

Names: _____

Period: _____

Phase Change Lab

Materials: Beaker, Ice, Water, Thermometer, Graph paper, hot plate

Task: Observe and record data on the phase change of ice to water to steam

Predictions:

- 1) What will happen to the water? To the ice?
- 2) Are you adding or subtracting energy during this experiment?

Procedure:

- 1) Pour about 75 ml of water into the beaker
- 2) Place 15 ice cubes into the water and record the temperature of the water
- 3) Record the temperature of the water every 30 seconds. Continue to record the temperature for 10 minutes.
- 4) Once the water begins to increase in temperature, place the water on the hot plate.
- 5) Turn the hot plate up to high.
- 6) Continue to record the temperature of the water for 20 more minutes.
- 7) Use graph paper to prepare a line graph comparing time versus temperature.

Answer the following questions:

- a) What was the initial temperature of the water? _____ Celsius
- b) What was the highest temperature that the water reached? _____ Celsius
- c) What was the temperature of the water as the ice was melting? _____ Celsius

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- d) What were the phase changes that you were observing? (liquid to gas, liquid to solid, solid to liquid, gas to liquid, etc.)
- e) Can you explain the temperature change (or lack of temperature change) as the ice was melting? As the water was heating up?
- f) Describe the physical changes you observed and the energy associated with those changes.

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Time	Temperature of Water	Time	Temperature of Water
:30		8:00	
1:00		8:30	
1:30		9:00	
2:00		9:30	
2:30		10:00	
3:00		10:30	
3:30		11:00	
4:00		11:30	
4:30		12:00	
5:00		12:30	
5:30		13:00	
6:00		13:30	
6:30		14:00	
7:00		14:30	
7:30		15:00	

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Time	Temperature of Water	Time	Temperature of Water
15:30		22:30	
16:00		23:00	
16:30		23:30	
17:00		24:00	
17:30		24:30	
18:00		25:00	
18:30		25:30	
19:00		26:00	
19:30		26:30	
20:00		27:00	
20:30		27:30	
21:00		28:00	
21:30		28:30	
22:00		29:00	