Name:

Period:

LAB 12 – BUOYANCY OF LIQUIDS

BACKGROUND
We have explored the idea of how an object's buoyancy is related to its density. We have also seen that a liquid's density plays a role in whether an object is positively or negatively buoyant. Now we must explore the relationship between the density of a liquid, the density of an object, and whether that object sinks or floats.

PROBLEM
How does the density of a liquid affect the buoyancy of an object?

HYPOTHESIS
Remember that a hypothesis is a prediction about the relationship between the variables that you are comparing.

What variables are being compared here?

Independent Variable	Dependent Variable

What is the predicted relationship between the variables?

MATERIALS
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PROCEDURE
Record your procedure below

DATA

Your Results and Summary & Challenge Questions must be typed or neatly written on a separate piece of paper.

RESULTS

Write a four to six sentence statement that describes how the results of this lab answer the problem statement. You must restate the problem statement in your response.

SUMMARY

1. Create a graph of the class data of the mass of the boxes and the volume of **water** displaced. Draw a best-fit line for the data if there is a pattern.

2. On the *same graph* but using a *different color or symbol*, graph the data of the mass of the boxes and the volume of **sample liquid** displaced. If there is a pattern, draw a best-fit line.

3. Use the graph you just created to answer the following questions:

    a. When an object is placed in two different liquids, does it displace the same amount of that liquid?

    b. When a box of the same mass was place into the two liquids, which liquid was displaced more?

4. Create a new graph of the class data of the mass of the boxes and the **mass** of water displaced. Use different colors/symbols for the different liquids.

5. Use the graph to answer the following questions

    a. What is the relationship between the mass of the floating object and the mass of liquids displaced?