**Forces on Crust and Plate Boundaries # \_\_\_\_\_\_\_\_**

Forces That Move and Deform the Crust:

**1. Compression** – are forces which push toward each other along a single line of motion (*squeezing*)

**Diagram**:

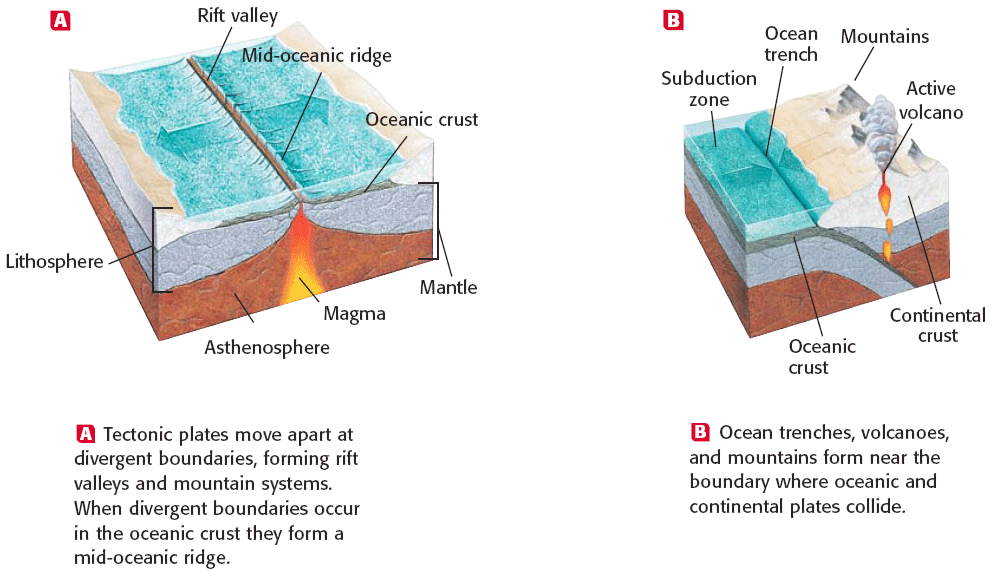
**2. Tension** – is the force that pushes or pulls away from each other along a single line of motion.

**3. Shear** – forces which act in opposite directions along different lines of motion

**The 3 Forces and Plate Boundaries**

**Tension** – located where the plates are spreading apart. (**Divergent** Boundary) occur at mid-ocean ridges: sea floor spreads apart where magma rises upward.

* Mid-ocean ridges result from divergent boundaries.
* The border between two plates is called a boundary.
* **Divergent boundary** a place where two plates are moving apart
* New rock forms between divergent boundaries.
* **Magma** liquid rock produced under Earth’s surface



* **Compression** – located where plates collide **(Convergent Boundary)** occur along the edges of continents. Areas have folded mountains & trenches in areas known as *(subduction zones)*
* Oceanic plates dive beneath continental plates at convergent boundaries.
* Plates slide over each other at a convergent boundary.
* **Subduction** the process by which one lithospheric plate moves beneath another as a result of tectonic forces
* The area where one plate slides over another is called a subduction zone. Subduction zones produce ocean trenches, mountains, and volcanoes.

Subduction of ocean crust generates volcanoes.

Chains of volcanoes form on the upper plate in a subduction zone.

These volcanoes can form far inland from their associated oceanic trench.

**Colliding tectonic plates create mountains.**

* + When two plates collide, mountains are formed at the boundary of the collision.
  + The Himalayas formed during the collision between the continental tectonic plate containing India and the Eurasian continental plate.

**Shear** – located where the plates slide past each other. **(Neutral Boundary)** *strike-slip* *faults* - - best example San Andreas Fault.

* Transform fault boundaries can crack Earth.
* Plate movement can cause breaks in the lithosphere.
* **Fault** a crack in Earth created when rocks on either side of a break move
* Plate movement at transform fault boundaries is one cause of earthquakes.

