Plate Movement Review KEY Name: Per:

Objective 6: Compare the theories of continental drift, sea-floor spreading and plate tectonics.

Objective 7: Illustrate plate tectonics (types of plates, boundaries) by describing the forces involved in driving plate movement and explain the implications to humans.

Continental Drift:

Definition → the continents had once been joined to form a single supercontinent called Pangaea, but over the last 200 million years the continents broke apart and drifted slowly to their positions today

Proposed by → Alfred Wegener, a German scientist, noticed the coastlines of South America and Africa looked like they could fit together like a puzzle.

Evidence explained → fossils, ancient climate, rock types/formations/age

Rejected because → he didn’t have an explanation for what caused the plates to move

Seafloor Spreading:

 Definition → new rock is formed at the mid-ocean ridge, pushes rock out on either side, old rock eventually subducts back into the mantle and is recycled

 Proposed by → Harry Hess mapped the ocean floor using SONAR

 Evidence explained → magnetic strips, age of ocean floor, trenches/subduction zones

Plate Tectonics:

 Definition → earth’s crust is broken up into lithospheric plates and those plates are constantly moving slowly relative to each other, driven by convection currents in the mantle.

 Evidence explained → earthquake data, volcano data, GPS satellite data

 Explain the 3 types of plate boundaries, including any resulting landforms or geologic
 activity.

Divergent → plate move apart, rift valley (2 continental plates) or ocean ridges (2 oceanic plates) form and new rock is formed here

 Convergent → plates move together, O-O form trench and island arc volcanic mountains, C-C form non volcanic mountains, C-O form trench and mountains

 Transform → 2 plates slide past each other creating earthquakes, crust is not created or destroyed

 Mechanism for plate movement → convection currents in the mantle, ridge push/slab pull

 Implications to humans → humans must be aware of where they live, what geologic activity occurs there, how they build their infrastructure...