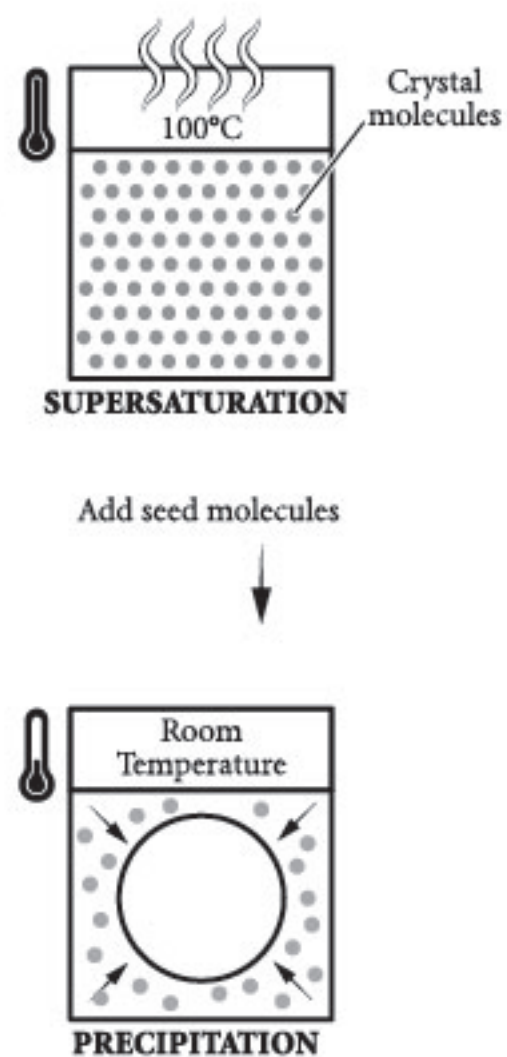


### HOW DOES IT WORK?

When you add the crystal powder to hot water, it breaks up into tiny crystal molecules in the water. These crystal molecules are far too small to see (unless you use a microscope). When you add the crystal powder to the right amount of hot water, a 'supersaturated' solution is formed (if you stir in more powder, no more can dissolve). Because hot water can dissolve more crystal molecules than cold water, the water cannot contain all the crystal molecules when it cools down, so some crystal molecules fall back out of the solution into solid form. We have a special word for this — we say molecules 'precipitate' out of solution. As they precipitate, the crystal particles join with the crystal molecules on the growing body. The crystals on the coating are called 'seed' molecules and the crystal particles coming out of the solution attach themselves to the seed molecules.

Meanwhile, the water in the solution has been evaporating into the air (drying up), leaving a stronger and stronger crystal solution behind (\*cold, humid conditions slow growing down because they slow evaporation down). So more and more crystal molecules gradually join (fuse) with the ones already on the body, forming larger crystals. Because all the solution molecules are the same kind (all from the same crystal powder), they all form crystals of the same shape, which all stick together, making a big chunk of crystals that are beautiful and interesting to look at!

And best of all — YOU MADE THEM!



### SAFETY RULES:

- Read these instructions before use, follow them and keep them for reference.
- Keep young children, animals away from the experiment area.
- Store this experimental set and the final crystals out of reach of children under 8 years of age.
- Clean all equipment after use.
- Make sure that all containers are fully closed and properly stored after use.
- Ensure that all empty containers and/or non-reclosable packaging are disposed of properly.
- Wash hands after carrying out experiments.
- Do not use any equipment which has not been supplied with the set or recommended in the instructions for use.
- Do not eat or drink in the experiment area.
- Do not allow chemicals to come into contact with the eyes or mouth.
- Do not apply any substances or solutions to the body.
- Do not grow crystals where food or drink is handled or in bedrooms.
- Take care while handling with hot water and hot solutions.
- Ensure that during growing of the crystal the container with the liquids is out of reach of children under 8 years of age.
- Make sure that all containers are fully closed and properly stored after use.

### INGREDIENT LIST:

#### Crystal Growing Powder:

Name	% by weight
Aluminium potassium sulfate CAS: 7784-24-9 EINECS: 233-141-3	100

### Please observe the following statements (Risk and Safety advice).

Aluminium potassium sulfate  
CAS: 7784-24-9 EINECS: 233-141-3  
S24 Avoid contact with skin.  
S25 Avoid contact with eyes.

### DISPOSAL OF CHEMICALS:

The used chemicals can safely be flushed down the drain with plenty of water.

# Grow Your Own CRYSTAL CASTLE

**WARNING** – This set contains chemicals and apparatus that may be harmful if misused. Read cautions on individual containers carefully. Not to be used by children except under adult supervision.

