

Earthquakes: The Shaking Earth Assessment

Learning objective: To assess understanding of the causes, effects, and locations of earthquakes, and to apply geographical knowledge to real-world scenarios.

Read each question carefully. Use your knowledge of tectonic plates and the Earth's structure to provide clear, detailed answers. Write in full sentences where required.

Finn the dolphin has been mapping the ocean floor and has discovered that the Earth's surface is not one solid piece. It is divided into massive, jigsaw-like sections that are constantly moving, although we rarely feel it. When these sections rub against each other or get stuck, energy builds up. When that energy is suddenly released, the ground shakes, causing an earthquake.

Word bank: tectonic plates · crust · mantle · epicentre · seismograph · tremor · fault line · magnitude

1. Name the two outer layers of the Earth that make up the tectonic plates. (2 marks)

2. Explain why earthquakes often happen along the boundaries where tectonic plates meet. (3 marks)

3. Define the term 'epicentre' in your own words. (2 marks)

4. Identify one piece of equipment scientists use to measure the strength of an earthquake and explain its purpose. (2 marks)

5. Compare and contrast the immediate impact of an earthquake in a busy city versus an isolated rural area. Consider buildings, transport, and communication. (4 marks)

6. Max the monkey is designing a 'shake-proof' house. If you were advising him, which two architectural features would you suggest to keep the building stable during a tremor? Justify your choices. (4 marks)

7. Extended Writing: Imagine you are a scientist reporting on a major earthquake. Write a report (approx. 100 words) describing the causes of the event, the potential damage to the landscape, and why it is important for communities to have emergency plans. (8 marks)

Draw: Draw a cross-section diagram of the Earth showing the crust and the mantle. Label the tectonic plates and draw arrows to show how they move against each other.



Extension challenge: What might happen if the tectonic plates stopped moving entirely? Justify your prediction using your knowledge of the Earth's natural cycles. Total: /25