

**Objective:**

- Demonstrate the relationship between temperature and phase change.

**Materials:**

- Cup
- Ice cubes
- Boiling water
- Thermometer

**Procedure:**

As the water on the hot plate heats up, its temperature rises following the equation of specific heat capacity. This lab investigates what happens during phase change.

*Boiling Water*

1. Measure the temperature of the water when it starts boiling well.  $T =$  \_\_\_\_\_
2. Wait 5 minutes and measure the temperature again.  $T =$  \_\_\_\_\_
3. Wait 5 minutes and measure the temperature again.  $T =$  \_\_\_\_\_
4. What trend do you see in the temperature as water boils? \_\_\_\_\_

*Ice Water*

1. Put some ice cubes in a cup.
2. Wait for the ice to start to melt, then try to measure the temperature of the ice.  $T =$  \_\_\_\_\_
3. Wait 3 minutes with occasional stirring and observation, then measure the temperature again.  $T =$  \_\_\_\_\_
4. Wait 3 minutes with occasional stirring and observation, then measure the temperature again.  $T =$  \_\_\_\_\_
5. As you observed the ice cubes, were they always separate cubes or did they freeze together into clumps? \_\_\_\_\_
6. What trend do you see in the temperature as ice melts? \_\_\_\_\_

Summarize your findings: \_\_\_\_\_