**Section 4.2 – Igneous Rocks**

**Magma – molten rock material beneath the Earth’s surface**

**Lava – molten rock material on the Earth’s surface**

**Igneous Rock - forms when hot magma cools and hardens**

**Magma**

1. **Comes from 150 km below Earth’s surface**
2. **Temps range from 650 - 1200 degrees Celsius**
3. **Heat comes from the Earth’s interior or from radioactive decay**
4. **Magma is forced upward because it is less dense.**

**2 Types of Igneous Rocks**

1. **Intensive Igneous – rocks that form from magma below the surface**

**- cool slowly – form large crystals**

1. **Extrusive Igneous – rocks that form as lava cools on the surface of Earth** 
   * + - **typically cool quickly –form small crystals**

**Volcanic Glass**

1. **Pumice**
2. **Obsidian**
3. **Scoria**

**\*\*\*\*Cool so quickly that few or no crystals are formed**

**3 Types of Magma**

1. **Basaltic – dense, dark colored, rich in Fe and Mg**

* **poor in silica**
* **lava flows freely – runny**
* **Example – Kilauea, Hawaii**

1. **Granitic – light colored and less dense**

* **magma is thick and stiff – contains a lot of silica**
* **less Fe and Mg**
* **violent eruptions**

1. **Andesitic – in between basaltic and granitic**

* **Examples are volcanoes around the rim of the Pacific Ocean**
* **Also can erupt violently**