How Much Water Can a Coin Hold?

MATERIALS

metric ruler

nickel

penny

eyedropper

small beaker filled with tap water

paper towels

Use the following procedure to develop a mathematical model to predict the number of drops of water that will rest on the surface of a coin.

1. Place the penny on a level surface, such as a table or a desk.

2. Use the ruler to measure the diameter of each coin. Record the diameter in the data table.

3. Fill the eyedropper with water from the beaker and hold the eyedropper over the center of the penny. Carefully drop water onto the coin, counting the number of drops it holds until water starts running over the side of the coin. Be sure to keep the height of the eyedropper consistent as you place the drops on each coin.

4. Repeat the procedure until you have completed three trials with the penny. Dry the coin with a paper towel between trials. Record your data in the table below.

5. Calculate the mean number of drops that penny holds.

6. Measure the diameter of the nickel and record the data in the table below.

7. Predict how many drops the nickel will hold. Record your prediction in the table.

8. Use procedures 3-5 to test the number of drops of water the nickel will hold to check your prediction. Record your data in the table below.

9. Write a formal lab report.

Table 1. Drops of Water Held by Coins

Coin	Diameter (mm)	Prediction	Number of Drops					
			Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Mean
Penny								
Nickel								