

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

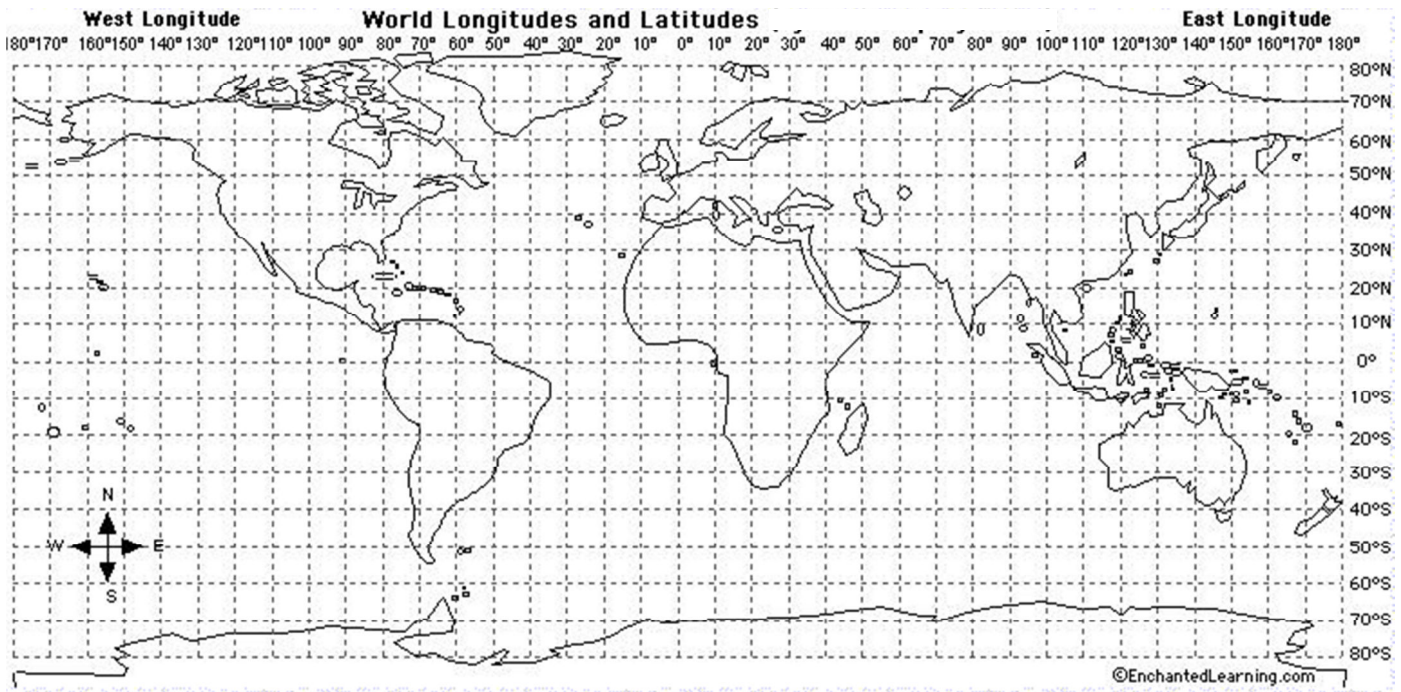
## Volcanoes & Earthquakes -- Classroom Interactive Guide

Complete this guide during class. Keep this guide in your notebook as your notes for today's activities.

### 1. Map the following points.

Use a triangle to represent a volcano and a circle for an earthquake.

Volcano ▲		Earthquake ●	
60° N, 150° W	0°, 75° W	40° N, 120° W	23° N, 125° E
40° N, 145° E	3° S, 37° E	5° S, 110° E	44° N, 74° W
45° N, 120° W	40° N, 30° E	47° S, 68° W	30° S, 70° W
5° S, 105° E	30° N, 60° E	23° N, 88° E	45° N, 10° E
20° N, 105° W	55° N, 160° E	14° S, 121° E	13° N, 85° W



### 2.

#### Where are Volcanoes?

Most volcanoes form at \_\_\_\_\_.  
 \_\_\_\_\_ % are found along \_\_\_\_\_ boundaries  
 \_\_\_\_\_ % are found along \_\_\_\_\_ boundaries  
 \_\_\_\_\_ % are found far away from plate boundaries

#### Where are Earthquakes?

Most earthquakes occur at \_\_\_\_\_.  
 \_\_\_\_\_ % occur in the \_\_\_\_\_.  
 \_\_\_\_\_ % occur in the \_\_\_\_\_.  
 The rest occur along the crests of \_\_\_\_\_  
 or randomly scattered away from plate boundaries.

### 3. How are volcanoes formed?

<b>1) Converging Plates</b>	<ul style="list-style-type: none"> <li>• Called a _____ volcano</li> <li>• Most _____!</li> <li>• _____ generated from _____ rock in the subduction zone</li> </ul>
<b>2) Diverging Plates</b>	<ul style="list-style-type: none"> <li>• Called a _____ volcano</li> <li>• Less explosive</li> <li>• Usually occurs under _____... creates new _____!</li> <li>• _____ has a rift volcano on land which is responsible for making the island</li> </ul>
<b>3) Hot Spots</b>	<ul style="list-style-type: none"> <li>• Volcanoes located far from plate boundaries form due to hot spots</li> <li>• Unusually hot regions of Earth's _____ where high-temperature _____ of mantle material rise toward the surface</li> <li>• The _____ islands were formed and are changing due to hot spot</li> </ul>

#### 4. Circum-Pacific Belt (“Ring of Fire”)

- The Ring of Fire is a band of volcanoes and \_\_\_\_\_ circling the edges of the Pacific Ocean.
- It is horseshoe-shaped, and \_\_\_\_\_ miles long.
- Of the world's 1,500 active volcanos, almost \_\_\_\_\_ are in the Ring of Fire

5.

## ANATOMY OF AN EARTHQUAKE

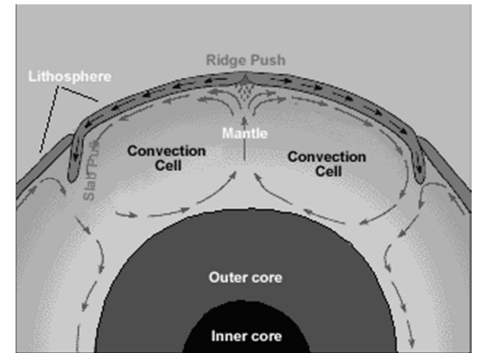
An earthquake is the shaking of the ground caused by sudden motions along faults, or fractures in the Earth’s crust.

The diagram shows a cross-section of the Earth's crust with a fault line. A fault is a fracture in the rocks that make up the Earth's crust. The focus is the point within the Earth where an earthquake rupture starts. The epicenter is the point at the surface of the Earth directly above the focus. Seismic waves, which transmit the energy released by an earthquake, radiate outwards from the focus. Labels include: 'A fracture in the rocks that make up the Earth's crust', 'The point at the surface of the Earth directly above the focus', 'The point within the Earth where an earthquake rupture starts', and 'Waves that transmit the energy released by an earthquake'. A text box on the right states: 'Make up the outer layer of the Earth's surface, and whose movement along faults triggers earthquakes'.

#### 6. Origin of Earthquakes

The underlying origin for earthquakes is movement of the plates. Earth's plates can move due to three different methods:

1. \_\_\_\_\_: The slow creeping motion of Earth's solid mantle caused by convection currents carrying heat from the interior of the Earth to the surface.
2. \_\_\_\_\_: Weight of an elevated ridge pushes an oceanic plate toward a subduction zone.
3. \_\_\_\_\_: Cooled plates become dense and sink into the mantle due to its own weight.



#### 7. Faults

- As plates move past each other, along \_\_\_\_\_, they sometimes get caught and pressure builds up.
- When the plates finally give and slip due to the increased pressure, energy is \_\_\_\_\_ as seismic waves, causing the ground to shake. This is an \_\_\_\_\_.

Drawing	Has the crust... Shortened? Lengthened? Neither?	Fault Type	Type of Plate Boundary