Name: _____ Date: _____

How Do Volcanoes Erupt?

Year 5 reading comprehension · Information text · 13 marks · About 25 minutes

Rock beneath our feet

The ground we walk on is part of the Earth's crust, a thin layer of solid rock. Beneath the crust lies the mantle, where it is so hot that some of the rock has melted. This molten rock is called magma. Magma is lighter than the solid rock around it, so it slowly rises towards the surface. Over thousands of years, it can travel a very long way through tiny gaps and cracks.

Pressure builds

Magma collects in huge chambers deep underground. It contains dissolved gases, which are trapped in much the same way as the bubbles in a bottle of fizzy drink. As more magma gathers, the pressure inside the chamber grows. Eventually the pressure becomes too great, and the magma forces its way upwards through cracks in the rock.

The eruption

When the magma reaches the surface through an opening called a vent, an eruption begins. At this point the magma is known as lava. Some eruptions are gentle, and the lava simply flows slowly down the sides of the volcano. Others are violent. They throw ash, gas and fragments of rock high into the air. In 79 CE, the eruption of Mount Vesuvius in Italy buried the Roman town of Pompeii under ash.

Living with volcanoes

Although volcanoes are dangerous, millions of people live near them. The ash from old eruptions breaks down into very fertile soil, which is excellent for growing crops. Scientists also monitor volcanoes carefully. They use instruments to detect small earthquakes and changes in the shape of the ground, which can warn that an eruption may be coming. This gives people time to leave their homes and move to safety.

1. What is the name for melted rock that is still underground? (1 mark)

2. What is the opening called that magma erupts through? (1 mark)

3. Find and copy one word from the final section that means "able to grow plants well". (1 mark)

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4. Why does magma slowly rise towards the surface? (1 mark)

5. The writer compares the trapped gases in magma to a bottle of fizzy drink. What does this comparison help the reader to understand? (2 marks)

6. Why do you think some people choose to live near volcanoes, even though they are dangerous? (2 marks)

7. Number these events 1 to 4 in the order they happen. (2 marks)

- [ ] Magma reaches the surface through a vent.
- [ ] Magma rises from the mantle.
- [ ] Pressure inside the chamber grows.
- [ ] Magma gathers in a huge chamber.

8. Write two or three sentences to sum up why a volcano erupts. (3 marks)

Writing task: Imagine you are a scientist watching a volcano. Write a report for the villagers explaining the warning signs.

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