



Ice Cream

It's easy to make ice cream in a bag!

Activity Guide

Try This!

1. For each portion, put 1-2 cups of ice in a gallon bag with $\frac{1}{4}$ cup of salt.
2. Pour sugar, milk and vanilla into the small bag and seal.
3. Place the small bag inside the large bag and seal.
4. Shake for 10-15 minutes.
5. Remove the small bag and rinse the salt water off, or wipe it with a paper towel.
6. Open and enjoy! Add chocolate syrup if you wish.



What's Going On?

Salt lowers the freezing temperature of water, which cools the cream and sugar mixture enough to allow tiny crystals of ice to grow. With a little shaking, the result is an emulsion of liquid cream, tiny crystals of ice, and air bubbles...also known as ice cream.

Heat always flows from an area of higher temperature to an area of lower temperature. So, heat is transferred from the milk mixture to the ice and salt mixture in the outer bag. If only ice is used in the outer bag, the milk mixture would become cold as the ice melted, but would not actually freeze. Adding salt to the ice lowers the freezing point and allows the milk mixture to freeze.

Learning Objective

- Salt lowers the freezing point of water, allowing us to make ice cream out of cream and sugar.

Materials

For each portion:

- 1-2 cups ice
- 2-3 teaspoons sugar, or 2 sugar packets
- ½ cup half and half
- ¼ teaspoon vanilla extract
- ¼ cup rock salt
- 1 pint or quart size zip or slider freezer weight bag
- 1 gallon size zip or slider freezer weight bag (slider is best)

For the group:

- Small cups and plastic spoons for serving ice cream
- Measuring cups and spoons
- Paper towels
- Sheet plastic or newspaper to protect working surface
- Chocolate syrup (optional)
- Large container to hold discarded ice and salt

Credits

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