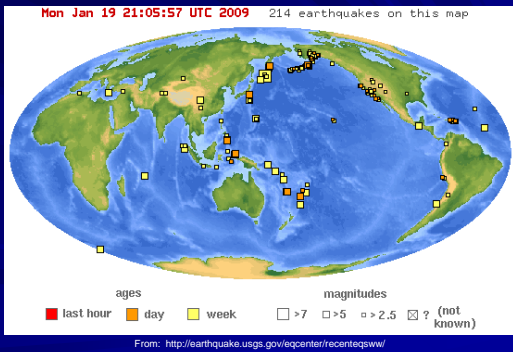
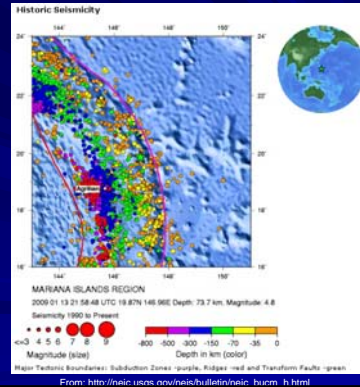


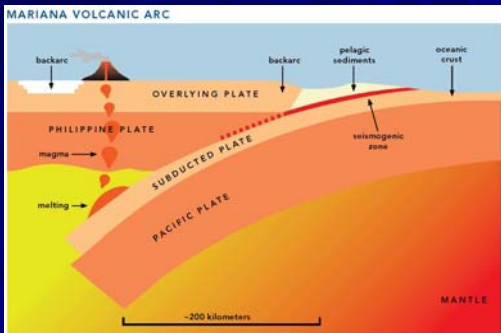
## Recent Earthquakes in the World



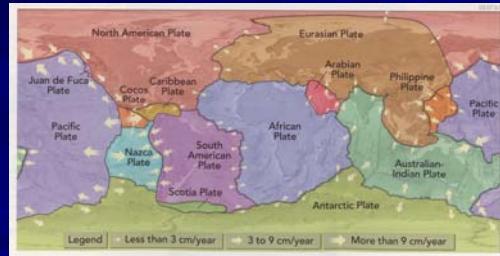
## Historic Seismicity in Mariana Trench Region



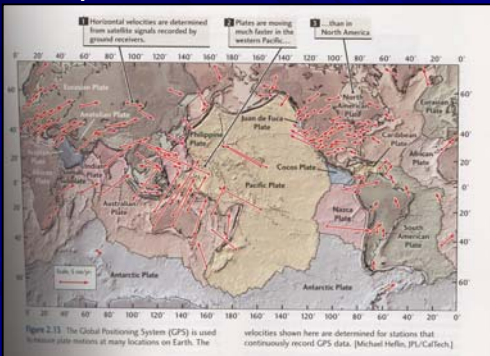
## Cross section of plate boundaries at Mariana Trench



## Map of Plate Boundaries



## Map of Rate of Plate Motion



## Evidence for Plate Tectonics Fit of Continents



Alfred Wegener (1912) proposed that the continents were once united into one supercontinent, but then broke apart & drifted through the ocean

## Evidence for Plate Tectonics Fossils



## Evidence for Plate Tectonics Similar Rock Types

The jigsaw-puzzle fit of continents bordering the Atlantic Ocean formed the basis of Alfred Wegener's theory of continental drift. In his book *The Origin of Continents and Oceans*, Wegener cited as additional evidence the similarity of geologic features on opposite sides of the Atlantic. The matchup of ancient crystalline rocks is shown in adjacent regions of South America and Africa and of North America and Europe. [Geographic fit from Lisa of E. C. Bullard; geological data from P. M. Hurley.]

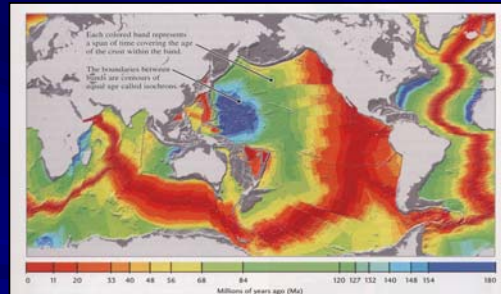


## Evidence for Plate Tectonics Oceanography

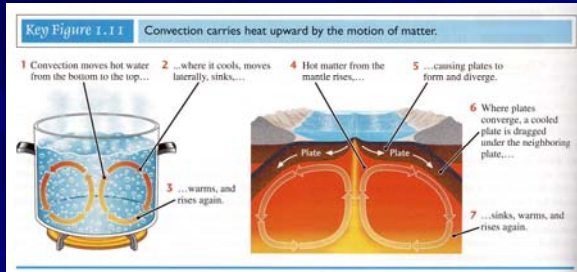
The North Atlantic Ocean floor, showing the crack like rift valley running down the center of the Mid-Atlantic Ridge and associated earthquakes (black dots).



