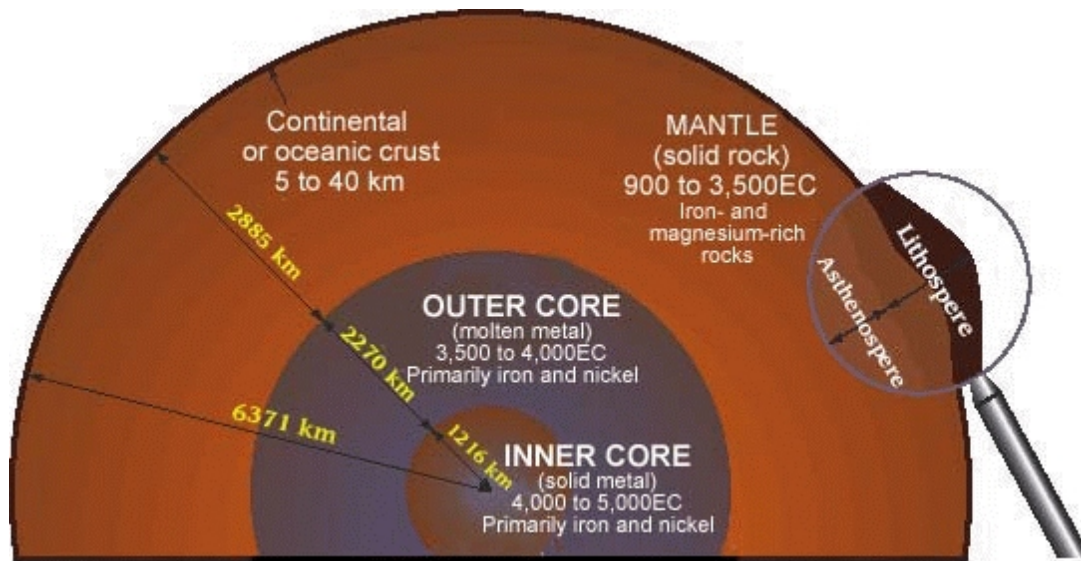
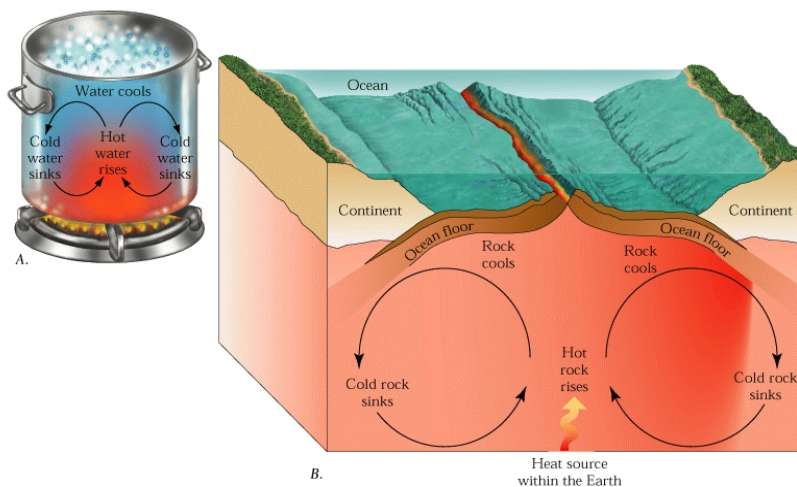


**The Earth's Interior:** Scientists have used the readings from a seismograph to determine the makeup of the interior of the Earth. We know that there are 4 layers to the interior: **Lithosphere, Mantle, Inner core and outer core.**



The Lithosphere is the solid crust of the earth which is up to 100 km thick. The crust of the continents is thinner and made of a denser rock. The lithosphere is made up of many plates that float and move about on the top part of the mantle. Scientists believe that **convection currents** in the mantle may move these plates around so that in some places the plates are moving together, other places apart and finally other places scraping against one another. This creates certain situations to develop.



**Tensional Forces** occur where two plates are being pulled apart and the tension is created as the 2 plates move away from each other. This commonly occurs where there is a **ridge** such as in the mid-Atlantic.

