

Geology 101, Fall 2007

Name:

Assignment 6: Plate tectonics

Due Monday, November 5 at noon

What is **seismic wave refraction**, and what do geophysicists use this for?

Define/distinguish the following terms:

continental drift vs. plate tectonics

active continental margin vs. passive continental margin

continental shield vs. craton

Draw **one** cross-section of the Earth that shows **all** of the following features:

- a mid-ocean ridge
- a trench
- an accretionary wedge (mélange zone)
- a volcanic arc
- a forearc basin
- a backarc basin

Name an **accreted terrane** (microcontinent) that makes up part of Washington.

What are the **four** lines of evidence that Alfred Wegener cited as evidence of **continental drift**?

Even though hotspot volcanoes have little to do with plate tectonics, explain how hotspot volcanoes were critical in providing evidence for plate tectonics.

What continents came together to form Pangaea? What continents resulted when Pangaea broke up? From when to when did Pangaea last, anyway?

What does an **ophiolite sequence** (ophiolite suite) represent?

Name **four** mechanisms by which plates may be made to move around the surface of the Earth.