

WARNING!

This recipe involves very hot liquid, and a hot saucepan on a hob. Ask an adult to help you.

THE LAB

Eight pages of things to make and do

Cook fudge

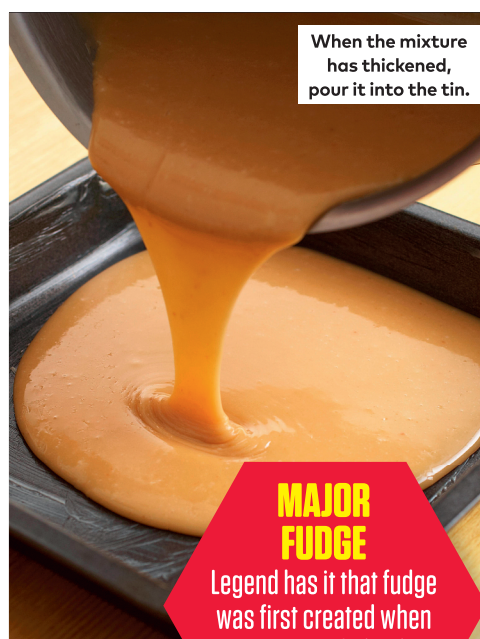
Discover the chemistry of sugar while making this super-sweet festive treat.

What you need

- 100g butter
- 550g demerara sugar
- 200g golden syrup
- 350ml double cream
- Saucepan
- Heat-resistant spoon
- Sugar thermometer (not essential)
- Bowl of cold water
- 1tsp vanilla extract
- Pinch of sea salt
- A 23-centimetre square tin lined with baking paper
- Knife

Instructions

Put the butter, sugar, golden syrup and cream into a saucepan and slowly heat on the hob, stirring occasionally. Once the sugar has dissolved, stop stirring and let the mixture simmer (bubble gently). After about 20 minutes check the temperature of the liquid, using a sugar thermometer. Once it is 116°C or higher, turn off the hob. (If you don't have a sugar thermometer, drop a little of the mixture in a bowl of cold water and use a spoon to fish it out. If the mixture can be rolled into a ball, it is ready.) Leave the mixture to cool for about 10 minutes, then add the vanilla extract and salt. Beat with a spoon until it thickens (be patient, it takes a while). Pour the mixture into the lined tin. When it has cooled completely, cut it into delicious sweet squares.



When the mixture has thickened, pour it into the tin.

MAJOR FUDGE

Legend has it that fudge was first created when someone "fudged" a recipe for caramel.

How does it work?

Sugar is also called sucrose. It dissolves in cream. When you heat the cream, the water in it evaporates. With less water for the sugar to dissolve in, the sucrose starts to form crystals. The secret to smooth fudge is allowing the mixture to cool slowly. If you stir it too soon, it helps the sucrose molecules to "find" each other and form large crystals. Beating the mixture when the mix is cooler starts the crystallisation process later, and instead of large sugar crystals you get loads of small ones. Sugar crystals are good in fudge, but they shouldn't be allowed to get too large. Smaller sugar crystals give your fudge a smoother texture, whereas larger crystals make it feel rough and grainy on the tongue.