**Compressional Forces:** These occur where two plates come together. An example of this is a **subduction zone** where oceanic crust is diving under the continental crust. Here the oceanic crust melts back into the magma. Major Mountain ranges tend to be along **subduction zones**. The compressional forces literally fold the crust into mountains over millions of years. Volcanoes can also occur at **subduction zones** or ridges. The compressional forces along these features may leave a crack that allows magma to reach the surface creating volcanic mountains.

As plates scrape along side of one another, the plates sometimes lock up with one another. These **transform zones** are responsible for our earth quakes.

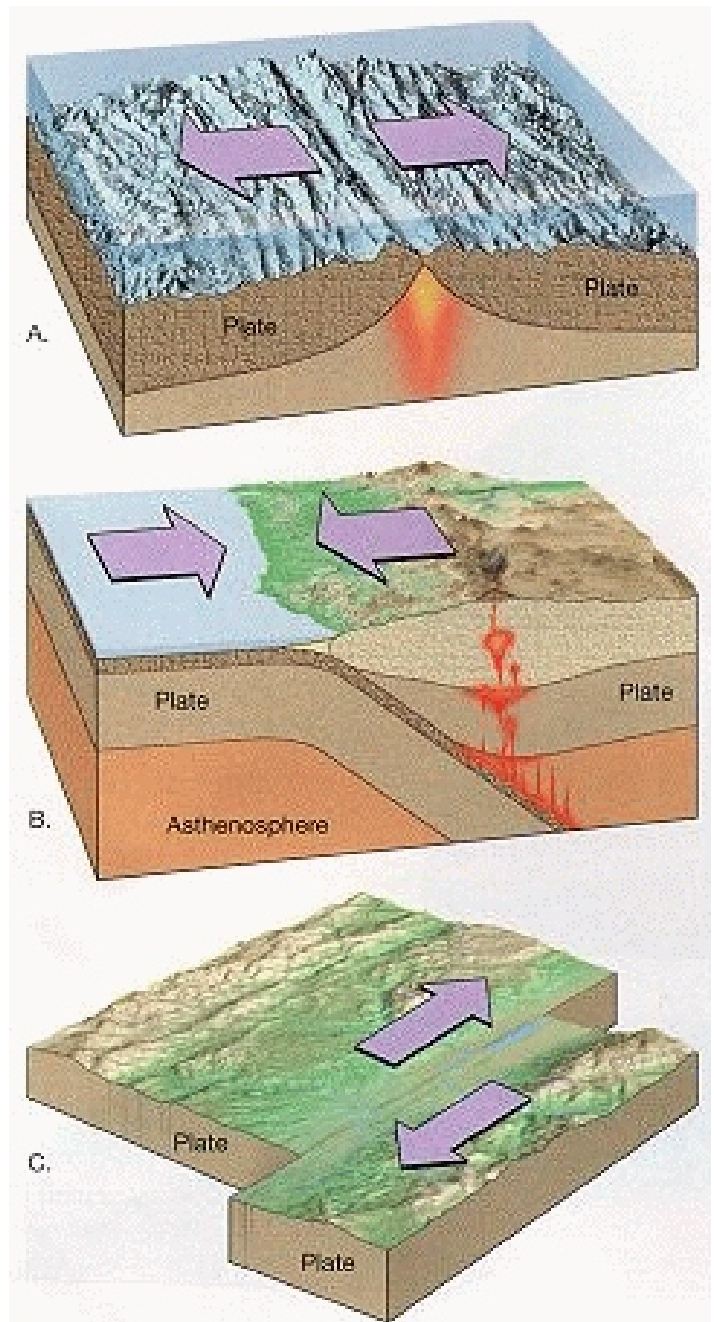
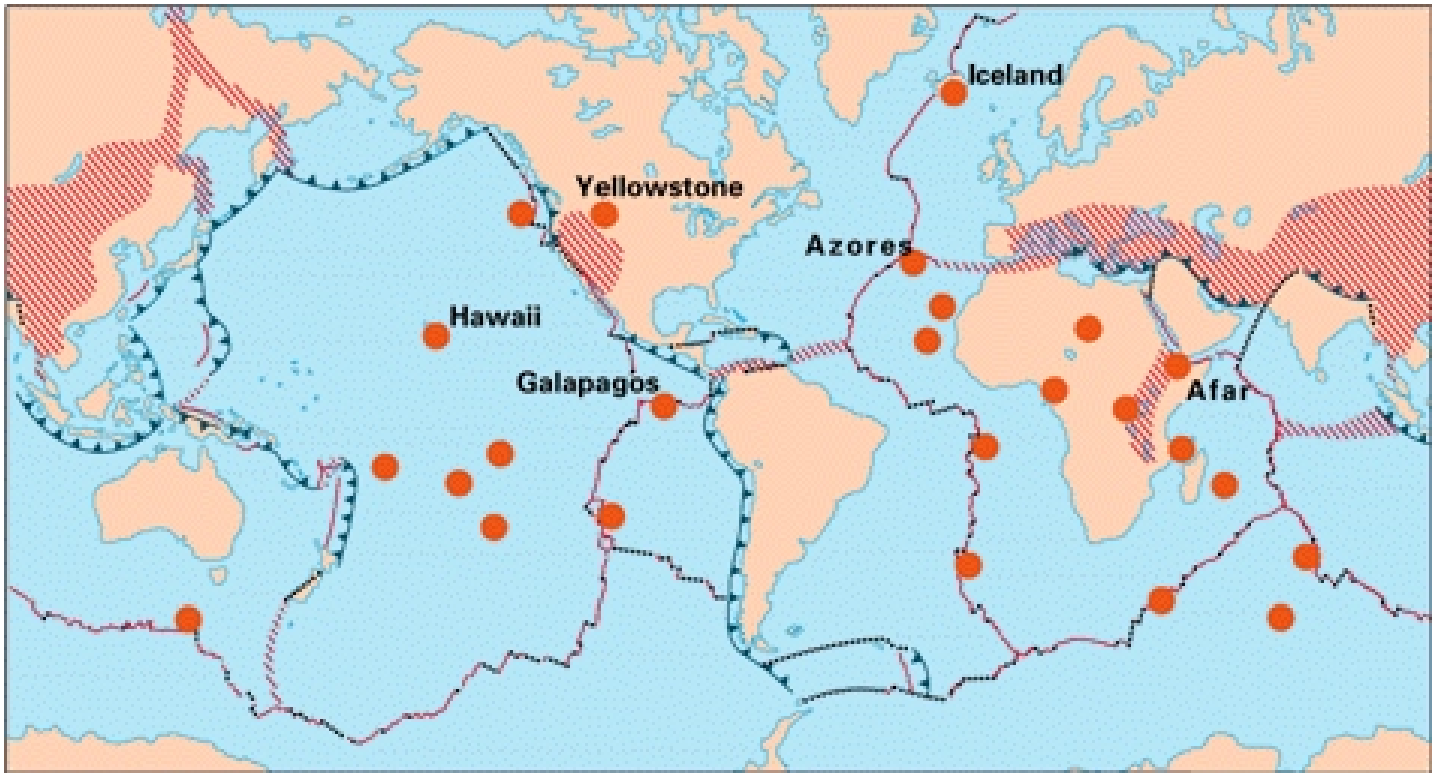


