Ice Cream Science

Have you ever made ice cream? It can be a lot of fun, and you end up with a tasty frozen treat! There is a lot of interesting chemistry that goes on behind the making of ice cream. In this science experiment, you will make your own ice cream in a bag and discover a 'cool' way to chill the ingredients as you make them become a creamy, delicious treat!

How to Do It

1. Place one teaspoon of sugar, one teaspoon of maple syrup (or any other flavouring of your choice) and one cup of milk into a zip lock bag. Seal it well and give it a good mix (shake) so that the ingredients combine.

2. Place the zip lock bag into a bigger zip lock bag (ensuring that the milk, sugar and maple syrup mixture zip lock is sealed very well).

3. Pour one big bowl worth of ice into the big zip lock bag covering the smaller zip lock bag containing the mixture. Add the tablespoon of salt.

4. Seal the larger zip lock bag and begin to shake the two bags together. Tip* As you shake the bag, ensure the ice and salt are mixing over the top of the small zip lock bag which contains the ingredients.

5. Shake for about 7-10 minutes continuously and then check on the mixture. Once you observe it has thickened and is the texture of ice cream, take out the zip lock bag containing the mixture and enjoy your delicious ice cream.

6. Your child's perseverance, genuine interest and an excitement to take on the challenge will ensure success. You may want to incorporate other opportunities for learning as you spend time shaking the bag.

You might try;

- Counting
- Singing a song
- Telling parts of a story – a well-known one or make one up
- Thinking of things e.g. 'Let's name other things that are cold, list other things that we find in our fridge or freezer.'
- Talking about animals that like the cold and how they are suited for these environments. The possibilities are endless!

What Learning is Occurring?

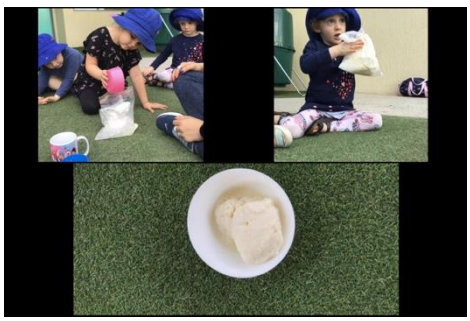
- Reviewing the different types of matter with the children: liquid, solid, gas
- Children understanding the difference between liquids and solids; solids stay the same shape, whereas liquids do not
- Exploring our senses of taste, smell and touch, sight and hearing too!
- Making connections between different experiences, concepts and processes. Recalling what we know about these ingredients.
- Language skills – responding both verbally and non-verbally. Suggesting, offering and discussing differing hypotheses and observations.
- Interacting with others to explore ideas and concepts, clarify thinking, and learning alongside and with others and materials in learning relationships.

Things you will need

- Milk
- Sugar
- Maple syrup or any flavouring of your choice. You could also use some fresh or frozen fruit.
- 1 small-medium zip lock bag
- 1 large zip lock bag
- Big soup bowl full of ice
- Salt

Tips – Further experiments

- As children will need to shake for few minutes, a pair of gardening gloves on offer might be welcome as it can get very cold.
- As we undertook this experiment with children at Guardian Tempe, we talked about how we can ensure we keep our hands warm, as it can get very cold when shaking the ice cream mixture. Our pre-schoolers decided they wanted to try it out and see just how cold it would get and not to use gloves. We then thought about and discussed ways to warm ourselves up afterward!
- Another experiment you can try to extend learning further is an ice and salt experiment. This will demonstrate to children how salt reacts to ice, and the cause and effects. Have a look for melting salt and ice experiments online.



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