

# BUILDING VOLCANOES

Learn how volcanoes grow and how scientists study them using this recipe to build your own volcano.

*You will need to ask for adult supervision during this activity to create an erupting volcano!*

Scientists that study volcanoes are called **volcanologists**. Volcanologists learn all about volcanoes to understand more about our Earth as well as to help protect communities that live close to volcanoes. Volcanoes are made of layers of igneous rock (which is cooled ash and lava). Scientists investigate the layers of igneous rock to find out about the history of the volcano, how many eruptions it has had, how big they were and when they last erupted.

## WHAT DO I NEED?

DOUGH

- 1 cup of **flour** (~ 250 g)
- 1/2 cup of **salt** (~ 125 g)
- 1/2 cup of **water** (~ 125 ml)
- 3 x different colours of **food colouring**

ERUPTION

- 3 tsp **baking soda**
- 6 tbsp of **water**
- 6 tbsp of **vinegar**
- small container** (empty yoghurt pots work well)
- tissue and tray** (to mop up and prevent spills)

## HOW TO MAKE THE DOUGH

**Step 1:** Add 1 cup of flour and 1/2 cup of salt to a large mixing bowl and stir using a spoon.

**Step 2:** Mix a small amount of water at a time making sure to stir and mix with the flour and salt.

**Step 3:** Continue adding water and kneading until you have formed a thick dough, it shouldn't be too sticky (if it is just add a little more flour!)

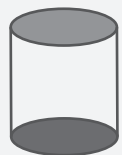
**Step 4:** Split your dough into three equal balls.

**Step 5:** Take one ball of dough and add a couple of drops of food colouring, mixing to create coloured dough. Repeat for the two remaining balls of dough to create three differently coloured doughs.

## TASK 1: ASSEMBLING A VOLCANO

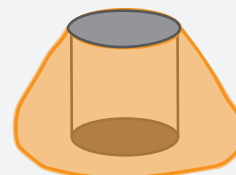
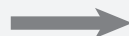
### STEP 1: BUILD THE VOLCANO VENT.

Place a small container in the middle of your **VOLCANO MAP**. This will be your volcano vent. Use one colour/ball of dough (recipe shown on the left) and build around your container to create a volcano cone shape. *Make sure to leave the opening of your container clear.*



small container

*small yoghurt pots or yoghurt drink pots work well!*



surround your container in coloured dough

### STEP 2: TIME FOR AN ERUPTION!

Fill your container with 1/2 vinegar and 1/2 water (~2 tbsps of each). When you are ready, add a tsp of baking soda. Your volcano will erupt and bubble over, spilling onto the sides of your volcano and onto the map.

Using a pen or pencil, draw around the edges of your lava flow. When you have recorded your eruption, use a tissue to clear away any liquid.

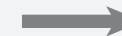
## TASK 2: INVESTIGATING A VOLCANO

### STEP 3: ADD LAYERS OF IGNEOUS ROCK.

When lava cools it turns into rock. Use your outline of the lava flow to create a new layer of igneous rock. To do this, you will need to use a ball of dough (in a different colour to the cone of dough you have already made) and fill in your outline. This should show where your mixture flowed in your volcanic eruption.



outline where your mixture flowed



fill in your outline with a new colour of dough to create a new layer

Repeat steps 2-3 to create a third layer of dough.

