

Name \_\_\_\_\_

## Penny Experimentation



**Purpose:** To 1) plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting and using equipment and technology; 2) collect data by observing and measuring; 3) analyze and interpret information to construct reasonable explanations from direct and indirect evidence; 4) communicate valid conclusions; and 5) construct graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate data

**Background Information:** Surface tension refers to the attraction among water molecules at the surface of a liquid; creates a skin like barrier between air and the water. Surface tension can be measured and observed by dropping water (drop by drop) onto a penny.

**Question:** How does soap affect the surface tension of water?

**Hypothesis:** Write a hypothesis using an if, then statement.

---



---

**Materials:**

1 clean penny	Pipette	Dishwashing soap
Water	Cup	

**Procedure:**

1. Use the pipette to drop water on the penny, one drop at a time. Be careful to control the size of the water drops.
2. Add water until the penny cannot hold any more and the water runs off of the penny.
3. Record the number of drops.
4. Repeat for a total of five trials.
5. Squirt a small amount of dishwashing soap in the cup of water. Mix well with the pipette.
6. Repeat steps 2 - 4.

**Data:**

Number of Drops on the Penny						
Trial	1	2	3	4	5	Average
Plain water						
Soapy Water						

### Data Analysis:

Make a graph to compare this data. Remember TAILS & DRY MIX.  
What is the best kind of graph to use when making a comparison?

---


What does the graph tell us about the data?

---

---

