

## Lecture 10 - Tectonics

1. Which of these factors causes tectonic plate motion:

- a) slab push
- b) slab pull
- c) mantle convection
- d) centrifugal forces due to Earth's rotation
- e) moon's gravitational attraction (tidal pull)

2. What causes uplift and ridge elevation at divergent plate margins:

- a) thermal buoyancy
- b) infill of magma from volcanism
- c) infill of sedimentary deposits
- d) change in pressure from below
- e) b) and c)

3. Apparent polar wander paths were thought to track the wandering of the Earth's magnetic poles, but we now know those measurements track the movement of:

- a) glacial ice at the poles
- b) the tectonic plates
- c) hot spot migration like Hawaii
- d) migrating species across the poles
- e) the uplift of mountain belts

4) Which was not evidence used for Wegner's Continental Drift model:

- a) correlation of fossil across continents
- b) correlation of rock types across continents
- c) puzzle-piece fitment of the continents
- d) paleoclimate records linked across continents
- e) cooling of the Earth and contraction of crust

5. Describe tectonic plate push and pull. List two factors that are contributing to the push/pull system.

6. Why doesn't continental crust easily subduct?

7. What is the primary evidence for seafloor spreading? How does this evidence tell us that the seafloor has been spreading over time?

8. Why would a large earthquake be especially devastating for cities that are built on saturated sediments such as deltas or glacial sediments (i.e. Vancouver, Ottawa)?

9. What is the difference between the Mercalli and Richter scales? Which is more accurate in determining the total energy of an earthquake? Why?