Lab - Penny Predictions

You will be placing drops of water on various coins with a dropper. First, you will predict how many drops each coin can hold. Then you will count the number of drops each coin holds before the water runs off.

Safety:

Problem/Question: To what extent does the size of the coin affect the number of drops of water the coin will hold?

Variables:

Independent Variable (what you changed) _____

Dependent Variable (what you will measure/observe) _____

Controlled Variables (what stayed the same) _____

Procedure:

1. Predict how many drops of water the penny will hold. Record your prediction in the table below.
2. Drop water in a consistent manner on the penny. Record how many drops it held *before* the water ran off.
3. Dry the penny and repeat step 2 two more times. Record your results below.
4. Average your three trials for a more accurate idea of how many drops of water a penny will hold.
5. Do the investigation again with the nickel, dime, and quarter. **Remember to predict first!**

Data:

Type of Coin	Number of Drops Coin Holds				
	Prediction	Trial 1	Trial 2	Trial 3	Average
Penny					
Nickel					
Dime					
Quarter					

Analysis: Analyze the **average** data for your coin experiment using the appropriate type of graph on a separate sheet of graph paper. Be sure to use your graphing decision chart and checklist.

Conclusions: Write your answers in complete sentences.

1. Did your ability to predict improve as you moved to the nickel, dime, and quarter?

2. If you did improve, why do you think so? If you did not improve, why do you think you had difficulty with the other coins?

3. What factors played a part in how much water the coin held? (Think about the coin itself, how you dropped the water, etc.)

4. Why did you do three trials for each coin instead of just doing one trial per coin?

5. In your own words, define prediction.

6. Predictions are not just simple guesses, what information is used to make a prediction? (Think about when you made your prediction for the nickel.)

7. What are some changes you could make to this experiment…what other variables could you manipulate that might be interesting to test?