

Explosive Earth: A Geography Investigation with Finn the Dolphin

Learning objective: To identify, describe, and understand the physical processes and features of volcanoes using accurate geographical terminology.

Read each question carefully. Use your knowledge of the Earth's layers and plate tectonics to provide detailed, scientific explanations. Finn the Dolphin is looking for clear, logical answers!

Finn the Dolphin has been mapping the ocean floor and has discovered some incredible underwater mountains that spew hot rock! Use your knowledge of volcanoes to answer the questions below.

Word bank: magma · lava · crater · tectonic plates · vent · eruption · mantle · dormant

1. Explain the difference between 'magma' and 'lava'. At what point does the substance change its name? (2 marks)

2. Volcanoes are often found where tectonic plates meet. Describe what happens to the Earth's crust at these boundaries to allow magma to rise. (3 marks)

3. Compare and contrast a 'dormant' volcano and an 'active' volcano. Why might a volcano be considered dormant for hundreds of years? (2 marks)

4. Justify why people might choose to live near a volcano despite the danger. Think about soil quality and natural resources. (3 marks)

5. What might happen to the surrounding landscape immediately after a major volcanic eruption? Consider both the geography and the local wildlife. (2 marks)

6. If you were a scientist monitoring a volcano, which three signs would you look for to predict an imminent eruption? (3 marks)

Draw: Draw a labelled cross-section diagram of a composite volcano. Ensure you clearly label the magma chamber, the main vent, the crater, and the layers of ash and hardened lava.



Extension challenge: Research the 'Ring of Fire' that surrounds the Pacific Ocean. Write a short paragraph explaining why this specific area has such a high concentration of volcanic activity compared to the rest of the world.