Figure 18.18 Schematic representation of plate boundaries

Notice that subduction zones take place where the plates are moving towards each other while ridge zones occur where plates are moving apart.



### EXPLANATION

— Divergent plate boundaries—  
Where new crust is generated  
as the plates pull away from  
each other.

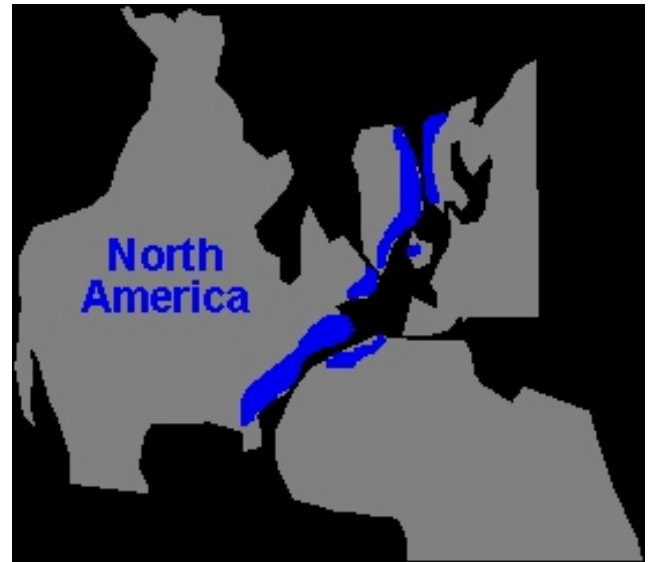
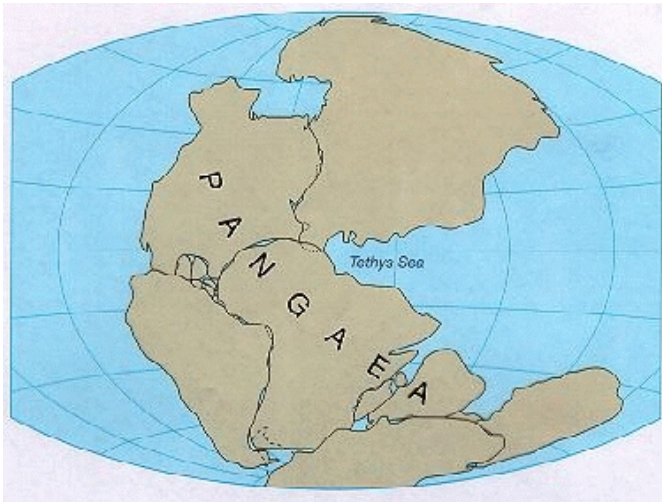
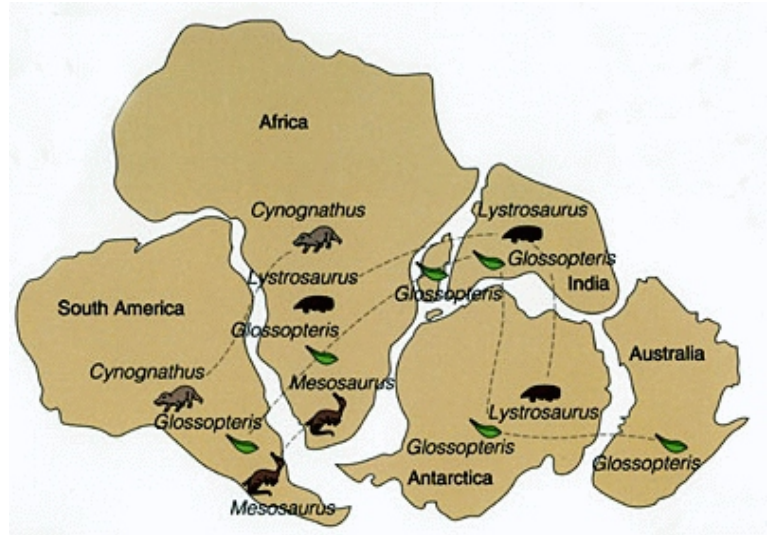
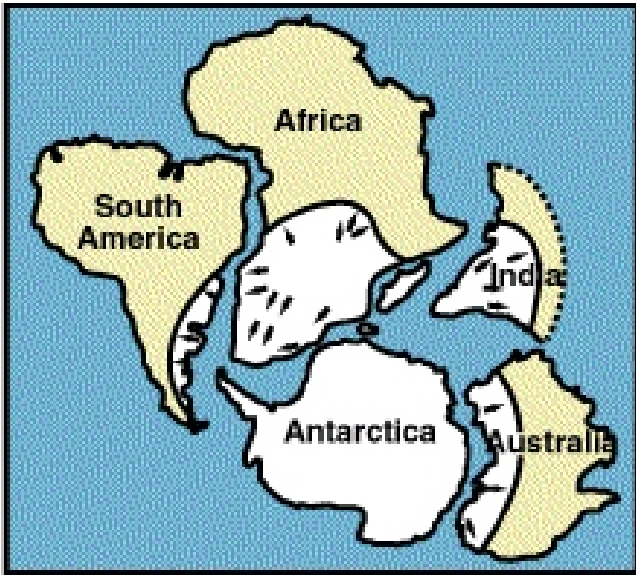
— Convergent plate boundaries—  
Where crust is consumed in the  
Earth's interior as one plate  
dives under another.

..... Transform plate boundaries—  
Where crust is neither produced  
nor destroyed as plates slide  
horizontally past each other.

Plate boundary zones—Broad  
belts in which deformation is  
diffuse and boundaries are not  
well defined.

● Selected prominent hotspots

# Evidence for Continental Drift



Ice Deposits  
Fossil Dispersion

Glacial  
Footprints

Jig-saw puzzle Fit

Mountain Belts