**Name: Date:**

**Penny Drops Experiment**

**Question:**

How many drops of water will a penny hold?

**Research:**

The surface layer of liquids has a thin elastic “skin” called surface tension. You can see surface tension at work when you see a drop of water – it creates a little “bead” of water, like a little dome. Surface tension is what makes the dome shape – the water doesn’t flatten out. See the drops of water on that leaf? Water is made up of two kinds of atoms, hydrogen and oxygen. The name for the water molecule is H20. The water molecule has 2 hydrogen atoms and 1 oxygen atom. Water molecules are attracted to each other because hydrogen atoms and oxygen atoms are attracted to each other and hug close together really tight. They hug so close together they don’t want to touch other molecules around them. In the picture, you can see that the water drops have formed into balls so that they are touching the smallest amount of leaf possible.

**Hypothesis**:

I think a penny will hold \_\_ drops of water.

**Materials**:

Penny Beaker of water Eyedropper Water

**Procedure:**

1. Put the penny heads up on a flat surface. Be sure it is completely dry.
2. Fill the eye dropper with water and hold straight above the penny. Drop water on the penny, one drop at a time. Make observations of the penny and water while doing this.
3. Count the number of drops until the water spills over the edge of the penny.
4. Record your data in the chart.
5. Dry the penny well, then repeat steps 1 -4 for a total of 5 trials.

**Data:**

|  |  |
| --- | --- |
| Number of drops of water: heads up penny | |
| *Trial* | *Number of Drops* |
| **1** |  |
| **2** |  |
| **3** |  |
| **4** |  |
| **5** |  |
| **Average** |  |

**Now turn the penny over (tails up), and repeat the Procedures and Record Data.**

|  |  |
| --- | --- |
| Number of drops of water: tails up penny | |
| *Trial* | *Number of Drops* |
| **1** |  |
| **2** |  |
| **3** |  |
| **4** |  |
| **5** |  |
| **Average** |  |

**When your partner is done, compare results.**

**Conclusions**:

1. Did you get the exact same data each trial when the penny was heads up? Tails up? What could influence this data? (Incorporate your experience and research in your answer) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Compare your results to the results of your partner. Did your partner get the same results? Why or why not? What can cause the difference in data? (Incorporate your experience and research in your answer) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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