**Ice Cream Lab**

**Objective**: To observe the physical changes of ice cream ingredients using NaCl to lower the melting/freezing point of ice/water

**Materials**:

* ¼ cup Sugar
* ½ cup whole Milk
* ½ Cup cream
* ¼ tsp Vanilla
* Ice
* 1 gallon ziploc bag
* 1 sandwich size ziploc bags
* ¼ cup Rock salt

**Procedure**:

1. In one of the small ziploc bags, mix together the milk, vanilla and sugar. Squeeze excess air out and zip baggie tight. Place this in second sandwich bag and close bag (squeezing excess air).
2. In gallon size bag, add 3-4 cups of ice.
3. Record the temperature of the ice.
4. Add rock salt to the ice
5. Place small bag into large bag. Squeeze excess air and zip tightly.
6. Shake the bag. Continue shaking until you notice your ice cream starting to harden. (10-15 minutes)
7. Record the temperature of the ice/salt mixture.
8. Take out small bag and cut a corner for pouring into your cup
9. Grab a spoon, enjoy, and answer the following questions….

**Questions**:

1. What was the temperature of the ice BEFORE adding salt? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Temperature of ice AFTER adding salt? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Using *complete sentences*, explain why we had to add salt to the ice bag in order for this reaction to take place.
2. Describe the direction in which heat is transferred in this reaction. Draw a diagram below.
3. Describe the movement of molecules in the ice cream at the beginning of the lab:
4. Describe the movement of molecules in the ice cream at the end of the lab: