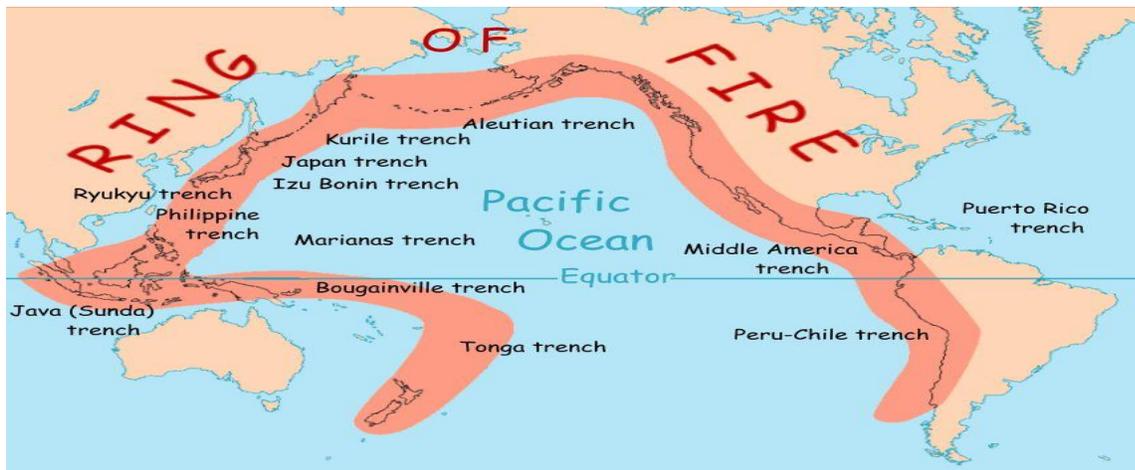


Name: _____ Class period: _____

The Ring of Fire

The Ring of Fire is an area where there are more earthquakes and volcanoes than in other parts of the Earth. There are 452 volcanoes in the Ring of Fire. This is more than 75% of all the volcanoes on Earth. 90% of the world's earthquakes are in the Ring of Fire. About 80% of the world's large earthquakes occur in the Ring of Fire.

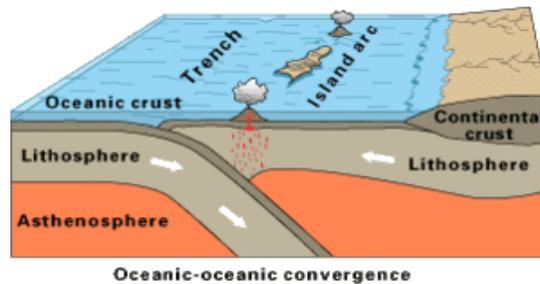
The Ring of Fire is at the edges of the Pacific Plate. The Pacific Plate is a piece of the surface of the Earth. Earth is made up of layers in the same way a cake has layers. The hard, rocky top layer of the Earth is broken into pieces. These pieces are called plates. The Pacific Plate is under the Pacific Ocean. The Ring of Fire is 40,000 kilometers long. In miles, that is 25,000 miles. The Ring of Fire is shaped like a U that is upside-down. The map below shows the Ring of Fire.



The Ring of Fire has many earthquakes and volcanoes because of the way it moves. Earth's plates are always moving. The plates move because of the heat inside the Earth. The Pacific Plate moves toward the plates that are next to it. The Pacific Plate is bumping into other plates. The Pacific Plate is dense. That means that the rock it is made of sinks. The Pacific Plate is sinking under the plates that are next to it. When a plate sinks under another plate, that is called subduction. Subduction causes volcanoes. Subduction causes volcanoes because the inside of the Earth is

hot. When the Pacific Plate sinks down, it melts. The rock of the Pacific Plate mixes with seawater and changes into magma. Magma is soft, very hot rock. Magma is less dense than other rock. It rises to the surface. A volcano erupts when the magma breaks through the surface. After magma leaves Earth's surface, it is called lava.

Subduction causes earthquakes, too. When the Pacific Plate moves under the plates next to it, it gets stuck. The plates keep trying to move. Pressure and energy build up. When the pressure breaks the rock, it moves suddenly. That is an earthquake.



1. Write definitions of Ring of Fire, plates, subduction, magma, and lava.

2. Explain how subduction causes volcanoes.

3. Explain how subduction causes earthquakes.