**Rocks Notes**

**What is a rock?**

* A collection of minerals, rock fragments, volcanic glass, etc.
	+ Minerals make it sparkle!
* Minerals are:
	+ Solid
	+ Naturally occurring
	+ Inorganic
	+ Have a fixed composition
	+ Contain one or more elements
* Elements 🡪 Minerals 🡪 Rocks



**Igneous Rocks**

* Intrusive – formed inside the earth from magma
	+ Crystals can be large due to slow cooling
* Extrusive – formed on the surface from lava
	+ Crystals are tiny or glassy
* Examples:
	+ Granite – light, coarse, no pattern
		- Often used in buildings and monuments
	+ Basalt – dark colored, fine-grained, extrusive
		- Most widespread igneous rock
	+ Obsidian – volcanic glass, formed by quickly-cooling lava,
		- Used in spears and arrow points, and knives

**Sedimentary Rocks**

* Formed by the layering and hardening of sediments
	+ Sediments are formed by weathering and erosion
* Clastic Rocks – made of cemented sediments
	+ Examples: conglomerate, sandstone, breccia, shale
* Non-Clastic Rock – formed by chemical precipitation
	+ Examples: limestone, chert, halite
* Biological/Organic Rocks – formed from the remains of dead organisms
	+ Petrified wood – wood soaked in mineral-rich water to become stone
	+ Fossils – remains such as bones that become rock
	+ Coal – remains of plants – most important organic rock
		- Anthracite coal comes from the greatest pressure, and makes the most energy
* Sedimentary rocks are the most common rocks on the planet.
	+ Cover about 75% of the Earth’s surface!
	+ Shale is the most common sedimentary rock

**Metamorphic Rocks**

* Formed by heat and pressure
* Metamorphism
	+ Contact metamorphism – small-scale, caused by things like volcanoes and earthquakes
		- Often referred to as the ‘baking’ of rocks
	+ Regional metamorphism – large-scale, caused by things like plate movement
* Classified in 2 ways:
	+ Foliated – layered
		- Ex: Slate, gneiss, schist
	+ Nonfoliated – non-layered
		- Marble, quartzite