

## Homework Exercise for World Natural Environments: Plate Tectonics, Earthquakes, Volcanoes

### PART 1. EARTHQUAKES!

Complete the web exercise at California State University, Los Angeles Virtual Earthquake site:

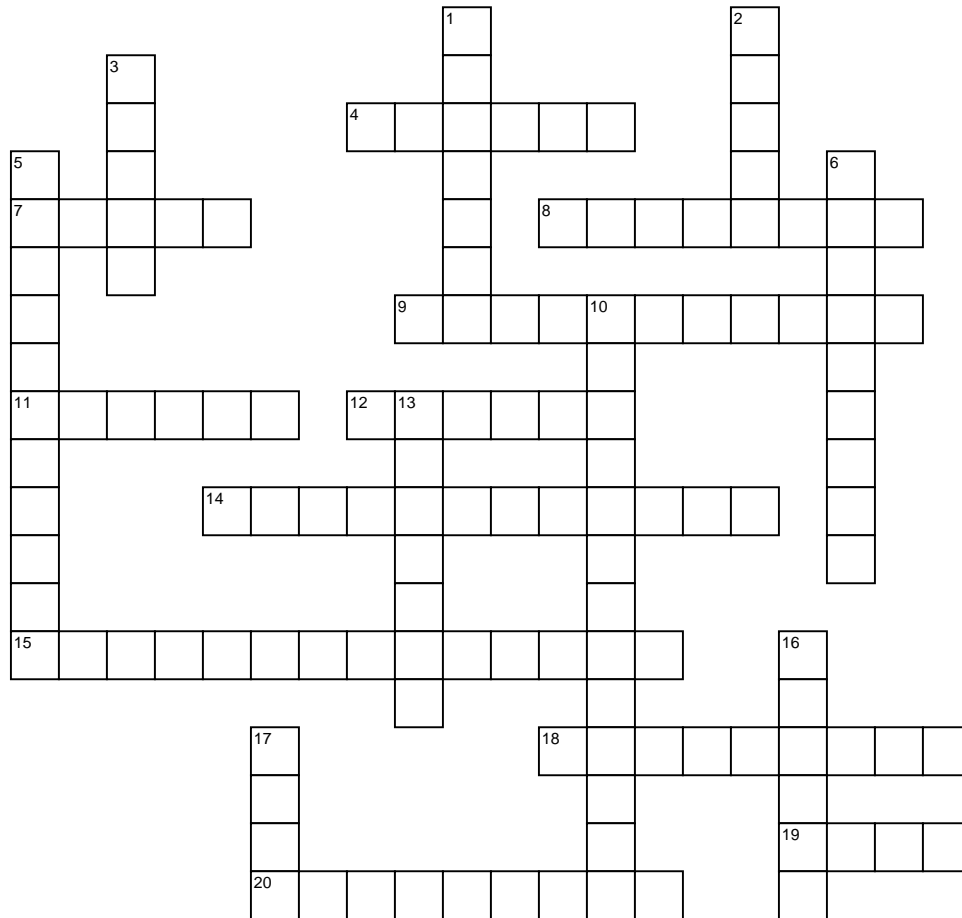
<http://www.sciencecourseware.org/VirtualEarthquake/VQuakeExecute.html>

This site gives an excellent introduction to the interpretation of seismograph records to locate an earthquake's epicenter and estimate its magnitude. Note that there are four options of locations. Select one of these based on the beginning letter of your last name as follows; A-E: San Francisco area, F-J: Southern California, K-Q: Japan region, R-Z: Mexico. To get started, scroll down to the bottom of the page and click on the large "Execute VirtualEarthquake" button.

Complete the exercise for your location. The program will generate a *Virtual Seismologist Certificate of Completion* when you finish the exercise. It also creates a table of data that compares your results to the actual data from the real earthquake you analyzed. **Print this page and turn it in.** This is the only material that you need to submit for this part of the homework.

**Go on to part 2 on the following page**

## Part 2: Plate Tectonics, Earthquakes, Volcanoes Crossword



Constructed using Crossword Weaver

### ACROSS

- 4 The rigid sections of the crust that move relative to each other.
- 7 Large fractures in the earth's crust along which there is movement
- 8 Braided, rope-like lava characteristic of basalt volcanoes
- 9 Mechanically traced record of an earthquake
- 11 Elastic energy, which when stored up in rocks along a fault plane, will cause the rocks to deform.
- 12 Typical shape of a basalt volcano
- 14 Logarithmic scale used to measure earthquake magnitude (2 words).
- 15 Area where one plate descends beneath another. (2 words)
- 18 Refers to the resistance of lava to flow; "stickiness"
- 19 Molten rock that reaches the earth's surface.
- 20 Location at the earth's surface directly above an earthquake

### DOWN

- 1 The type of rock that makes up the continental crust.
- 2 Type of seismic wave that travels fastest.
- 3 The point within the crust where an earthquake actually occurs.
- 5 Small earthquakes that occur after the main earthquake.
- 6 Type of volcano that tends to erupt explosively
- 10 Tectonic feature created at divergent zones by undersea volcanism, forms mountain chains.
- 13 A relatively stationary plume of hot mantle rock that produces volcanic mountain ranges such as Hawaii.
- 16 The type of rock the ocean floor is made of.
- 17 Zone of the earth made mostly of nickel and iron.