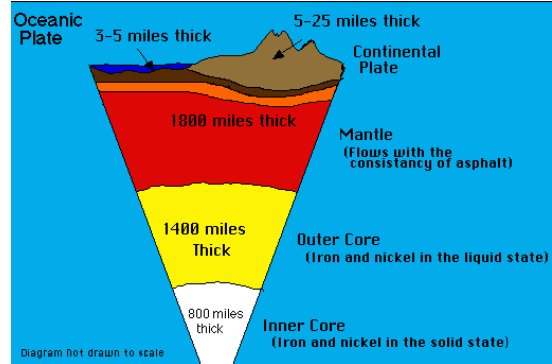
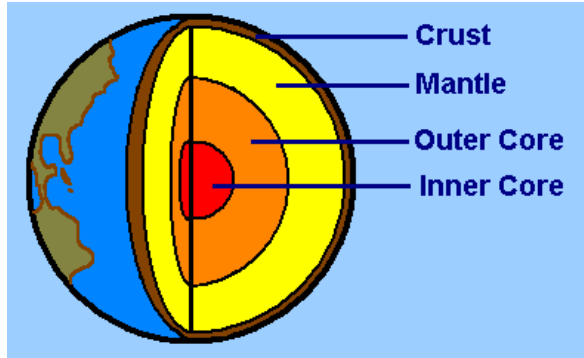


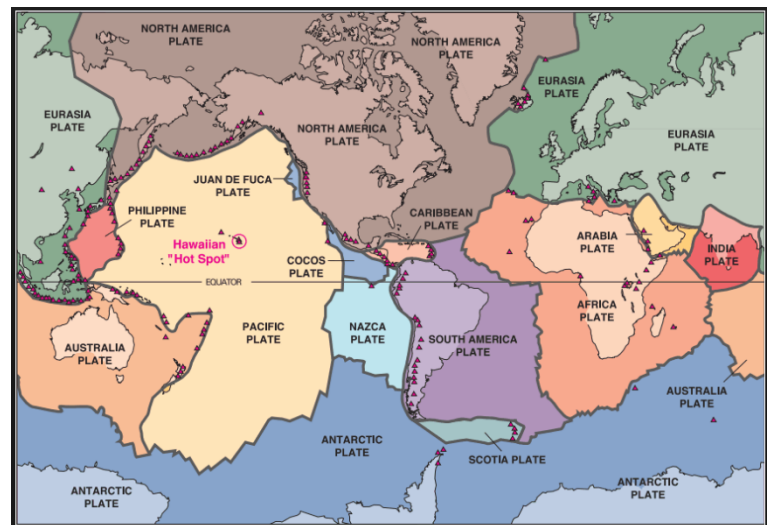
## Geology Review

### Layers of the earth:

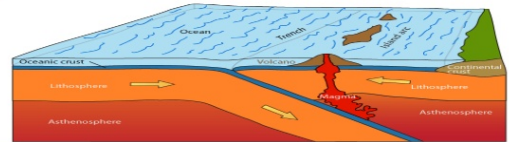
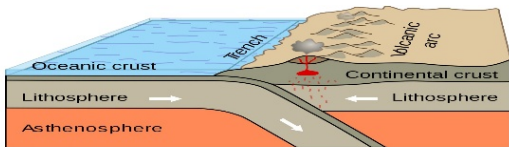


The earth's crust (lithosphere) is split up into 22 sections called plates. The LARGEST lithospheric plate is the Pacific Plate. The area around the edges of the Pacific Plates is called the Ring of Fire, due to the large amounts of volcanos (and earthquakes!) that ring around the edge of the Pacific Plate.

The plates sit on the mantle (melted rock, essentially magma), which pushes some plates apart and some plates together.

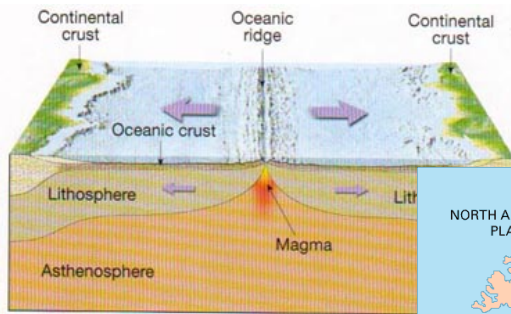


### CONVERGENT PLATES



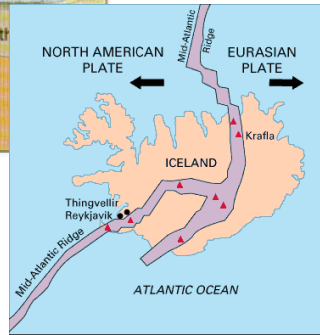
Where plates are being pushed TOGETHER, it is called a **convergent boundary**. Two things can happen at convergent boundary:

