



Sugar Pop

Do you have a sweet tooth? Are you fond of a fizzy drink?

Partial to a can of pop?

This experiment will show you just how much sugar is in every can that you drink...

You will need

- Various branded cans of regular and diet soft drinks
- A large, clear container of water (e.g. a fish tank or bowl)
- A bag of sugar
- A 500 ml bottle of soft drink

Steps

1. Take a can of regular soft drink, and place it in the water – you should find it sinks.
2. Now, take a diet can of the same brand and place it in the container – this time it will float.
3. Repeat the experiment with several different brands, showing that all regular drinks sink, whilst all diet versions float.
4. Have a think as to why this might be the case.

Follow-up

The amount of sugar in the regular soft drinks means that the liquid inside has a higher **density** than water.

The can as a whole (including the metal exterior and air trapped inside) is therefore denser than the surrounding water – so the can sinks.

The diet soft drinks don't contain any sugar. The can as a whole is thus less dense than water, allowing it to float.

To see just how much sugar is in fizzy drinks, take a look at the label on the 500 ml bottle – it should give a value in grams.

One teaspoon of sugar weighs around 4 g – use this value to calculate the amount in the bottle in number of teaspoons.

Count this number out using the bag of sugar. Would you consider eating this amount of dry sugar in one go, or taking that many lumps in your tea?