

Volcanic Wonders: An Explorer's Field Report

Learning objective: To describe and explain the formation and impact of volcanoes using geographical vocabulary.

Use this writing scaffold to construct a detailed report about volcanoes. Think like Finn the dolphin as he observes coastal landscapes, or Nova the owl as she studies the earth's crust from above. Ensure you use technical terminology and provide justifications for your observations.

Deep beneath the Earth's crust, immense pressure builds within the mantle, waiting for a weakness in the surface to release its fiery energy.

Word bank: tectonic plates · magma chamber · viscous · subduction · eruption · consequently · furthermore · in contrast · geothermal energy · devastating · fertile soil

1. Introduction: Define what a volcano is and explain the relationship between tectonic plates and volcanic activity. Start your paragraph with: 'A volcano is essentially a rupture in the Earth's crust where...' (3 marks)

2. The Eruption Process: Explain the transformation from magma to lava. Use the following sentence starter: 'The process begins as intense heat melts rock, creating magma which rises because...' (3 marks)

3. Categorisation: Compare and contrast active, dormant, and extinct volcanoes. Explain why some volcanoes are considered more hazardous than others using the phrase: 'While active volcanoes pose an immediate threat, dormant ones...' (4 marks)

4. Environmental Impact: Justify why humans might choose to settle near volcanic regions despite the risks. Consider the benefits by starting with: 'Although the danger is significant, many populations thrive in these regions because...' (3 marks)

5. The Aftermath: Describe the long-term effects of an eruption on the surrounding landscape. Start with: 'Following a major eruption, the landscape is permanently altered as...' (2 marks)

6. Critical Thinking: What might happen if a super-volcano were to erupt today? Discuss the potential global consequences on climate and transport. (3 marks)

Extension challenge: Imagine you are an explorer documenting a new volcanic island. Write a diary entry explaining the sights, sounds, and smells of the environment. How does the geography influence the life that exists there? Justify your answer with scientific reasoning.