**NOTES ON ORGANELLES**

**CELL** - the smallest unit of life that conducts all life functions.

* Each cell has major structures (*organelles*) within it that perform these life functions.
  + Many organelles are too small to be seen without the aid of a *microscope*.
* Cells in organisms vary in size and shape, but contain most of the same major parts.

**Cell membrane**

* The thin, flexible outer covering of a cell. It controls what enters and leaves a cell.
  + **Diffusion** is one way in which materials (for example molecules of sugar or water) move across the cell membrane. It occurs as materials are moved from an area of higher concentration to an area of lower concentration.
  + **Osmosis** is the diffusion of water across a membrane.

**Cytoplasm**

* The gel-like fluid inside of a cell made of mostly water.
* The other organelles are embedded in the cytoplasm.

**Nucleus**

* Contains the genetic material (DNA) and is the control center of the cell.

**Vacuole**

* Act as temporary storage centers.
* Some store water; others store waste products until they can be eliminated from the cell.

**Chloroplasts**

* The sites where photosynthesis takes place in a plant cell.
* They contain the chlorophyll used to make food.

**Mitochondria**

* Energy producing sites in the cell where respiration takes place.
* It is sometimes called the “powerhouse” of the cell.

**Cell wall**

* Provides support and shape for plant cells. It is made mostly of cellulose.