Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_

**Making Ice Cream in a Bag LAB PACKET**

**Materials:**



* 1 Cup of milk
* ¼ tsp. vanilla
* 4 tbsp. sugar
* 3 to 4 cups of crushed ice
* ¼ cup of rock salt
* Big measuring cup
* Small measuring cup
* Measuring spoons
* 1 plastic cup
* 1 plastic spoon
* 1 Gallon sized Ziploc bag
* 1 Sandwich sized Ziploc bag
* Thermometer
* Goggles
* Gloves
* apron

Which of the materials are solids? Which are liquids?

|  |  |  |
| --- | --- | --- |
| **Materials** | **Solid** | **Liquid**  |
| Milk |  |  |
| Vanilla |  |  |
| Crushed Iced |  |  |
| Rock Salt |  |  |
| Sugar |  |  |

**Hypothesis:** I think that the mixture of milk, sugar, and vanilla will change states from a \_\_\_\_\_\_\_\_\_\_\_\_\_ to a \_\_\_\_\_\_\_\_\_\_\_\_ BECAUSE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Procedure for making the ice cream:**

1. In the plastic cup, mix together milk, sugar and vanilla. Carefully, pour the mixture from the cup into the sandwich size Ziploc® bag. Close the bag while carefully removing air. Make sure the bag has a tight seal.
2. In the large Ziploc® bag, add 3-4 cups of ice. Take the temperature of the ice with a thermometer. Record the temperature and other observations on your data sheet.
3. Add the rock salt to the ice.
4. Place the small bag inside the large bag. Carefully close the bag while removing any excess air. Make sure the bag has a tight seal.
5. Get ready to shake it up! After 5-10 minutes, the ice cream should be hard enough to eat.
6. Take a temperature reading of the ice and salt mixture. Record your observations on your data sheet.
7. Find the difference in temperature between the ice and the ice-salt mixture. Record your observations on your data sheet.
8. Finally, the moment you have been waiting for... place the bag of ice cream on a paper plate, open up the bag, grab your spoon and enjoy!





**Observation Record:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Temperature**  | **Observations**  | **State of Matter** |
| Before |  |  |  |
| After  |  |  |  |

**Explaining our Results:**

Explain what happened to the liquid mixture of milk, vanilla and sugar.

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Did the evidence support your hypothesis? Explain your answer in a complete sentence. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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