

Name _____

Cracking the Code: How Do We Know Earth's Plates Are Moving?

Open-Ended Response Answer Key

1. Possible answers may include conducting geological surveys, studying the movement of continents over long periods, analyzing the composition of rocks and minerals, and researching the history of past earthquakes and volcanic eruptions.
2. The distribution of earthquakes and volcanic activity is related to the movement of tectonic plates because most earthquakes and volcanic eruptions occur along plate boundaries, where plates interact.
3. The evidence of magnetic alignment in volcanic rocks on the ocean floor indicates the periodic reversal of Earth's magnetic field. This supports the concept of seafloor spreading and provides insight into the history of plate movement and the formation of oceanic crust.
4. Understanding plate tectonics is essential for predicting and mitigating natural disasters because it helps identify areas prone to earthquakes and volcanic eruptions. This knowledge allows communities to take measures to reduce risks, such as constructing earthquake-resistant buildings and establishing evacuation plans.

