



How many drops of H_2O 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.

How many Drops of Water Fit on a Penny?

FYI:

Cohesion: Water molecules are attracted to other water molecules. This attractive force is what gives water its cohesive property.

Surface Tension: Surface tension is the name we give to the cohesion of water molecules at the surface of a body of water. This forms a "film" or "skin". Some substances, like soap, reduce the cohesive force of the water, which reduces the strength of the "skin" of water.

Graphing: You also need to make a double bar graph for the number of drops for each trial. Each trial should go on the x-axis and number of drops should go on the y-axis. Make sure to title your graph and label each axis.