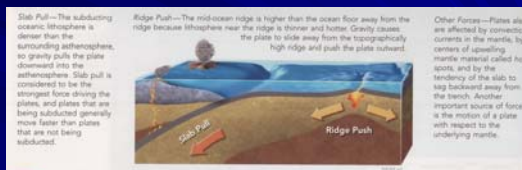
## Evidence for Plate Tectonics Symmetrical Age of Rocks & Magnetic Anomalies



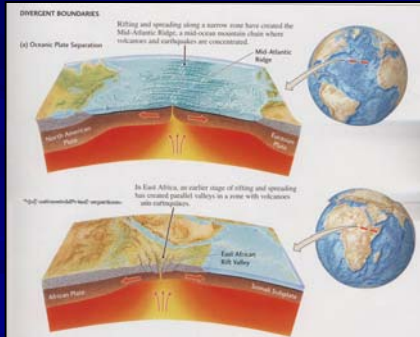
## What Drives Plate Movement?



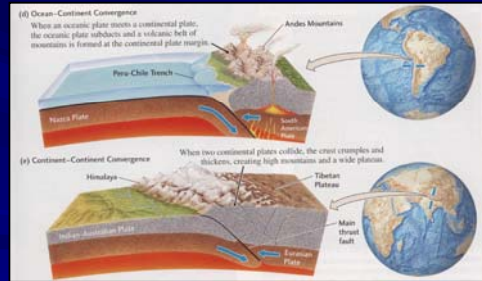
## Other Drivers of Plate Movement



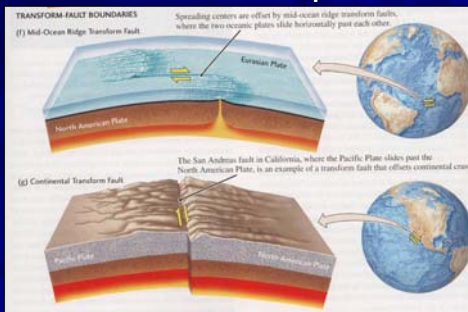
## Plate Boundary Type - Divergent



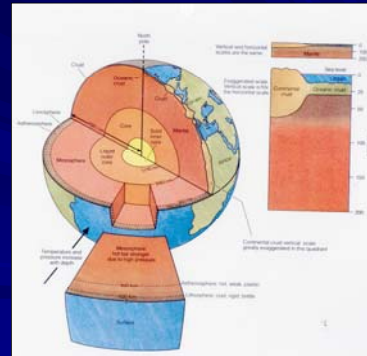
## Plate Boundary Type - Convergent



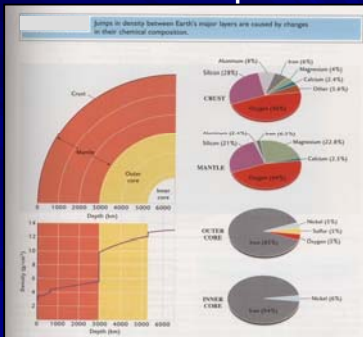
## Plate Boundary Type - Transform or Strike-Slip



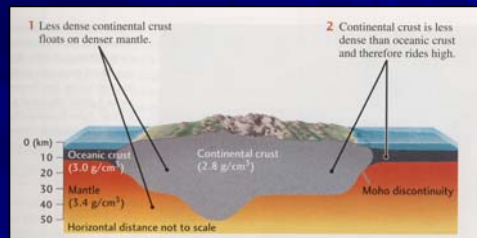
## Interior Structure of the Earth



## Interior Structure of the Earth Based on Composition



## Continental Crust vs. Oceanic Crust



Continents float high because they are made of rocks with lower densities than rocks of the mantle or oceanic crust.

