

# Lava Layering

## Instructions



Instructions:

*[NB: steps 1-3 can be prepared in advance, or during a previous class]*

1. Take the eruption container and secure it to the cardboard square
2. Using card/paper, build up the volcano shape around the container
3. Mark North, South, East, and West on the edges of the cardboard
4. Place a large spoonful of baking soda in to the eruption container (fold a piece of paper in half and use this to tip in the powder)
5. Pour vinegar into a plastic cup until approximately half full  
Optional: fill several cups and of vinegar and add a different colour of food colouring to each – matching the playdough colours if desired
6. Set aside 4-6 palm sized balls of playdough, each in a different colour

You are now ready to create an eruption!

7. Pour the vinegar into the container and watch the eruption
8. Draw around the edge of the 'lava' flow with a pencil or marker
9. Use paper towels or a cloth to mop up the excess fluid from the flow
10. Using a thin layer of playdough, cover the entire area where lava flowed (matching flow colour/playdough if using food colouring)
11. Record information about the flow - indicate shape, flow direction, thickness, texture (is it foamy, with lots of bubbles or smooth), and also indicate where this flow is in the sequence – flow 1, 2, 3 etc.
12. Repeat steps 7 - 11 for each colour of play dough available
13. Discuss the progression of flows, noting that the youngest flow of lava is deposited on top and the oldest is on the bottom of the lava successions
14. Sketch the volcano on the sheet provided, and answer the questions about volcanoes on Earth and Mars

Extension Task:

Swap volcanoes with another person/group so that you have a series of lava flows in front of you that you have not seen erupt.

Take a clear plastic straw and carefully cut it in to three equal sections.

Chose three points across the volcano and 'core' the succession of lava flows by cutting through them with the end of the straw and lifting it out to reveal the layers of plasticine/playdough.

Use the information collected from the cores to try to work out where the older lava flows (now covered) flowed – can you recreate a map of all of the lava flows at this volcano using just the core information?

Additional extension:

Investigate the differences between types of lava by varying the relative amounts of bicarbonate/vinegar or adding washing up liquid etc.

