BASIS header:

Line Graph Lab! (30 points)

WATER MARBLES

We are going to put water marbles in water that is room temperature and water that is cold and measure how big the marble gets over time!

TEMPERATURE AND MOVEMENT OF WATER MOLECULES

Water molecules are constantly_____.

_____affects the speed at which water molecules move.

-_____ temperatures will slow down molecules.

-_____ temperatures will speed up molecule.

Each group will get a cup of room temperature water, a cup of ice water, and 2 water marbles.

In what temperature water do you think the water marble will get big *the fastest* in and why?

Write a hypothesis in the appropriate format! (3 points)

METHODS

1. Divide into groups of 3-4

2. Once you get your water marbles make an_____.

   -We are measuring in_____!

3. Once Ms. Gburek starts the timer drop 1 water marble in the room temperature water and 1 water marble in the cold water.

4. Every _____remove the water marbles with the spoon, put them on a paper towel, and measure them with the ruler.

5. Record your measurements in the two _____.

6. Stop after_____.

ROOM TEMPERATURE WATER (4 points)

Time (minutes)	Size (millimeters)
0 minutes (initial)	
2 minutes	
4 minutes	
6 minutes	
8 minutes	
10 minutes	
12 minutes	
14 minutes	
16 minutes	
18 minutes	
20 minutes	

ICE WATER (4 points)

Time (minutes)	Size (millimeters)
0 minutes (initial)	
2 minutes	
4 minutes	
6 minutes	
8 minutes	
10 minutes	
12 minutes	
14 minutes	
16 minutes	
18 minutes	
20 minutes	

LAB QUESTIONS AND GRAPHING

PRE-GRAPHING QUESTIONS

1. What type of data is this? (1 point)

A. Data collected over time B. Groups of data C. Percentages

2. What type of graph should you use? (1 point)

A. Line graph B. Bar graph C. Pie graph

3. ***Graph these data on the graph paper!*** You are making ***2 graphs***! If you're drawing a line graph or bar graph, be sure to include the following. (10 points total, 5 points per graph)

- Graph title
- Axis titles (including units)
- Appropriate scale
- Independent and dependent variables on the correct axis

POST-GRAPHING QUESTIONS

1. Did the data support your hypothesis? Why or why not? Write in complete sentences. (2 points)

2. Explain how temperature affects the movement of water molecules. Use complete sentences. (2 points)

3. Based on the results of your experiment, what would you like to test next about how temperature affects the movement of molecules? Use complete sentences. (3 points)