**WARNING** – Not suitable for children under 8 years. For use under adult supervision. Contains some chemicals which present a hazard to health. Read the instructions before use, follow them and keep them for reference. Do not allow chemicals to come into contact with any part of the body, particularly the mouth and eyes. Keep small children and animals away from experiments. Keep the experimental set out of reach of children under 8 years old. Eye protection for supervising adults is not included.

### ADVICE FOR SUPERVISING ADULTS:

1. Read and follow these instructions, the safety rules and the first aid information and keep them for reference.
2. The incorrect use of chemical can cause injury and damage to health. Only carry out these experiments which are listed in instructions.
3. This experimental set is for use only by children over 8 years.
4. Because children's abilities vary so much, even within age groups, supervising adults should exercise discretion as to which experiments are suitable and safe for them. The instructions should enable supervisors to assess any experiment to establish its suitability for a particular child.
5. The supervising adult should discuss the warnings and safety information with the child or children before commencing the experiments. Particular attention should be paid to the safe handling of acid, alkalis and flammable liquids.
6. The area surrounding the experiment should be kept clear of any obstruction and away from the storage of food. It should be well lit and ventilated and close to a water supply. A solid table with a heat-resistant top should be provided.
7. Substances in non-reclosable packaging should be used up (completely) during the course of one experiment, i.e. after opening the package.

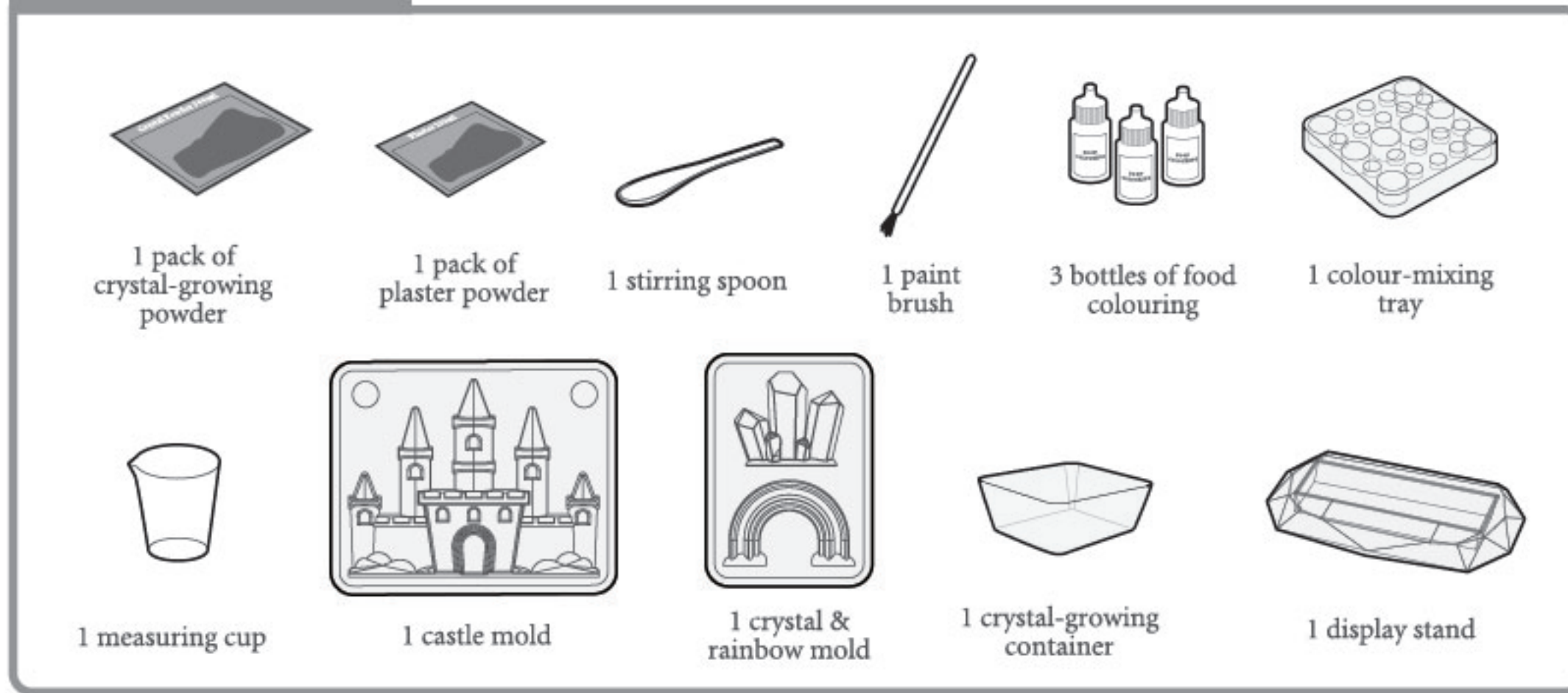
### FIRST AID INFORMATION

Most important: In case of injury, get medical assistance immediately.

