

EXPERIMENT MANUAL

Grow a **CRYSTAL**



WARNING — THIS SET CONTAINS CHEMICALS THAT MAY BE HARMFUL IF MISUSED. READ CAUTIONS ON INDIVIDUAL CONTAINERS AND IN MANUAL CAREFULLY. NOT TO BE USED BY CHILDREN EXCEPT UNDER ADULT SUPERVISION.

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rod to help dissolve the crystals. The hot water will warm the mixture and dissolve the alum salt. If you still see a few individual crystals after repeated stirring, take out the jar and reheat the water in the pot.

3. Add the dye

When all the alum salt is dissolved add the packet of dye powder.

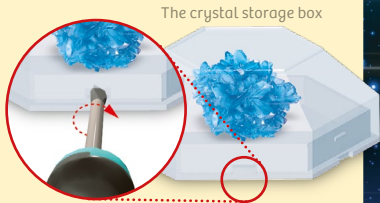
CAUTION: The dye can stain clothing and table surfaces!

4. Crystallization

Place the jar in a quiet, out-of-the-way location and wait. After just a few hours, you will start seeing transparent, angular shapes forming on the bottom of the jar, which will grow bigger and bigger within a day or two. Use an old spoon to fish out the crystals that you like best and place them on a paper towel to dry. Then put them in the transparent crystal box and close the box. Screw

Tip! If you don't get a large enough crystal to tie on a thread, you can repeat Experiment 1 multiple times. You can also save one of the small crystals and once the solution has cooled, place it in the solution. It will act as a seed crystal. Then wait a day or two. A hand towel can also be wrapped around the jar as it cools to slow the cooling process and allow the crystals to grow larger.

the lid onto the jar containing the remaining solution and label the jar. That way, you can continue to perform experiments with it later on.



Close the box tightly by pressing the lid and bottom together. Make sure the lid is positioned correctly. To open the box, insert a small screwdriver into the slot on the side and twist it carefully.

Making a Large Individual Crystal

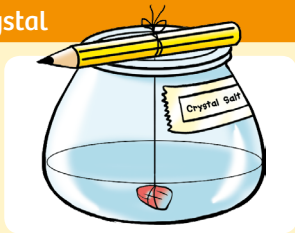
EXPERIMENT 2

YOU WILL NEED:

> The remaining crystal solution, a crystal from Experiment 1, old pot, trivet, oven mitts, thread

1. Heat the solution in the jar as in Experiment 1. Stir until all the crystals have re-dissolved. It will take a little longer this time because the crystals are larger. Let the solution cool for 20 minutes.

Tip! This is how to label the mason jars: Write "crystal salt solution" with a pencil or ballpoint pen on a narrow strip of paper, and tape the paper to the jar. If you use self-adhesive labels, you should still cover the label with a strip of tape.



2. After the solution has cooled, take a crystal from your box and tie a thread around it. Then tie the other end of the thread to a wooden skewer or long pencil, and lay the skewer or pencil across the top of the jar. The thread should be long enough to allow the crystal to be submerged in the solution without touching the bottom of the jar.
3. Return the jar to its out-of-the-way spot and wait. The crystal will continue to grow larger over the next few days. If a lot of little