

Volcanic eruption

Encourage your young people to become critical thinkers by supporting their curiosity and creativity.

This activity contributes to the following badges:



Scout Scientist Activity Badge



Time: 45 minutes

Equipment

Washing up tub
Sand
Water
Baking soda

30ml vinegar
Red food colouring
500ml plastic bottle
Measuring jug

1

Ask your young people to fill the plastic bottle a third full with water and add approximately two teaspoons of baking soda. Then add food colouring until the mixture looks red. Replace the lid on the bottle.

2

Next, they should place the bottle in the middle of their washing up tub. Pour sand into the washing up tub and add water so the sand can be moulded around the bottle to form a cone shape. They should make sure they can still access the lid of the bottle as this will form the crater.

3

Measure out approximately 30ml of vinegar using the measuring jug.

4

Remove the lid of the bottle, making sure that no sand gets inside. Add the vinegar to the bottle, step away quickly and watch the volcano erupt.

5

Now ask your young people to predict what they think would happen if you change one variable in the experiment, such as the amount of vinegar or baking soda. Ensure they have checked with an adult then they should carry out the experience again.

- Were you right in your prediction?
- Why did you think that would happen?

6

Explain to an adult or the rest of your group the science behind the experiment. If you don't know, try to research it and then feedback to the group.

7

Do some research to find out what causes a real volcanic eruption. How is it similar or different to your eruption? Discuss what you have found out with your group.

Take it further

You can repeat this experiment as many times as you like and change different variables along the way.

Can you make a volcano with multi-coloured lava?

Notes for leaders

Why not see if there is a local STEM Ambassador through [STEM Learning](#) who can provide some support?