Name _____ Date _____ Period _____

States of Matter Lab

1. Half fill a 250ml beaker with crushed ice. Place the beaker of ice on the center of the hot plate. Hold the thermometer in the beaker for the duration of the experiment. DO NOT ALLOW THE THERMOMETER TO TOUCH THE BOTTOM OR SIDES OF THE GLASS!

2. Observe the thermometer closely until it appears to have reached its lowest reading. Turn on the hot plate to 5. Gently stir the ice and water mixture with a stirring rod.

3. Record the temperature every minute. Continue to record the temperature until the water has been at a full boil for 5 minutes. Name all of the changes of state you observe (solid to liquid, liquid to gas, solid to gas, and vice versa).

Time (minutes)	Temperature (degrees Celsius)	Observations
0		
1		
2		
3		
4		
5		
6		
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30		

4. Turn off the hot plate. When the water has cooled discard it. Return all of your equipment and clean up your area.

5. What was the temperature at which all the ice had melted?

6. What was the boiling point of the water?

7. Plot a temperature vs. time graph of the data on graph paper (time along the x-axis and temperature on the y-axis).

8. Describe your graph. Consider:
   a. What is happening at the various points along the graph?
   b. Heat energy is being continually added to the system by the hot plate. At which point is the heat energy causing the temperature to increase?
   c. What is the heat energy doing if it is not acting to raise the temperature of the water?