Australian Curriculum: Year 6 Science Understanding (Earth and Space Sciences)

Sudden geological changes or extreme weather conditions can affect Earth's surface

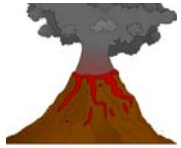
Before transformation: Sample Year 6 task

How to make a model volcano

Volcanoes are formed when magma from inside the Earth is squeezed to the surface. This occurs when there is a build-up of pressure inside the Earth. When magma reaches the Earth's surface it is called lava.

You will need:

- a volcano shape – make one from papier mache, plaster, clay or even a mound of dirt or sand
- two tablespoons of baking powder
- a small container
- a few drops of red food colouring (optional)
- one tablespoon of vinegar
- one tablespoon of liquid dishwashing detergent.



Directions:

1. Put the small container into the top of the volcano
2. Add baking soda
3. Add detergent
4. Add food colouring
5. Now, carefully add a little vinegar into the container.
6. **Watch your volcano erupt!**

What do you notice?

Draw your volcano before and after the eruption. Describe the eruption of your volcano. Do you think it is a good model?

Find out more

Find out more about volcanoes around the world.

What's possible?

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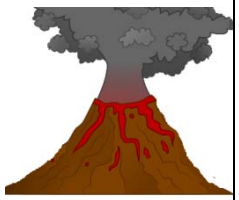

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Transformed task: Getting the students doing the thinking

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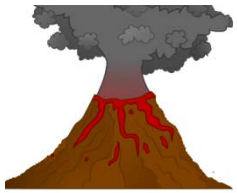

What do you notice?

- Describe what you feel, see, smell, hear
- Draw a diagram to show what happened in your volcano model.

What do you already know about volcanoes?

- Work with a partner to record some things you already know about real volcanoes onto a three column **KWL** chart (What I think I **K**now, What I **W**ant to know, what I **L**earned)
- Explain how you think a real volcano is **like** the model you have made. How is it **different?**

Find out more

- What questions do you have about the causes and consequences of a real volcanic eruption? Write them in the second **(W)** column of your chart.
- Research to find out the answers to your questions. Add any new information to the third **(L)** column of your chart.

What do you think?

What do all the volcanoes have in column?

Scientists might use a model of a volcano to show how volcanoes form and erupt.

Do you think the model you made would be a good one for scientists to use? Share your ideas. Explain your reasons.

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Annotations: How has the task been changed?

What did the teacher do?	Why?
Asked students to compare and contrast their model with real volcanic eruption.	So students could establish relationships between the model and the actual event through identifying similarities and differences.
Asked students to identify the things about volcanoes that they wanted to know, and guided them to find out the answers for themselves.	So students could analyse the extent of their own understanding and purposefully find the answers to their own questions.
Asked students to draw conclusions by evaluating how effectively the model they made explained how real volcanoes form and erupt.	So students could make connections between pieces of information, and use this reasoning to justify a point of view.

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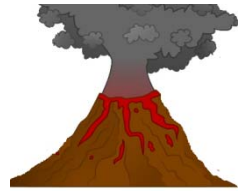

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