1. If an ocean and continental plate (or even two ocean plates) are meeting, the heavy ocean plate sinks and is melted below the continental plate. A TRENCH is formed where the plate is pushed down before it melted. Volcanoes are usually found at this boundary, as the melted plate is essentially turned to magma and needs to find a way to leave. (TRUE STORY—ask me about this, so cool!)
2. If two continental plates are meeting, the crusts of the two plates combine to form mountains (Himalayan Mts an example. The Indian and Eurasian plates are colliding, causing mountains to form.)



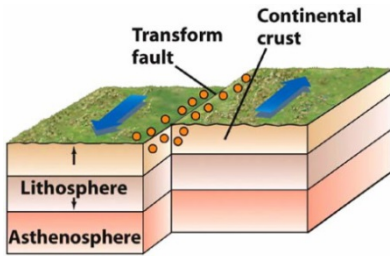
**Divergent boundary:** Here plates are being split apart by convection currents of magma below. You typically find mid ocean ridges here.

Cool story: ICELAND sits on the mid atlantic ridge, and is being torn apart by this boundary. But as it is torn apart, magma is coming up and making it grow. So it is growing and could be the next big continent.



**Transform boundaries**

Here the plates don't crash together or pull apart. They slide past one another. If they get stuck, and are unable to slide, pressure will build up and eventually cause an earthquake, as pressure is finally released and the slides are able to move again. The San Andreas fault in California is an example. Notice how Los Angeles is on the Pacific Plate, and San Francisco is on the North American plate. Each time there is

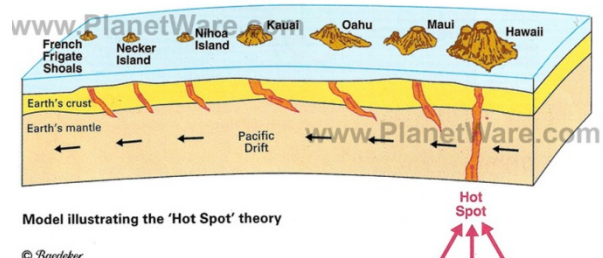


an earthquake, Los Angeles is inching closer to San Francisco, as the plate carrying LA moves northward. For Real.



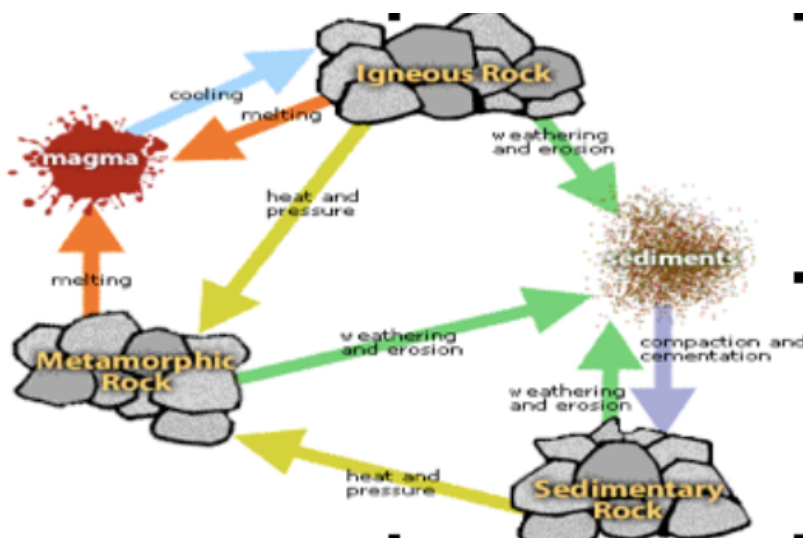
**Hot Spot:** For reasons scientists don't understand, sometimes magma below a crust is hotter in some sections than others. This magma is so hot it can burn through the crust and create "hot spots" where there are volcanoes in the middle of a plate. Examples of this: Hawaii (worlds longest continually erupting volcano, since late 80's) and Yellowstone Volcano. So cool...ask me about these!

**Formation of the Hawaiian Archipelago**



Model illustrating the 'Hot Spot' theory

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▪ **Rock Cycle**