

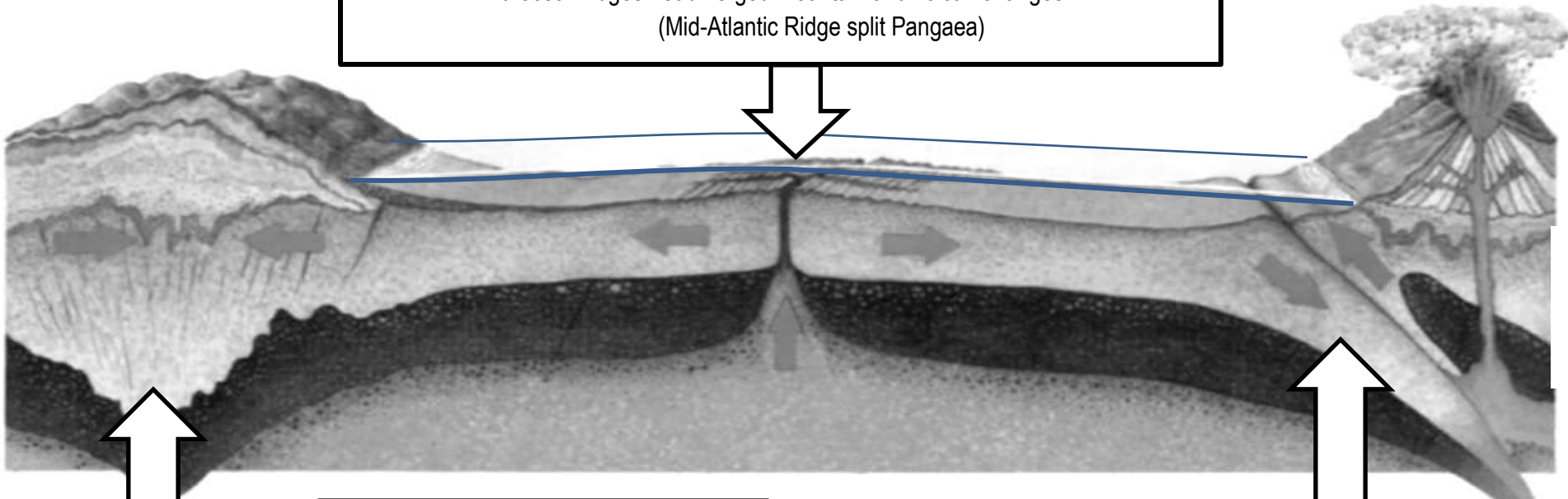
AIM: What occurs at the different tectonic plate boundaries?

### 1. Divergent Plate Boundary

- plates move away from each other (rifting = spreading)
- convection in upper mantle (asthenosphere) drives plate motion
- mid-ocean ridges - submerged mountain and volcanic ranges  
(Mid-Atlantic Ridge split Pangaea)

**Continental crust** –  
granitic, thicker, less dense

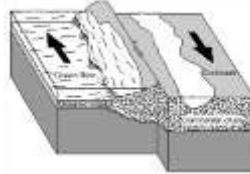
**Oceanic crust** –  
basaltic, thinner, more dense



### 2. Convergent Plate Boundary

continent-to-continent collision  
mountain formation  
→ Himalayas - India

### 4. Transform Plate Boundary



plates shift side-to-side  
tension/pressure builds over time when plates are "locked"  
slippage = energy release = earthquake  
→ San Andreas Fault- California

### 3. Convergent Plate Boundary subduction zone (oceanic trench)

- a. ocean crust-to-continent collision** -  
dense ocean crust is forced under continent, sinks into mantle, and melts.  
forms coastline mountains and volcanoes  
→ Andes Mountains – west coast of South America
- b. ocean-to-ocean crust collision**  
forms volcanic island arcs  
→ Aleutian Islands (Alaska)  
→ Philippine Islands