

Volcanic Ventures with Finn the Dolphin

Learning objective: To identify the key features of a volcano and explain the processes involved in a volcanic eruption, demonstrating an understanding of tectonic activity.

Finn the Dolphin has been mapping underwater volcanoes and needs your help to label the anatomy of a volcano correctly. Use the word bank to complete the diagram labels, then answer the deeper thinking questions below to show your expertise on how these powerful natural wonders function.

Word bank: Magma Chamber · Vent · Crater · Lava · Ash Cloud · Crust · Conduit

1. Explain the difference between 'magma' and 'lava'. Why is this distinction important when describing a volcanic eruption? (2 marks)

2. What might happen if the vent of a volcano becomes blocked by hardened rock? Justify your answer using your knowledge of pressure. (2 marks)

3. Compare and contrast a dormant volcano with an active volcano. How do their current states affect the surrounding environment? (2 marks)

4. If you were a geologist studying a volcano, what specific signs would you look for to predict a future eruption? (2 marks)

5. Some volcanoes form islands in the middle of the ocean. Explain how a submarine eruption can eventually lead to the creation of new land. (2 marks)

6. Justify why many human settlements have historically been built near volcanic regions despite the potential dangers. (2 marks)

Draw: Draw a cross-section of a composite volcano. Include and label the 'Magma Chamber', 'Conduit', and 'Crater'. Colour the erupting lava with vibrant reds and oranges, and show the ash cloud darkening the sky above.



Extension challenge: Design a 'Volcano Emergency Kit' for a fictional village located at the base of a volcano. List five essential items you would include and provide a brief justification for why each item is necessary for the safety of the residents.