**Frogs and More Frogs: Density Lab**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_

**Pre-Lab Questions**

1. How can we find the density of a substance?
2. What units are used to measure density?
3. What is the density of water?
4. How do we know if something will sink or float?

**MATERIALS:**

1000 mL graduated cylinder, balance, frogs, water

**PROCEDURE:**

1. Find the mass of 1 plastic frog to the nearest 0.1 g and record the mass on the **data table**.
2. Repeat step one for 2 plastic frogs, 3 plastic frogs, 4 plastic frogs, 5 plastic frogs, 6 plastic frogs. Record in the data table.
3. Add exactly **500.0 mL** of water to the cylinder. Add **1 frog** to the graduated cylinder and record the new **volume** in the **data table**.
4. Add a **second frog** to graduated cylinder **WITHOUT** taking the 1st frog out. Record the new **volume** in your data table.
5. Continuing adding frogs one a time, recording the new volume in your data table each time.
6. Determine the volume of the frogs and record it in the data table.

|  |  |  |  |
| --- | --- | --- | --- |
| **# of frogs** | **A - Mass of frogs (g)** | **B - Volume of Graduated cylinder with frogs(ml)** | **C - Volume of the frogs only(ml)**(Solve by taking B - 500) |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |
| 6 |  |  |  |

**ANALYSIS:**
Using the data collected for the volume of the frogs as the independent variable (x-axis) and the mass of the frogs as the dependent variable (y-axis), plot your data points on the graph and insert a BEST FIT LINE on the graph. Use the graph to answer the conclusion questions below. DON’T FORGET TITLE AND LABELS.



**CONCLUSIONS**

1. Record the slope of your best fit line in the space below with the appropriate units. (Hint: you find the slope by dividing the rise over the run).

1. What does the slope of the line tell you?