

# Making Ice Cream

## Summary:

Students will learn how to make ice cream and in addition will learn about the properties of water in all of its forms.

## Objectives:

Through performing a simple experiment students will learn about some of the complexities of water and understand the relationship between rock salt and ice. Students will also be able to note the change of liquid to solid.

## Student Connections:

- Investigate how rock salt can lower the freezing/melting point of ice
- The water we drink today could have been Shakespeare's bath water or from Napoleon's toilet! Investigate how water can be millions of years old?
- What three states can water exist in on earth?
- Can you think of any other substances that can exist in all 3 states (solid, liquid and gas)?
- Do any of the planets in our solar system exist without water? Describe what would happen if there was no water on the earth?
- Most materials are denser (heavier) in their solid form. Explore how the solid form of water (ice) can float on the liquid form (water)?
- What would happen if the earth was just a few thousand kilometres closer / further away from the sun? What would earth be like?

### CSF II Levels:

3,4,5 & 6

### KLA's:

Science, Technology

### Duration:

45 minutes

### Setting:

Classroom

### Skills Developed:

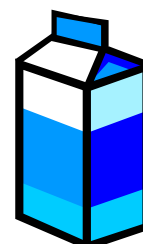
Investigation

Description

Observation

## Extension:

- Experiment with different flavours of ice cream.
- Add chopped up fruit or nuts after you have made the ice cream.



## Background:

Rock salt mixes with ice, melts it, and lowers the freezing and melting point of the liquid left behind.

The "brine" or liquid that forms absorbs heat from the ice cream mix and gradually lowers the temperature until it begins to freeze.

## Materials:

- Rock salt
- Sugar
- Milk (can be full cream or low fat)
- Crushed ice
- Vanilla extract
- Small cups
- Spoons
- Measuring cups
- Measuring spoons
- Snap lock bags (medium and large sizes)

## The Activity:

1. Break into groups of 2-3
2. Measure 1 cup of milk, two tablespoons of sugar and a half a teaspoon of vanilla extract into the medium snap lock bag.
3. Squeeze out as much air as you can and seal.
4. Place the medium snap lock bag inside the large snap lock bag.
5. Add 4 cups of crushed ice and six tablespoons of rock salt to the large bag.
6. Squeeze all the air out and seal the bag.
7. Shake the bag vigorously for several minutes (between 5-10 minutes).
8. When the ice cream is the appropriate consistency (thick and creamy) take the medium bag out of the large bag and rinse off the salt.
9. Squeeze your homemade ice cream into the small cups and ENJOY!

## Ice Cream Facts:

- Australians eat around 18 litres of ice cream per person every year.
- The first ice cream cone was made and served in 1886 in New York.

