Ice in Cup. In Hot Water Experiment:

The experiment when done properly would show that the temperature in the pan decreases, while the cup temperature stays mostly the same **until** the ice melts. Then the cup temperature would begin to rise also.

After plotting the data on your graph, you should see a downward sloping red line(representing the temperature in the pan), indicating that the temperature in the pan decreased. You should have a mostly horizontal blue line (representing the temperature in the cup) until the ice melted; then an upward sloping blue line indicating a rise in the cup's temperature.

1. What is happening to the particles of the ice cube as the heat energy is being transferred to it?

Read page 17. (Boiling water at different elevations)

2. Using the knowledge you have gained so far about matter (matter being made up of tiny particles or molecules that are affected when either temperature or pressure is changed); explain why water would boil at a different temperature in St. John New Brunswick compared to the mountain community of Banff Alberta?

3. What has specifically altered the state of the water in Banff Alberta?

Solubility:

A solution is a mixture that forms when one substance (called the solute) dissolves in another substance (called the solvent). For example when you mix chocolate milk powder into milk you get a solution. The powder is called the solute and the milk is called the solvent. Together when the powder dissolves in the milk a solution has forme The solute (powder) seems to disappear, but of course it really does not. If you mixed salt with a glass of water you would get a saltwater solution and the solution would tast salty. If the water was allowed to evaporate, salt crystals would remain.

One of the factors that affect the rate at which something dissolves is temperature. An increase in temperature causes particles (or molecules) to move faster and move farther apart. In most cases when the solute is a solid (think of the chocolate powder), the increased space between the particles of the heated solvent (think of warmed milk), allows the solute to dissolve faster and more easily.

A solvent has a limit of how much solute it can absorb. Once that point is reached, the solution is said to be **saturated** and if more solute is added it will not be dissolved.