Cell Energy Vocab – Unit 3 – Part 1

CELL TRANSPORT

● Passive Transport - movement of substances across the plasma membrane without the use of the cell's energy (with the concentration gradient).

● Osmosis - diffusion of water across the plasma membrane from areas of high concentration to areas of lower concentration.

● Diffusion - movement of substances across the plasma membrane from areas of high concentration to areas of lower concentration

● Active Transport - movement of substances across the plasma membrane that requires the use of the cell's energy and carrier molecules; substances are moving from an area of low concentration to an area of higher concentration (against the concentration gradient).

● Homeostasis (Equilibrium) - internal equilibrium; the plasma membrane regulates what enters and leaves the cell; a selectively permeable membrane only allows certain substances to pass through

● Turgor/turgid - the rigid or fullness state of a cell due to high water content.

● Solute - The substance that is dissolved in a solution. An example of a solution is salt water. Water is the solvent and salt is the solute.

● Solvent- The material in which solute(s) are dissolved forming a solution.

● Hypotonic - solute concentration higher inside of cell, solvent concentration higher outside of the cell; therefore water moves in.

● Hypertonic - solute concentration higher outside of the cell, solvent concentration higher inside of the cell; therefore water moves out.

● Isotonic - no net movement; cell maintains equilibrium; solute concentration equal on both sides of a membrane.

PHOTOSYNTHESIS

● Photosynthesis - The process in green plants and certain other organisms by which glucose is synthesized from carbon dioxide and water using light as an energy source; releases oxygen as a byproduct.

● Light Dependent Reaction - The stage of photosynthesis in which plants capture and store energy from sunlight.

● Light Independent Reaction (Calvin Cycle) - The stage of photosynthesis in which energy, produced from the light dependent reaction, is used to convert carbon dioxide into glucose. It occurs in the stroma of the chloroplast.

AEROBIC / ANAEROBIC RESPIRATION

● Anaerobic respiration / Fermentation - process of producing energy without the use of oxygen.

● Aerobic cellular respiration - process in which cells break down food and turn it into energy that cells need to perform their life functions; REQUIRES OXYGEN.

● Glycolysis - The first stage of cellular respiration for both aerobic and anaerobic situations.