Ch 10.1

**Photosynthesis** = Converting solar power to chemical energy using sugars and other organic molecules

**Autotroph** = Can live without eating anything from other living beings

* Produce organic molecules from CO2 and other inorganic stuff
* AKA: Producers
  + Make organic material for those who can’t
* EX: Basically all plants
  + Note: Plants are actually called **Photoautotrophs**

**Heterotroph** = Can’t make its own food and needs it bet it from other living organisms

* AKA: Consumer
* Some consume the dead remains of other ex-living organisms
  + Called: Decomposers

**Mesophyll** = Interior Leaf Tissue with most of the chloroplasts

* CO2 enters and O2 leaves through this part through **Stomata**
  + Microscopic pores

**Stroma** = fluid inside chloroplast

**Thylakoids** = Tiny sacs inside the chloroplast that also stack into **Granum**

**Chlorophyll** = Makes plants green while absorbing light that’s used to synthesize organic molecules

**Photosynthesis** = 6 CO2 + 12 H2O + *Light Energy* ---> C6H12O6 + 6 O2 + 6 H2O

**Two Stages of Photosynthesis** = **Light Reaction/Light Dependent** and **The Calvin Cycle/Light Independent**

* **Light Reaction** = Capturing Light
* **The Calvin Cycle** = Synthesizing Glucose

**Light Reaction** = Powered by Light Directly

* Happens in the Thylakoid Membrane
* Sunlight + H20 -> O2 + Electron Carriers/ATP/NADPH
* Takes Electrons from Waters Hydrogen and charges them with sunlight

**The Calvin Cycle** = Power by Electron Carriers/ATP

* Happens in Stroma
* Also releases ADP and NADH+ to be reused
* CO2 + Electron Carriers/ATP -> Glucose