

WARNING!

The sugar syrup gets very hot. Be sure a grown-up is there to help.

THE LAB

Eight pages of things to make and do

Kitchen Chemistry

A classic Halloween sweet.

Make toffee apples

Rustle up some deliciously crunchy autumn treats.

What you need

- Eight wooden lolly sticks
- Eight apples
- Baking paper
- 400g caster sugar
- Saucepan
- 1tsp lemon juice
- 100ml water
- 4tbsp golden syrup
- Sugar thermometer (if you have one) or a spoon and a small bowl of cold water
- Red food colouring
- Sprinkles

Instructions

- 1** Push a stick into the stalk end of each apple. Place them on baking paper, on a clean, flat surface.
- 2** Tip the sugar into the pan. Add the lemon juice and water and heat until it is simmering. Swirl the pan gently instead of stirring the mixture.
- 3** Add the syrup and increase the heat. If you have a sugar thermometer, test the mixture to check that it reaches 150°C. If you haven't got one, carefully drop some of the mixture from a spoon into cold water. If it's hot enough, it will harden straight away and crack easily.
- 4** Swirl a few drops of food colouring into the hot mixture. Holding the stick, dip in each apple until it is fully covered. Allow the excess toffee to drip off, then add the sprinkles. Leave the apples to cool on the baking paper.



How does it work?

Sugar dissolves in water – the solid sugar separates and becomes part of the liquid. As you heat the sugar syrup the water turns to steam and boils away, increasing the concentration of sugar (the amount of sugar compared to water). The cold water test tells you how much water there is left in the liquid. At the “hard crack” stage – used to make toffee, nut brittles and lollipops – there is almost no water left. The liquid is now hot, melted sugar. When the syrup cools, it forms a hard, glassy and delicious solid that cracks when bent.

REX SHUTTERSTOCK