

Name _____

Plate Tectonic Boundaries: Where Earth's Puzzle Pieces Meet

Open-Ended Response Answer Key

1. Divergent boundaries involve plates moving away from each other, creating mid-ocean ridges, while convergent boundaries involve plates colliding or subducting, forming features like mountains and trenches. Transform boundaries involve plates sliding past each other horizontally, causing earthquakes. Examples: Mid-Atlantic Ridge (divergent), Himalayas (convergent), San Andreas Fault (transform).
2. Understanding plate boundaries is crucial for predicting and mitigating natural disasters. Scientists can monitor plate movements to issue early warnings for earthquakes and volcanic eruptions, allowing people to evacuate or take safety precautions.
3. Plate tectonic boundaries have played a vital role in Earth's evolution, shaping continents, oceans, and mountain ranges. Examples include the Andes Mountains (convergent boundary) and the Atlantic Ocean (divergent boundary), which continue to change over geological time.
4. The study of plate tectonics helps us grasp the Earth's geological history, current geological processes, and potential future events like earthquakes and mountain formation. It also aids in understanding the distribution of natural resources and the planet's long-term evolution.

