**Cell Part Notes**

**Standard 7-2.1:** Summarize the structures and functions of the major components of plant and animal cells (including the cell wall, the cell membrane, the nucleus, chloroplasts, mitochondria, and vacuoles).

**You should know…**

* A cell is the smallest unit of life that conducts all life functions
* **Organelles:** the major structures within a cell that perform the life functions
* Many cells cannot be seen without the help of a microscope
* Cells will vary in size and shape depending on the organism
* Most cells contain the same major parts

**Cell Structures**

* **Cell membrane:** the thin, flexible covering of a cell; controls what enters and exists a cell
  + **Diffusion:** a way materials, like sugar, move across the cell membrane
  + **Osmosis:** the diffusion of water across a cell membrane
  + **\*\***Whether diffusion or osmosis, all materials move from areas of high concentration to areas of low concentration!!
  + **Cytoplasm:** the gel-like fluid inside of a cell made mostly of water; the other organelles are located here
  + **Vacuole:** the temporary storage center in a cell
    - Some store water; some store waste products until they can be eliminated from the cell.
    - **Chloroplasts:** the place where photosynthesis takes place in a PLANT cell; contain **chlorophyll** which is used to make food.
    - **Mitochondria:** the energy producing sites in the cell where respiration takes place; also called the “powerhouse” of the cell
    - **Cell wall:** provides support and shape for plant cells; made mostly of cellulose