

Finn's Earth-Shaking Discovery

Learning objective: To understand the causes and effects of earthquakes as part of physical geography.

Read the passage carefully, then answer the questions below. Use full sentences where appropriate.

Finn the dolphin was mapping the ocean floor near a deep-sea trench when he noticed the seabed had shifted. He swam to the surface to find his friend, Nova the owl, who was busy studying the Earth's structure. Nova explained that the Earth's outer layer, the crust, is broken into giant puzzle pieces called tectonic plates. These plates are constantly moving, though usually very slowly. Sometimes, the plates get stuck against each other due to friction. When they finally snap free, they release a massive amount of stored energy. This sudden release causes the ground to shake violently, which we call an earthquake. While most tremors happen deep underground or under the sea, they can cause significant changes to the landscape. Finn was fascinated to learn that scientists use a device called a seismometer to measure the intensity of these vibrations. Although earthquakes can be destructive, understanding them helps us build safer structures and prepare for the natural movements of our planet.

Word bank: tectonic plates · crust · seismometer · epicentre · tremor · magnitude

1. Identify the two pieces of equipment or scientific terms mentioned in the text that relate to measuring or describing the Earth's structure. (2 marks)

2. According to the text, what happens when tectonic plates get stuck and then suddenly snap free? (2 marks)

3. Why might Finn's discovery of a shifted seabed be important for scientists studying the Earth? (2 marks)

4. Explain why the author compares the Earth's crust to a 'giant puzzle'. (2 marks)

5. Do you agree that studying earthquakes is worth the effort even though they are dangerous? Justify your answer using evidence from the text. (3 marks)

Draw: Draw a diagram showing the Earth's crust as giant, interlocking puzzle pieces. Label the 'tectonic plates' and draw Finn the dolphin swimming near a trench where the plates meet.



Extension challenge: Compare and contrast the movement of tectonic plates to other natural processes, such as the flow of a river or the growth of a mountain. What might happen to a coastal town if a large earthquake occurred beneath the ocean nearby? Write a short paragraph justifying your prediction.