**Heat Lab: Temperature of Ice Water Bath**

**AP Biology**

**Novak/McKenzie**

**Purpose:**

The purpose of this laboratory activity is to find out what happens to find the temperature of water changes state.

We will also compare the temperatures the differences in temperature when Salt is added to the ice water mixture.

**Part I**: In this portion of the Laboratory investigation we will find out what happens to the temperature of water after adding ice to the water bath.

**Hypothesis:**

1. What temperature do you believe will be the coldest temperature of the Ice water bath? \_\_\_\_\_\_\_\_\_\_.
2. What temperature do you believe will the water bath have when all of the ice has melted? \_\_\_\_\_\_\_\_\_\_.
3. What temperature do you believe that the water bath will have when it boils? \_\_\_\_\_\_\_\_\_\_.

**Materials:** 400ml Beaker, thermometer, Ice, water, & stir stick, ring stand with test tube clamp

**Procedure:**

Fill to the 200 mL mark of ice and then place about 200 ml of tap water into a beaker. The ice should float on top of the liquid water. Record the temperature of the ice water mixture every thirty seconds. When the temperature stops dropping make sure to mark this temperature with a star. Keep recording the temperature and place a dot next to this temperature where all of the ice has melted. **After all of the ice has melted or twenty minutes has gone by begin heating.** Mark this temp with a square. Make sure that if the 20 minutes comes first and the ice does not melt until the heating begins, that you still document the temperature when all of the ice has melted. Keep recording your temperature until the water comes to a rolling boil. Mark this temperature with a **B**. Let the water boil for two minutes while still recording the temperature.

**Part Two (day two)**:

Complete the same procedure as part one, but add what you think will make a change to your boiling and melting point to your beaker. Record the temperatures again.

**Hypothesis:**

1. What temperature do you believe will be the coldest temperature of the Ice water bath? \_\_\_\_\_\_\_\_\_\_.
2. What temperature do you believe will the water bath have when all of the ice has melted? \_\_\_\_\_\_\_\_\_\_.
3. What temperature do you believe that the water bath will have when it boils? \_\_\_\_\_\_\_\_\_\_.

**Write a Lab Report with your group**