely with a paper towel.
2. Place the penny on a flat surface. The flatter the surface is, the better this experiment is going to go.
3. Use an eyedropper or pipette to draw water and, carefully, drop individual drops of water onto the flat surface of the penny.
4. Keep track of the water drops as you add them, one at a time, until water runs over the edge of the penny.
5. Document your results.

## Discussion:

- *Once the water has reached the edge, what shape do you begin to see forming?*
- *Repeat the experiment by testing another liquid like vegetable oil or saltwater to examine the difference in impact on cohesion and hydrogen.*

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