

Name: \_\_\_\_\_ Date: \_\_\_\_ Period: \_\_\_\_ LAB

## Dropping Water on a Penny

**Purpose:** This lab will demonstrate the properties of water: polarity, cohesion, adhesion, and surface tension.

**Question:** How many drops of water do you think you can place on a penny before it spills over?

**Hypothesis:** If I put \_\_\_\_\_ (number of drops) on the penny, then the water droplets will \_\_\_\_\_ (spill over/stay together on the penny).

### **Materials:**

--one penny                      --paper towels                      --toothpick  
--beaker with water            -- dropper                              --dish detergent

### **Procedure**

1. Place some paper towels on your desk, and place the penny on top of the paper towels.
2. Using the dropper, **CAREFULLY** place a drop of water at the center of the penny.
3. Counting the drops, **CAREFULLY** add more drops until the water spills off the penny.
4. Dry the penny.
5. Repeat this activity **THREE TIMES**. Then, average the number of drops.

TRIAL NUMBER	NUMBER OF DROPS OF WATER
1	
2	
3	
<b>AVERAGE</b>	

6. After you have averaged the number of drops for the three trials, repeat the activity one more time. Do **NOT** make the water spill off the penny. When the water is bulging over the penny, take the clean, dry toothpick and **GENTLY** touch the center of the water. Observations:
  
7. Now, dip the clean, dry toothpick in the dish detergent. Gently touch the center of the water with the toothpick. Observations:

### **QUESTIONS: Answer the following questions in complete sentences.**

1. What was the average number of drops of water that you could fit onto a penny?
  
2. What did the water look like before it overflowed over the penny? Explain.
  
3. What property of water helped it stay on the penny? Explain how you know this.
  
4. What property of water helped it bubble on the penny? Explain how you know this.

5. What happened when you touched the water with the clean toothpick?
  
6. What happened when you touched the water with the toothpick and dish detergent?
  
7. Why do you think the water reacted differently when you touched it with dish detergent?

