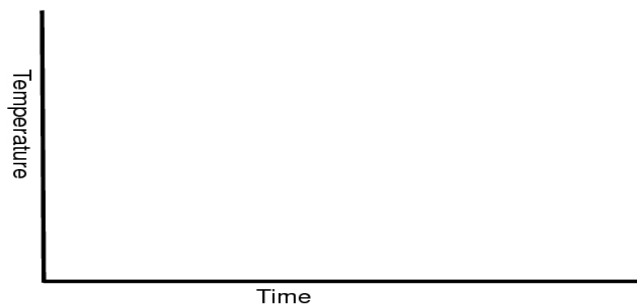


## Heating Curve Lab

### Introduction:

1. Sketch a heating curve for ice into water into steam. Mark on the curve the melting point and boiling point of water.



**Purpose:** to create and analyse a heating curve for water.

### Procedure:

- 1. Set up the apparatus as illustrated by your teacher.
- 2. Warm the ice water mixture over a cool flame.
- 3. Take measurements of temperature every 30 seconds. Record this in the table.
- 4. Continue taking measurements until 3 minutes after the water started boiling.

### Observations:

1. Draw a table that will allow you to record your temperature measurements every 30 seconds.
2. Make a graph of the heating curve of water on graph paper. (Use the 5 steps of graphing).
3. Mark on your graph the temperature at which the ice seemed to melt and the water seemed to boil.

### Discussion:

1.
  - a) What is the accepted melting point of ice?
  - b) At what temperature did the ice appear to melt in your experiment?
  - c) Account for any difference.
2.
  - a) What is the accepted boiling point of water?
  - b) At what temperature did the water appear to boil in your experiment?
  - c) Account for any difference.
3. If you had the chance to do the experiment again, what changes would you make to help you get melting and boiling points closer to the accepted values?
4. Make a sketch of what you think a cooling curve of water would look like. Label the fixed points where the steam condenses into water and where the water freezes into ice.
5. Use the Particle Theory of matter to explain why the temperature of the water stayed constant while the water boiled.
6. Is boiling point a characteristic physical property? Explain your answer.