**Drops on a Penny**

**Question:** How do plain water, salt water, and soda affect the number of drops a penny can hold without spilling?

**Hypothesis:**

**Materials Needed:**

Cup of Tap Water

 Cup of Salt Water

 Cup of Soda (Sprite)

 Penny

 3 Eye Droppers

 Paper Towels

**Procedure: Part 1**

1. Rinse penny with tap water and dry completely.
2. Place penny on dry, flat paper towel.
3. Use one eye dropper to place drops of tap water on the penny one drop at a time until **any** amount of water runs over the edge of the penny.
4. Record the number of drops that stayed on the penny for that trial in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Trial** | **# of drops of****tap water** | **# of drops of****salt water** | **# of drops of****soda** |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| Total |  |  |  |
| Average |  |  |  |

1. When all groups have completed the first trial, share results with class.

Why do the results vary between groups?

What should be done differently? (List 4 rules for activity discussed in class)

1. Repeat steps #1-4 three more times using the methods determined by the class in step #5 above.
2. Calculate the average number of drops for each liquid after four trials. Share results with the class.

**Part 2**

1. Rinse penny with tap water and dry penny completely.
2. Place penny on a paper towel.
3. Determine how many drops of salt water will fit on a penny.
4. Record results in data table and calculate the average.
5. Clean penny with tap water and dry completely and then place penny on a paper towel.
6. Determine how many drops of soda will fit on a penny.
7. Record results in data table and calculate the average.
8. Clean lab area.

**Analyze Data:**

1. Graph the data – graph the averages.
2. Which liquid had the highest average number of drops stay on the penny?
3. Identify the independent variable in this experiment.
4. Identify the dependent variable in this experiment.
5. Why was it important to control other variables during the experiment?

**Conclusion:**

Write a conclusion paragraph using your results on a separate sheet of paper.