**Rocks** are any solid mass of mineral or mineral-like matter that naturally occur as part of our planet

Earth is a closed system, thus the rock cycle

**Igneous Rock** is formed by the crystallization of molten magma

 Intrusive- when magma hardens beneath Earth’s surface

 Extrusive- when magma hardens

How do we classify igneous rock?

 Composition- granitic composition-made mostly of quartz and feldspar, basaltic composition= made mostly of dark colored silicate minerals and plagioclase feldspar, andesitic composition= betweejn granitic and basaltic

 Texture- fine grain=extrusive, coarse grain by slow cooling=intrusive, glassy= by very rapid cooling, porphyritic=different rates of cooling resulting in varied sized minerals,

**Sedimentary Rock** is formed from the weathered products of preexisting rocks

Weathering= involves rock being broken apart by weather

Erosion= movement of weathered rock

Deposition=sediments are dropped

Compaction= a process that squeezes, or compacts, sediments

Cementation=dissolved minerals are deposited in the tiny spaces among the sediments

How do we classify them?

 Clastic sedimentary rocks- composed of weathered bits of rocks and minerals

 Chemical sedimentary rocks- dissolved substances precipitate from water

**Metamorphic Rock** metamorphism means to change in form, formed by high heat and pressure

 Contact metamorphism-magma moves into rock, driven by rise in temperature

 \*\*\*\*Regional metamorphism- high scale deformation (folding) and high grade metamorphism, directed pressures and high temps during mtn building

 Hydrothermal solutions-hot water based solutions escaping from the mass of magma, promotes recrystallization by dissolving original minerals and then depositing new ones

How do we classify metamorphic rock?

 Foliated metamorphic rock- has banded or layered appearance

 Nonfoliated-does not have a banded texture

Mineral Properties

**Color** often unreliable

**Streak** color in it powdered form on an unglazed porcelain plate

**Luster** reflectivity of light (metallic, non metallitic; vitreous, pearly, silky, resinous, earthy)

**Hardness** resistance to abrasion or scraping,Moh scale 1-10, talc to diamond

**Cleavage** orientation and number of planes of weakness within a mineral, diagnostic

**Fracture** breaks along not well defined planes, low symmetry

**Density/Specific Gravity** mass/volume=density

**Special Properties**

**Conductivity** metal containing