1. In case of eye contact: Wash out eye with plenty of water, holding the eye open if necessary. Seek immediate medical advice.
2. If swallowed: Wash out mouth with water; drink some fresh water. Do not induce vomiting. Seek immediate medical advice.
3. In case of inhalation: Remove person to fresh air.
4. In case of skin contact and burns: Wash affected area with plenty of water for at least 10 minutes.
5. In case of doubt, seek medical advice without delay. Take the chemical and its container with you.
6. In case of injury always seek medical advice. Write the telephone number of your nearest Poison Control Center that can be reached in an emergency: \_\_\_\_\_



## PACKAGE CONTENTS



IMPORTANT: YOU MAY ALSO NEED: a jug of steaming hot water, rubber gloves, an apron and protective goggles.

**Please read** all the instructions to help you understand all the procedures before you start. If there is anything you don't understand or are not sure about, please ask an adult such as one of your parents/relatives or a school teacher. Using this kit, you will need adult supervision at all times. Take great care when using hot/boiling water and the solutions you will produce. Also, as the crystal columns you will make can be sharp and are easily broken, be very careful when handling your crystals, so you don't hurt yourself or break your lovely crystals.

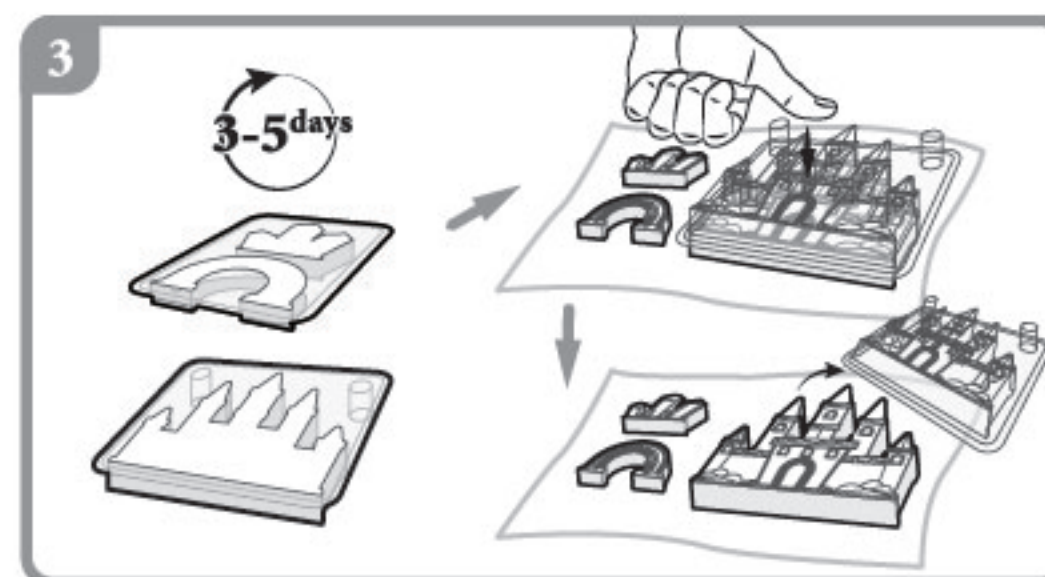
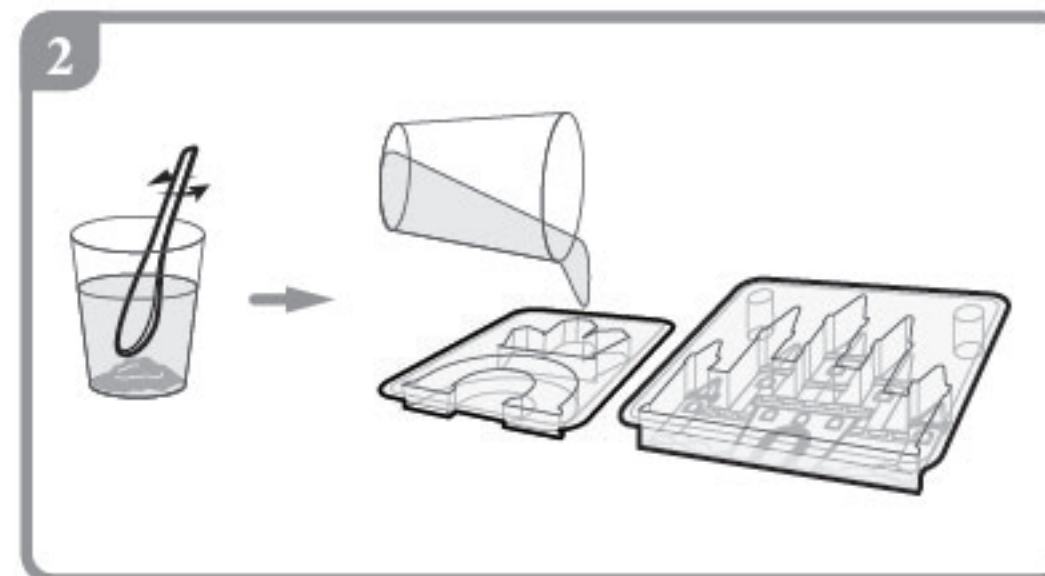
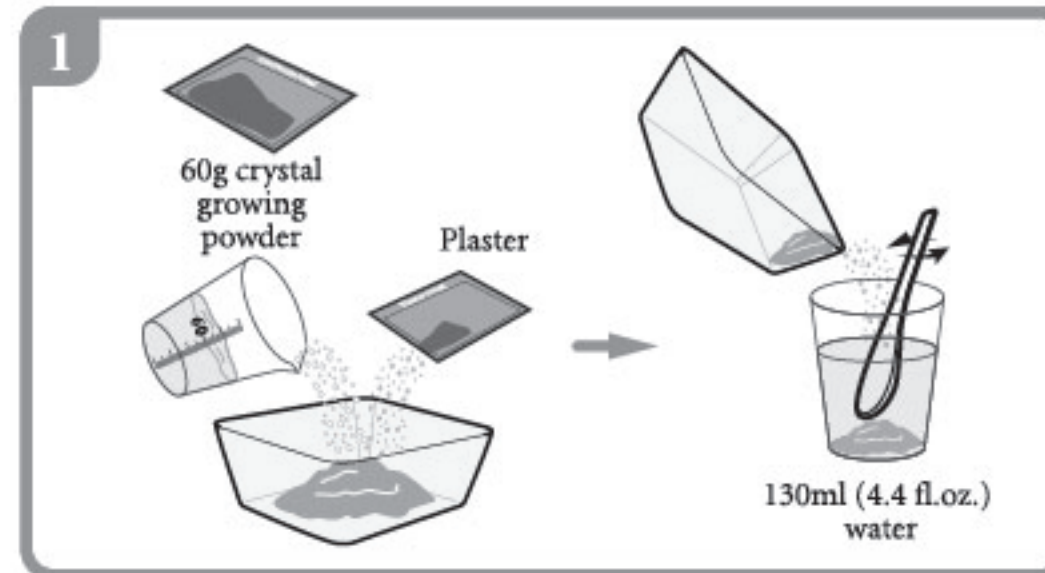
### INSTRUCTIONS:

