Chapter 7 Vocabulary

Section 7.1

Cell - the basic structural and functional unit of all living organisms.
Plasma Membrane - a special boundary that helps control what enters and leaves the cell.
Organelle - a cell contains many of these specialized structures that carry out specific cell functions.
Eukaryotic Cell - contain a nucleus and other organelles that are bound by membranes, also referred to as membrane-bound organelles.
Nucleus - a distinct central organelle that contains the cell's genetic material in the form of DNA.
Prokaryotic Cell - defined as cells without a nucleus or other membrane-bound organelles.

Section 7.2

Selective Permeability - a key property of the plasma membrane by which a membrane allow some substances to pass through while keeping others out.
Phospholipid Bilayer - two layers of phospholipids are arranged tail-to-tail.
Transport Protein - move needed substances or waste materials through he plasma membrane, and therefore contribute to the selective permeability of the plasma membrane.
Fluid Mosaic Model - together the phospholipids create a "sea" in which other molecules can float. This "Sea" concept is the basis for the model.

Section 7.3

Cytoplasm - the environment inside the plasma membrane is a semifluid material
Cytoskeleton - a supporting network of long, thin protein fibers that form a framework for the cell and provide an anchor for the organelles inside the cells.

Section 7.4

Diffusion - the net movement (diffuse) of particles from an area of higher concentration to an area of lower concentration. The amount of substance a particular area is called concentration.
Dynamic Equilibrium - the condition in which there is continuous movement but no overall change.
Facilitated Diffusion - uses transport proteins to move other ions and small molecules across the plasma membrane. By this method, substances move into the cells through a water-filled transport protein called a channel protein that open and closes to allow the substance to diffuse through the plasma membrane.
Osmosis - the diffusion of water across a selectively permeable membrane.
Isotonic Solution - when a cell is in a solution that has the same concentration of water and solutes -- ions, sugars, proteins, and other substances --- as its cytoplasm. *Iso-* comes from the Greek word meaning *equal*.
Hypotonic Solution - if a cell is in a solution that has a lower concentration of solute/ *Hypo-* comes from the Greek word meaning *under*.
Hypertonic Solution - the concentration of the solute outside the cell is higher than the inside. *Hyper-* comes from the Greek word meaning *above*.
Active Transport - the movement of substances across the plasma membrane against a concentration gradient, which requires energy.
Endocytosis - the process by which a cells surrounds a substance in the outside environment, enclosing the substance in a portion of the plasma membrane.
Exocytosis - the secretion of materials at the plasma membrane.