

Earthquakes: Shifting Foundations Assessment

Learning objective: To demonstrate a secure understanding of the causes, locations, and effects of earthquakes on the Earth's surface.

Read each question carefully. Use your knowledge of tectonic plates and geographical impact to provide detailed answers. Write clearly and ensure you use geographical terminology.

Finn the dolphin has been exploring the ocean floor near deep-sea trenches. He notices that the Earth's outer shell is not one solid piece, but is broken into massive sections that are constantly, yet slowly, moving. When these sections grind against each other, the energy released can cause the ground to shake violently.

Word bank: Tectonic plates · Epicentre · Seismograph · Crust · Magnitude · Focus · Fault line · Tremor

- 1. Identify the name given to the large, moving sections of the Earth's crust. (1 mark)**

- 2. Explain the difference between the 'focus' and the 'epicentre' of an earthquake. (2 marks)**

- 3. Max the monkey is calculating the strength of an earthquake. What is the name of the instrument scientists use to measure and record these ground vibrations? (1 mark)**

- 4. Why do earthquakes often occur along the boundaries of tectonic plates rather than in the middle of them? Use the term 'fault line' in your explanation. (3 marks)**

- 5. Compare and contrast the immediate physical effects of an earthquake on a built-up city compared to a remote mountainous region. (4 marks)**

6. Nova the owl is researching safety. Justify why it is vital for buildings in earthquake-prone countries to be constructed with flexible materials and deep foundations. (4 marks)

7. If a magnitude 7.0 earthquake occurred, describe the potential social and economic consequences for a local community. Consider costs for repairs, loss of infrastructure, and the impact on daily life. (Total: /5 marks) (5 marks)

Draw: Draw a cross-section diagram showing two tectonic plates moving against each other. Label the 'fault line' and the 'focus' of the earthquake.



Extension challenge: Imagine you are a town planner in a region with high seismic activity. Write a short proposal (100 words) explaining three specific safety measures you would implement to protect the town's residents. What might happen if these measures were ignored? Total: /25