**The Rock Cycle Notes:**

**Unit 1: Materials and Processes that Shape a Planet**

**Mini-Unit:** Rocks

**Goal 2**: The student will demonstrate the ability to describe and classify materials that make up Earth

**Goal 3**:The student will demonstrate the ability to explain how rock formation, weathering, sedimentation, and rock reformation constitute a continuing “rock cycle” in which the total amount of material stays the same even as its form changes

**Objectives – The student will be able to:**

* Describe the physical characteristics of igneous, metamorphic, and sedimentary rocks, including crystal size and shape, mineral and chemical composition, density and origin
* Describe how convection, density, and the law of conservation explain the movement of materials within the rock cycle
* Describe the constructive and destructive processes that drive the rock cycle, including sedimentation, lithification, crystallization, deformation, deposition, erosion, melting, cooling, metamorphism, subsidence, and weather

**Textbook:** Chapter 6, Page 125

Three Major Types of Rocks:

Igneous –

Metamorphic –

Sedimentary –

Rock Cycle:

Rock Cycle –

  **Igneous**

Weathering & Erosion Heat & Pressure

 Melting

 Weathering & Erosion

 Heat & Pressure

**Sedimentary** **Metamorphic**

Igneous Rocks:

Igneous Rock can be identified by the size of crystals that are present as a result of the cooling process of melted minerals.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ – large minerals grains suggest a slower cooling process
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ – small mineral grains that cannot be seen by the eye suggest a quicker cooling process that does not allow for large grain formation
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_– when magma with very little dissolved gases in it cools very quickly
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ – when magma with a lot of dissolved gases in it cools very quickly

Crystallization –

Sedimentary Rocks:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ – loose fragments of rock, minerals, and organic material that result from natural processes, including the physical breakdown of rock

Weathering & Erosion **–**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ – the settling of sediment into layers as weathering and erosion ends

Compaction –

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ – process in which minerals precipitate spaces between sediments and bind them together to form rock

Stratification –

Metamorphic Rocks:

Metamorphism –

* Can be due to just contact with magma or due to large scale changes in temperature and pressure over a large area

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ – the metamorphic rock texture in which grains are arranged in planes or bands