1. Measure **60g** of crystal growing powder by filling it approximate to the **60ml** mark of the measuring cup and mix with whole pack of plaster in the crystal-growing container. Find a 200ml paper cup or a disposable container and fill in **130ml (4.4 fl.oz.)** of water.

- Pour the plaster and crystal growing powder into the cup of water. As soon as you have added the powder, stir quickly until there are no lumps and the plaster is thick.

2. Stir the mixture quickly for a minute and pour it into the crystal & rainbow mold and castle mold. Let it dry under room temperature. Clean the crystal-growing container by flushing out the residue powder in step 1. and get ready for next step.

3. Wait until the plaster models are dry, which usually take around 3-5 days. Unmold it carefully.



4. **Be careful when handling hot water — ask an adult to do this part for you.** Measure the amount of boiling water as precisely as you can. If you use too much water, or not enough, your crystal growing might not work properly. - Pour out exactly **1100ml (33.8 fl.oz.)** boiling water into crystal-growing container, and mix all the remaining crystal powder from the pack used in **Step 2**.

5. Stir until all powder is dissolved, use stirring spoon and place the plaster models into the crystal-growing container as shown in fig.5 carefully. Make sure all models are submerged in the solution and keep some space between each model for crystals to grow. Do not stir or shake the solution after this.

6. Find a location for the growing container where the temperature stays relatively constant and where the crystals can happily grow undisturbed. After 24 hours, some growing crystal clusters should start to appear on the body. Shine a bright focused flashlight on the models will help you spot crystals growing and extending in the solution. In good growing conditions, crystals will grow all over the models surface in **1 day**. The crystals' size and growing time will vary depending on the environment you grow them in. If the environment is cold or humid, it will take longer for them to grow\*.

7. Carefully remove you lovely castle, crystal and rainbow model from the container after you are pleased with the crystals. Pour away the remaining solution. Place crystal castle onto the display stand and let them dry.

8. Once the crystals are completely dry, paint them with food colouring according to the box cover or create you own colorful castle set. Your crystals are completed! Now you can display your them as part of your crystal collection!

