HOW TO GROW YOUR OWN CRYSTALS

Crystals are solids that form when their atoms are arranged into orderly, repeating structures. Using some kitchen chemistry you can create the right environment to grow your own crystals for a sweet treat or a sparkly decoration. Ask your grown-up for help!

THE MATERIALS

- Jar or open-mouthed container
- Skewer/dowel – long enough to rest on the top of the jar
- Twine
- Pipe cleaner
- Pot or kettle for boiling water
- Borax or sugar
- Food coloring (optional)

THE METHOD

1. Take the pipe cleaners and make a shape.
2. Tie a length of twine to your skewer/dowel and to the top of your pipe cleaner shape.
3. Boil enough water to nearly fill the container you are using to grow your crystal and carefully pour the water into the jar. To color your crystals, mix in food coloring at this step.
4. Stir in 1-2 tablespoons of Borax or sugar (the solute) at a time until it dissolves, continuing until no more dissolves and you see some of the solute that remains. Wear gloves if using Borax, mix the solution in a container that won’t be used for food or drink, and do not lean over the container while stirring.
5. Lower the pipe cleaner shape into the container (making sure nothing touches the sides). Cover the opening and place in a safe location. Let the solution sit: Borax crystals can be ready after a few hours or overnight; sugar crystals might need to remain suspended for a few days.
6. Once the crystals reach your desired size, gently remove them from the solution and lay out to dry.
How to Grow Your Own Crystals

The Science Behind

Different materials have different solubility; this means that only so much of different solutes can dissolve in a set amount of liquid, or solvent. When we apply more heat, the solubility of the solute, Borax or sugar, increases and more can be dissolved. When our supersaturated solution cools, it can’t hold as much of the solute and the solute crystalizes. Whatever isn’t dissolved in the solution is a great anchor point for the new crystals to form, so our pipe cleaner shapes are perfect for attracting new crystals.

Notes

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Credits and Further Reading

STEAMPoweredFamily.com
ScientificAmerican.com
Education.com

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