



# SCIENCE OUTSIDE THE CLASSROOM

## Grow your own crystals

**Recommended age group:** 6-12 years

Growing crystals can take several days, but this super-easy recipe gives you a cup full of needle-like crystals in just a few hours!

### You will need:

Epsom salt  
Food colouring (optional)  
Beaker, cup or small bowl

### What to do:

In the beaker, stir 1/2 cup of Epsom salts with 1/2 cup of very hot tap water for at least one minute. This creates a saturated solution (some undissolved crystals may be visible at the bottom of the container). Add a couple drops of food colouring at this step if you want your crystals to be coloured. Put the beaker in the refrigerator and leave it for 3-4 hours. When the time is up, remove your container from the refrigerator, and pour off the remaining solution to examine your crystals.

### How does it work?

Epsom salts are also called magnesium sulphate. The temperature of the water determines how much magnesium sulphate it can hold, so you'll find that it will dissolve more when it is hotter. When you can no longer dissolve any more of the base material into the water, your solution is now saturated solution.

Cooling the solution quickly encourages rapid crystal growth, since there is less room for the dissolved salt in the cooler, denser solution. As your solution cools, the magnesium sulphate atoms run into each other and join together to form a crystal structure. Crystals grown this way will be small, thin, and numerous. This will be the case for any material/chemical that you use.