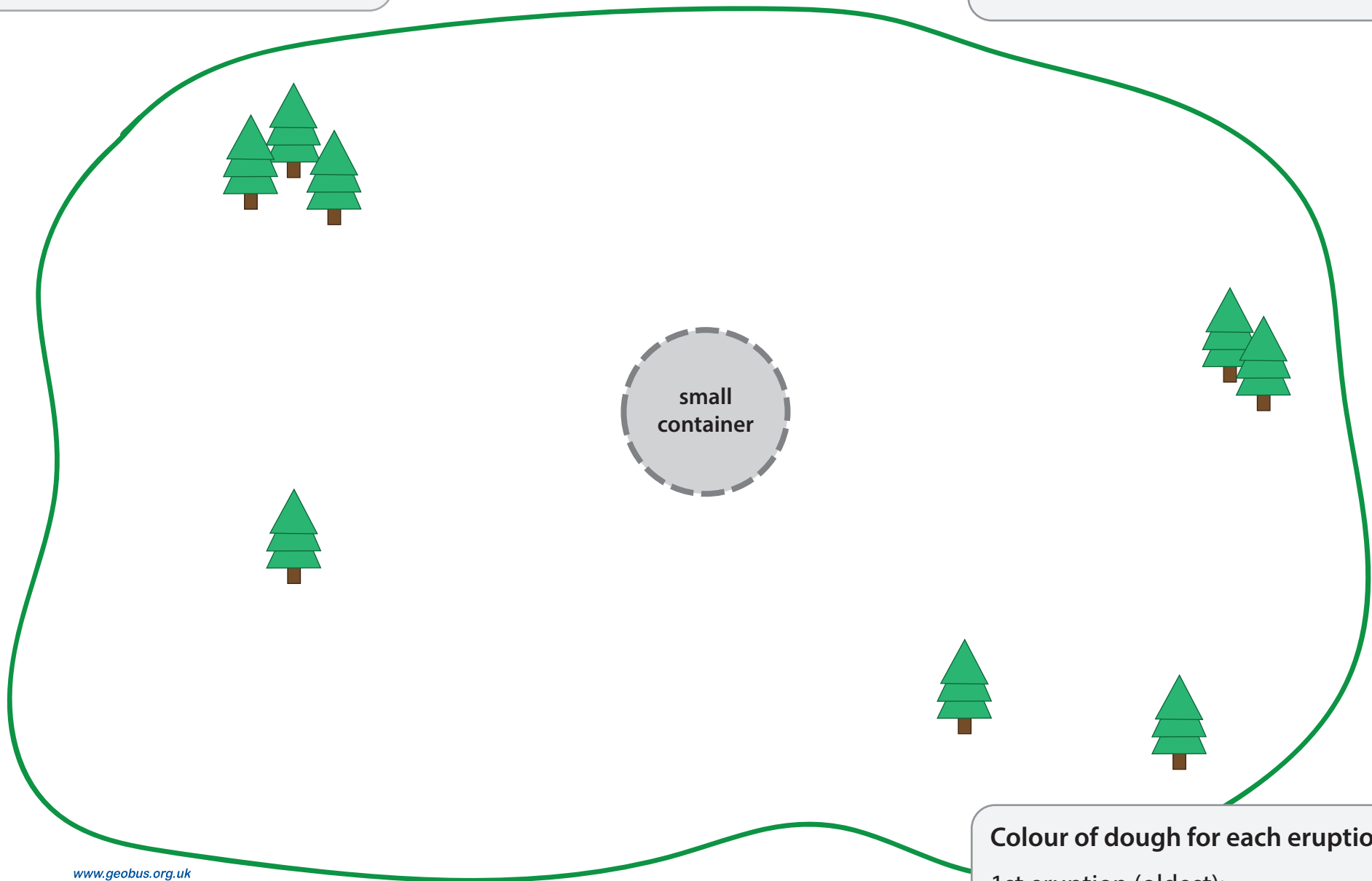
### STEP 4: INVESTIGATE THE LAYERS.

You now have a volcano made of layers of dough, just like real volcanoes which are made of layers of igneous rock. The oldest rock will be the deepest and the youngest rock (from the most recent eruption) will be on top. Volcanologists dig down into the layers of rock to find out about the history of a volcano.

! Place a tray under this map to prevent spills as it will get wet!

# VOLCANO MAP

My volcano is called: .....



Colour of dough for each eruption

1st eruption (oldest):.....

2nd eruption:.....

3rd eruption (youngest):.....

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