

Volcanoes: A Geographical Field Report with Nova the Owl

Learning objective: To identify, describe, and explain the physical processes and geographical location of volcanoes.

Use this field report to record your findings about volcanoes. Conduct your research using your class textbook or library resources. Ensure you use specific geographical vocabulary to explain how these powerful natural landforms are created and where they are situated across the globe.

Word bank: tectonic plates · magma · lava · crust · vent · crater · eruption · dormant · extinct · ring of fire · mantle

1. Location and Distribution: Using an atlas, identify where many of the world's volcanoes are located. Explain why they are often found along the boundaries of tectonic plates. (3 marks)

2. Anatomy of a Volcano: Describe the journey of magma from the Earth's mantle to the surface. Use your own words to define the difference between magma and lava. (3 marks)

3. Classification: Compare and contrast dormant volcanoes with extinct volcanoes. Justify why a volcano might be classified as 'active'. (4 marks)

4. Environmental Impact: Explain how a volcanic eruption might change the surrounding landscape and affect the people living in nearby settlements. (3 marks)

5. Critical Thinking: What might happen if a large volcanic eruption occurred near a major city? Consider both the immediate dangers and the long-term effects on the climate or soil quality. (5 marks)

6. Synthesis: If you were Nova the Owl, observing a volcanic region from the sky, what evidence would you look for to determine if the volcano is currently active? (4 marks)

Extension challenge: Imagine you are a scientist studying a newly discovered volcano. Write a formal field diary entry detailing your observations of the site. Use advanced vocabulary to describe the geological features you see and explain the risks associated with your expedition. Can you suggest one piece of technology that might help you monitor the volcano safely?