**Basic Cell Review**

l. Cell

* Smallest basic unit of life

ll. Organelles

* What does the word Organelle mean?
  + Small organs.
* Examples of organelles: Structure and Function
  + Nucleus
    - Brain of cell
    - Stores genetic material (DNA)
  + Mitochondria
    - Cellular respiration take place using carbohydrates (sugars)
    - Provides energy for the cell (ATP)
  + Cell membrane
    - Made of phospholipids: non polar
    - Surrounds and protects cell
    - Semi permeable: controls what goes in and out of a cell
  + Cell Wall
    - Surrounds plant cells
    - Gives structure and support
    - Made of cellulose
  + Ribosomes
    - Make Proteins
    - Puts together amino acids to make proteins
* Cytoplasm
  + Fluid or liquid in the cell
  + Organelles float in cytoplasm

lll. Prokaryotic and Eukaryotic Cells

* Prokaryotic
  + Does not have a nucleus
  + Does not have membrane bound organelles
  + Example: Bacteria
* Eukaryotic
  + Contains a nucleus
  + Contains membrane bound organelles
  + All other cells are eukaryotic

lV. Unicellular cells

* 1 cell (bacteria)

V. Multicellular Cells

* Many cells : animals
  + Know levels of organization
  + Heart cells, heart tissue, heart, circulatory system and respiratory system, human.

Vl. Cell movement

* Cilia or cilium
  + Small microscopic hairs around the cell
    - Paramecium
* Flagella or flagellum
  + Whip like tail on the cell
  + Larger and longer than cilium

Vl. Chloroplasts (another organelle)

* Found in plants
* Function? What do they do?
* Photosynthesis: Helps to make food.
* Sugar, carbohydrates, glucose
* Chloroplasts catches sunlight to light energy
* The sun is the ultimate source of energy, “no sun, no life”

Vll. Photosynthesis and Respiration: Know the differences

* Photosynthesis
  + Reactants
    - Sunlight
    - Carbon Dioxide
    - Water
    - Chloroplasts
  + Product
    - Sugar (C6 H12 06)
    - Oxygen
* Respiration
  + Reactants
    - Oxygen
    - Sugar, carbs, glucose
    - Mitochondria
  + Products
    - Carbon dioxide
    - Water
    - ATP: energy molecule

Vlll. Two types of Respiration

* Aerobic
  + With oxygen or using oxygen
  + Humans are aerobic organisms
* Anaerobic
  + Without oxygen