



# How many drops of H<sub>2</sub>O can fit on a penny?

Name \_\_\_\_\_

**Take a Guess:** How many drops of water can fit on one side of a penny? \_\_\_\_\_

## Part A: Perform a CONTROL test for comparison with later results.

Step 1: Rinse a penny in tap water and dry completely.

Step 2: Place the penny on paper towel.

Step 3: Use an eye dropper to place drops of WATER on the penny (one at a time) until ANY amount of water runs over the edge of the penny.

Step 4: Record the number of drops for that trial in the table.

Repeat Steps 1 - 4 three more times before calculating your average.

Trial 1	Trial 2	Trial 3	Trial 4	Average

## Part B: Perform tests with the TESTING LIQUID.

Step 1: Start with a "clean" penny. Rinse the penny in tap water and dry completely. Be sure to remove as much residue as possible - without using soap!

Step 2: Hold the penny with the tweezers provided, then dip it into the TESTING LIQUID. Allow extra liquid to drip off the penny into the container before proceeding to the next step.

Step 3: Place penny on dry spot on a paper towel. Place drops of WATER on the penny (one at a time) until ANY amount of water runs over the edge of the penny.

Step 4: Record your observations and the number of drops for that trial in the table.

Repeat Steps 1 - 4 three more times before calculating the average.

Trial 1	Trial 2	Trial 3	Trial 4	Average

## Part C: Answer each question related to the experiment.

1. Explain your results from both parts of the experiment in terms of cohesion and surface tension.

2. How do your results compare to the other groups in your class? Provide at least 2 possible reasons for any similarities and differences you identified.

## Drops On A Penny Lab

**Cohesion** - Water molecules are \_\_\_\_\_ to other water molecules. The \_\_\_\_\_ end of water has a \_\_\_\_\_ charge and the \_\_\_\_\_ end has a \_\_\_\_\_ charge. The hydrogens of one water \_\_\_\_\_ are attracted to the oxygen from other water molecules. This attractive \_\_\_\_\_ is what gives water its \_\_\_\_\_ properties.

**Surface Tension** - Surface tension is the name we give to the \_\_\_\_\_ of water molecules at the \_\_\_\_\_ of a body of \_\_\_\_\_. The cohesion of water molecules forms a surface " \_\_\_\_\_ " or " \_\_\_\_\_." Some substances may \_\_\_\_\_ the cohesive force of water, which will reduce the \_\_\_\_\_ of the surface "skin" of the water.



**Take a guess ...**  
**How many paperclips can you fit into the glass before the water runs over?**

\_\_\_\_\_

**Actual Amount =** \_\_\_\_\_

Use this information to help you answer the questions on the lab sheet after you have completed the experiment!