UNIT TEST REVIEW: Earth Science **Name**_____
Mr. Lanik

Unit 3: The Dynamic Crust

Evidence of **crustal** movement - **tilted**, **folded**, **faulted**, **displaced strata**; displaced fossils; change in **benchmarks** (roads or fences); earthquakes, volcanoes.

Plate tectonics: Idea that crust is broken into plates and moving due to **convection** cells in the mantle; EVIDENCE: proof of plate movement - ocean floor spreading (rocks older farther from ridge, bands of **magnetic polarity** match up on opposite sides of ridge); jigsaw puzzle fit of continents; rock structure, composition, fossil life: match up on opposite continents.

Earthquakes: **focus** - point of origin; **Epicenter** - point on surface above focus.
can cause **tsunamis** (large wave caused by shifting rocks under water)
need data from **three** stations to locate an epicenter.

P-waves fast, first, go through solids and liquids

S-waves slower, second, go only through solids

Properties of Interior: inferred from **seismic** waves and **meteorites**

crust (lithosphere) - very thin; outer layer: "floats" on **asthenosphere (plastic mantle)** which is located underneath the lithosphere
2 types: continental, **granitic**, less dense... (p.10 ESRT)
oceanic, **basaltic** more dense

mantle - it behaves as a fluid; has convection cells

outer core - liquid, does not allow s-waves to pass through

inner core - solid; iron & nickel

Plate Boundaries: **convergent** (coming together, colliding, old crust is recycled) **trenches**
divergent (splitting apart, separating, new crust is created) **mid-ocean ridges**
transform (plates slide past each other) **San Andreas Fault**

Mountain Building: associated w/ plate movement and boundaries (**convergent/Himalayas**!).

Mountains often have folded and faulted rocks. These mountains form by crust pushing together in the convergence of plates, either in the collision of continents (Appalachians and Himalayas) or in the collision of a continent with an ocean plate (Andes).

Earth Science Reference Tables Review: Name:_____

(Adapted from: At Your Finger Tips; **homercentral.org)** Date:_____

The Earth Science Reference Tables is undoubtedly your most important resource for the Earth Science Regents exam. A knowledge of the information in the ESRT and how to use it will be of critical importance in your performance. Please keep in mind that completing this paper should be a learning activity. If you are unable to answer any of these items, use this as an opportunity to pick up new skills.

Reference Tables; Page 5

1. With respect to Africa, in what direction is South America drifting? _____
2. What kind of plate boundary is the Mid-Atlantic Ridge? (circle one) Transform, Divergent, Convergent
3. What is the major active fault in the Western United States? _____
4. What has caused the growth of the Himalayan Mountains, north of India?

_____

5. Which mantle hot spot is closest to New York? _____

Reference Tables; Pages 8 & 9

6. When did Pangaea start to split apart? (Geologic Period!) _____

Reference Tables; Page 10

7. At what two depths within the Earth is the temperature above the melting point? _____ and between _____
8. What is Earth's radius in kilometers? _____ What is its diameter? _____
9. What is the composition of Earth's core? _____
10. Which layer of the Earth is the least dense? _____ Most dense; _____
11. In what part of the Earth does the temperature increase fastest with depth? _____

Reference Tables; Pages 11

12. How long does it take an S-wave to travel 6000 km? _____ …a P-wave? _____
13. How far away is the epicenter if the P-wave arrives 5 minutes before the S-wave? _____
14. How far can a P-wave travel in 5 minutes, 40 seconds? _____