

# VOLCANO Wonder

**WARNING** – Not suitable for children under 8 years. For use under adult supervision. Contains a chemical which may present a hazard to health. Read the instructions before use, follow them and keep them for reference. Do not allow chemical 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.

## 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, alkalies 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:

Tel: \_\_\_\_\_

## 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 out of reach of children under 8 years of age.
- Clean all equipment 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.

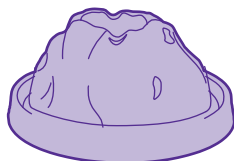
## SODIUM BICARBONATE POWDER INGREDIENTS:

Name	ID	% by weight
Sodium bicarbonate NaHCO <sub>3</sub>	CAS Number 144-55-8	
	EC Number 205-633-8	99
Sunset Yellow food colouring	E110	<0.5
Ponceau 4R food colouring	E124	<0.5

## DISPOSAL OF CHEMICALS:

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

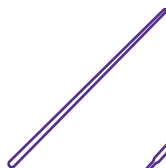
## Contents



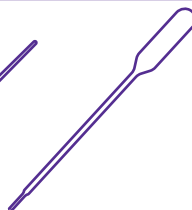
1 volcano model



1 bag of sodium bicarbonate powder with food colouring



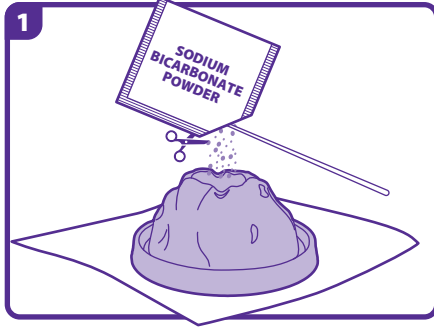
1 stirring rod



1 dropper

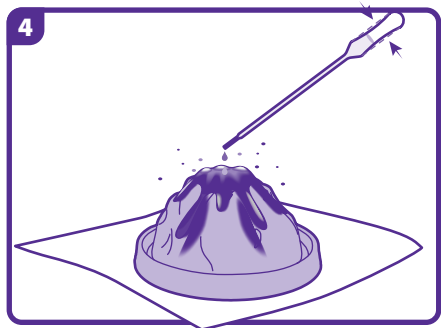
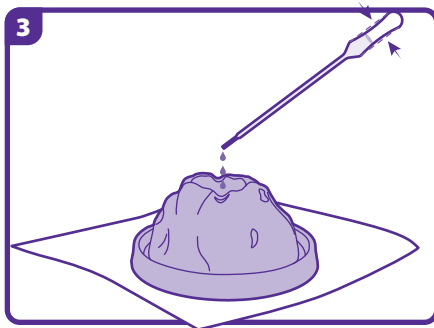
YOU MAY ALSO NEED: a measuring cup and white vinegar

## Instructions:



**1** You will need a flat surface for your workstation. Protect tables etc with plastic sheeting. Make sure the volcano cone model is dry before you begin, then open the bag of sodium bicarbonate powder with scissors. Use the rod provided to push enough of the sodium bicarbonate powder into the crater (also called 'caldera') to fill it halfway.

**2** Pour approximately 50ml vinegar into a cup, and squeeze the dropper several times to draw vinegar into it until it is full.



**3** Use the dropper to add about half the vinegar into the caldera/crater. Do not locate your hands or eyes directly above the model, but use the length of the dropper to help you work from the side.

**4** Bubbles will start to flow out over the edges of the caldera just like a volcanic eruption. Repeat the process, dropping more vinegar into the volcano to see it keep on erupting.

**5** You can clean your model then make the volcano erupt again whenever you like. If you finish the sodium bicarbonate powder in the kit, you can repeat the experiment using baking soda from the kitchen (ask an adult for help!). Add a few drops of red food colouring as well if you like, then add vinegar, using similar quantities to the original experiment. ALSO, you can use lemon juice or cola instead of vinegar [SCIENCE TIP: The reason lemon why juice, coke and vinegar all produce the same reaction is that they are all highly ACIDIC].

## Did you know?

**1** The word 'volcano' comes from the name for the Roman God of Fire – Vulcan.

**2** Volcanoes are often found at gaps in the Earth's crust, at the edges of what are called the 'tectonic plates'. These plates are pieces of the Earth's surface that fit together, like a jigsaw puzzle. Volcanoes can also occur away from the tectonic boundaries however, over super hot areas of rock inside the Earth called 'mantle plumes', such as in Hawaii and Iceland.

**3** One in 10 humans lives within 'danger range' of one of the 1,510 'active' volcanoes in the world.

**4** Magma is the name given to hot molten rock under the Earth's crust that escapes onto the surface by flowing as liquid through a volcano. Once it leaves the volcano, it's known as lava.

**5** As well as occurring on land, volcanoes exist on the ocean floor and under ice caps, too!

**6** The world's largest active volcano is Mauna Loa in Hawaii, standing 4,169m tall!

**7** Lava can reach temperatures up to 1,250°C and has the power to burn everything in its path! If you used a glass thermometer to take its temperature, the glass would melt!