



The Scientific Method

Lab Activity: The Head Coin

- I. **Purpose/Question:** How many drops of water will fit on a penny? Which will fit the most drops, the penny, the nickel, or the dime?
- II. **State your hypothesis:** I predict that _____ drops of water will fit on the “head side” of the penny; and _____ drops of water will fit on the “tail side” of the penny.
- III. **Materials:** (per lab station)
- a. 2 pennies, 2 nickels, 2 dimes
 - b. 2 – 50 mL beakers with water
 - c. 2 medicine droppers
 - d. 4 highlighters or colored pencils
 - e. 2 calculators
- IV. **Experiment/Procedure:**
- a. Work in pairs. Distribute materials at lab station (1 penny, 1 nickel, 1 dime, 1 50 mL beaker with water, 1 medicine dropper, 2 highlighters, 1 calculator)
 - b. Use the medicine dropper to drop water onto the “head side” of the penny. Record in the data table below the amount of drops that fit on the head of the penny before the water overflows. Repeat this step 4 more times.
 - c. Calculate the average drops that fit on the head of the penny.
 - d. Repeat these steps for the “tail side” of the penny.
 - e. Repeat these steps for the “head side” only of the nickel.
 - f. Repeat these steps for the “head side” only of the dime.
- V. **Data:**

	Penny Head	Penny Tail	Nickel Head	Dime Head
Test 1				
Test 2				
Test 3				
Test 4				
Test 5				
Total				
Average				



The Scientific Method

Lab Activity: The Head Coin

VI. Analysis:

- Draw a bar graph comparing the Water Drop Averages for each of the coin's "heads" tested. (use the highlighters or colored pencils)
- Label the bar graph: Avg. No. of Water Drops vs. Head Coin

VII. Conclusions:

a. Did your hypothesis match your results? Explain.

b. What variables affected your results?

c. Was there a difference in the average water drops for the penny "head" side versus the average water drops for the penny "tail"?

d. How did the average drops of water per "head-side" compare in each coin?

e. List the coins in order from the one that took the most water drops to the one that took the least.

120			
115			
110			
105			
100			
95			
90			
85			
80			
75			
70			
65			
60			
55			
50			
45			
40			
35			
30			
25			
20			
15			
10			
5			
0			
	P	N	D