**Unit 4 Test: Chapter 7 Plate Tectonics Review Sheet**

**S6E5.a Compare and contrast the Earth’s layers**

**S6E5.f Explain the effects of physical processes (plate tectonics) on geological features.**

**Part 1 (Layers of the Earth)**

1. List the 4 layers of Earth, beginning with the one we’re standing on:

**Crust, mantle, outer core, inner core**

1. List the 3 main layers, and list what each is made of (elements):

**Crust—mostly silicon and oxygen (very light-weight elements)**

**Mantle—a lot of magnesium**

**Core—iron and nickel (very dense metals)**

**Part 2 (Density and Temperature)**

1. Which layer is the thinnest? **crust**
2. List Earth’s layers from least dense to most dense:

**Crust, mantle, core**

1. Which layer is the hottest? **Inner core**

**Part 3 (Crust)**

1. Ocean Crust Continental Crust

 Thicker/Thinner **thinner (about 5 km thick) thicker (up to 100 km thick)**

 Main Type of Rock **basalt granite**

 Density **denser (so sinks) less dense (so rises)**

1. Why does oceanic crust subduct under continental crust (if they collide)?

**Because the ocean crust is made of basalt, which is denser than the granite (continental crust)**

**Part 4 (CORE)**

1. Outer Core Inner Core

Solid or liquid **liquid**  **solid (due to so much pressure)**

Temperature **hot (3,000-5,000 °C)** **hottest (5,000-7,000 °C)**

More/less pressure **less pressure**  **most pressure**

More/less dense **less dense** **most dense**

Composition (elements) **iron and nickel**  **iron and nickel**

**Part 5 (Lithospheric plates)**

1. Sketch the lithosphere and asthenosphere. Which one is completely solid? **lithosphere is all solid**
2. What makes the lithospheric (tectonic) plates move? (Wegener did not know about these)—**convection currents in the asthenosphere**
3. What lithospheric plate do we live on? **North American Plate**

Which lithospheric plate is Hawaii on? **Pacific Plate**



**Part 6 (Continental Drift Theory)**

1. What is Pangaea? **Alfred Wegener’s landmass that existed when all continents were joined, from about 300 to 200 million years ago (when the dinosaurs were around).**
2. What evidence did Wegener have that Pangaea existed and the continents started drifting apart millions of years ago? **(1) South America and Africa seem to fit together**

**(2) rocks and mountains of the same age and type line up when the continents put back together**

**(3) plant and animal fossil evidence**



**Part 7 (Mid-Ocean Ridges)**

14. Sketch the mid-ocean ridge (include the plate movements). Is it a convergent, **divergent,** or transform boundary?

15. What is the name of the mid-ocean ridge in the Atlantic Ocean?

 **Mid-Atlantic Ridge**

 16. Where has it built up so high that it has created a volcanic island?

  **Iceland**

**Part 8 (Boundaries)**

16. Which way do plate boundaries move?

>transform boundaries >convergent boundaries >divergent boundaries

**--slide sideways past each other ---come together (collide) --come apart**

17. Why do tsunamis form? **STRONG earthquakes (or volcanoes) underwater**

18. Why does California have so many earthquakes? What type of plate boundary is here (at the San Andres Fault)?

 **California is on two different plates (one moves north and one moves south)—a transform boundary**

19. Specifically, what type of plate boundary formed the Himalayan Mountains (folded mountains)?

 **Convergent boundary (Indian Plate ran into the Eurasian Plate)**

20. Why do rift valleys form (like the Red Sea or the Great Rift Valley in Africa)?

**Divergent boundary (two continental/land plates moving apart)**