

Activity: Marshmallows

On SCOPE's Things that... we eat episode, you saw Julia make some marshmallows. Here's how she did it:



What you need:

Small cake tin	Wooden spoon
Cooking oil spray	Stove
Icing sugar	Vanilla extract
White sugar	Salt
Saucepan	Pink food dye
Water	Electric mixer
Gelatine	Cutting board
Corn syrup	Knife

What to do:

1. To start with, spray the cake tin with cooking oil and dust with icing sugar. This will make the tin non-stick.
2. Next, add $\frac{1}{2}$ cup of water and 3 tablespoons of gelatine to the saucepan, and let it sit for about 5 minutes.
3. Add to the saucepan 2 cups of sugar, $\frac{2}{3}$ cup of corn syrup and $\frac{1}{4}$ cup of water.
4. Mix it all together and then bring it to the boil on the stove. Young scientists might need an adult to help with this part!
5. Once the mixture is boiling, stir for a couple more minutes. Then, turn off the heat and pour the mixture into a heat-proof bowl.
6. Add to the bowl 2 tablespoons of vanilla extract, a teaspoon of salt and a couple of drops of pink food dye.
7. Next, beat the mix using an electric mixer until it is fluffy and thick – up to 10 minutes!
8. Pour the mixture into the cake tin and let it set for about 3-4 hours at room temperature.
9. Turn out the marshmallow onto a cutting board and cut it into little marshmallow pieces. You can even finish off by coating them in icing sugar!

What's happening?

When you cook or bake there is always science involved, particularly when you make marshmallows! Did you know they are called marshmallows because the recipe originally included sap from the root of a marshmallow plant? These days the sap is replaced by gelatine in the recipe. To start with we used oil to make the cake tin non-stick. That's because oil is a fluid that repels water, so it repelled the water-based mixture and stopped our marshmallows from sticking to the pan. Next we combined the gelatine and water. Gelatine is basically a mix of proteins and it can absorb 5-10 times its own weight in water. This stuff is what held all the ingredients in place and gave the marshmallows their chewy consistency. Then we boiled the ingredients. By boiling the mixture, the ingredients dissolved, their chemical nature changed and everything mixed together. After letting our mixture set and cutting it into bite sized pieces, our delicious, gooey lollies were ready to be toasted on a campfire or eaten straight away!