SCIENCE EXPERIMENT

Make a crystal snowflake!

Find out how crystals are formed in this fun activity. You might like to experiment with food colouring to decorate your crystal snowflake.

What you'll need

- String
- Wide-mouthed glass jar
- White pipe cleaners
- Blue food colouring (optional)
- Boiling water
- Borax
- Wooden pencil

Instructions:

Cut a white pipe cleaner into three sections, each of the same length. Now twist these sections together in the centre, so that you have a shape that looks something like a six-armed star. Make sure the arms of your star are even – use scissors to trim them to the same length.

Attach your string to the end of one of the pipe cleaners. Tie the opposite end of the string to the middle of the pencil. You will use this to hang your completed snowflake.

Ask an adult to carefully fill the jar with boiling water.

For each cup of water, add three tablespoons of borax, adding one tablespoon at a time. Stir until the borax dissolves. (Don't worry if some of the borax settles at the base of the jar.)

Add some of the (optional) blue food colouring to the water if you'd like to give your snowflake a nice bluish tinge.

Lower your pipe cleaner snowflake into the jar, so that the pencil is resting on the edge of the jar and the snowflake is hanging freely in the borax solution.

Leave the snowflake overnight, and when you return in the morning you will find it is covered in crystals!

What's happening?

The crystals are made up of borax molecules. Borax is also known as sodium borate. It is usually found in the form of a white powder, which is made up of colourless crystals that dissolve in water.

By using boiling water, you are able dissolve far more borax than if you were using cold water. This is because the warmer the water, the faster the water molecules move around, which means they are further apart from each other. This allows more room for the borax crystals to dissolve.

As the solution cools, the water molecules slow down and move closer together. They can no longer hold as much borax. Crystals begin to form on top of each other, and before you know it, you have your completed crystal snowflake!