**Volcanoes:**

**Unit 2: Earth’s History**

**Mini-Unit:** Volcanoes

**Goal 4**:The student will demonstrate the ability to explain the Theory of Plate Tectonics and relate it to Earth’s dynamic nature

**The student will be able to:**

Describe how the Theory of Plate Tectonics explains the locations of Earthquakes, volcanoes, hot spots, mountains, mid-ocean ridges, deep sea trenches, and island arcs

**Textbook:** Chap 13, pg 318

**Volcanoes:**

Volcanism: Any activity that includes the movement of magma towards or onto Earth’s surface

Magma: Liquid rock produced under Earth’s surface

Lava: Magma that flows onto Earth’s surface

Volcano: A vent or fissure in Earth’s surface through which magma and gases are expelled

**Volcano Formation:**

Subduction Zone Formation: Oceanic-Continental Convergent

* Denser oceanic crust sinks underneath less dense continental crust
* As a result a trench and mountains on the continental crust are created
* Water, melted crust, and mantle materials form magma
* Magma rises to the surface forming a volcanic mountain range

Subduction Zone Formation: Oceanic-Oceanic Convergent

* One plate subducts under the other and melts into magma
* Magma rise to surface and builds up over time to form an island arc

Mid-Ocean Ridge Formation: Divergent

* Magma rises up to create new crust and form underwater volcanoes

Hot Spot Formation:

* Hot Spot: A volcanically active area of Earth’s surface, commonly far from a plate boundary
* Magma rises to surface from a stationary location forming a volcanic island
* The plate moves over top of it, creating a chain of islands

