

Lava Layering

Teacher Notes



- Activity title: Volcanoes on Mars: Lava Layering
- Target Age Group: Scottish S1 – S4 (approximately 12–16 years)
- Preparation: Collect materials, download associated PowerPoint & 'Volcanoes on Mars' Geology In A Minute video, print student worksheets
- Activity Description: The focus of this activity is observing and identifying the sequence of lava flows produced by multiple volcanic eruptions. Fluid lava flows are simulated and then modelled with various colours of play dough used to identify different eruption events. Students will be asked to observe where the flows travel, make a model, and interpret the stratigraphy.
- Time: 5-10mins introduction/preparation, 40mins activity, 5-10mins reflection
Total: 50mins - 1 hour
- Learning Outcomes: Follow a procedure to produce a sequence of lava flows
Think critically in order to construct a realistic model of a volcano
Use observation, recording, and sampling techniques to construct and interpret the history of a volcano
- Materials:
- containers for the centre of the volcano, to contain the eruption
[probiotic/yoghurt drinks bottles, like yakult, work really well]
 - squares of cardboard
 - playdough, soft clay, or salt dough (see recipes below)
[ideally at least 4 different colours]
 - tape and card/paper for building up the body of the volcano
 - baking powder, vinegar and food colouring
 - spoon for baking powder, beaker/plastic cup to measure vinegar
 - paper towels
 - marker pen, paper, pencils
 - (extension: clear plastic straws – ideally fat ones, scissors)
- Student Organisation: This activity may be done individually or in small groups, depending on class size – groups of around 4 usually work best

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- Salt Dough: *2 cups flour, 2 tablespoons oil, 1 cup salt, 1 cup cold water, food colouring*
- You can either use the quantities above to make one large batch of a single colour, or divide the ingredients in half to make 2 colours (ideally you need 4-6 colours of dough in total – the quantities given make enough dough for approximately 4 palm sized balls). Mix all ingredients and knead until smooth and elastic. Store in air tight containers/plastic bags until ready for use.

