

MEMBRANE CYCLING

Endocytosis and Exocytosis balanced to maintain the plasma membrane.

ENDOCYTOSIS & EXOCYTOSIS

Endocytosis- is the plasma membrane invaginates to form a vesicle. (A form of active transport)

Exocytosis- Cytoplasmic vesicles join the plasma membrane to expel their contents (products or waste of cells. (form of active transport)

TONICITY

Relative concentration of solutes in two associated fluids.

LAWS OF THERMODYNAMICS

The First Law- is the conservation of energy; cannot be created or destroyed but can change in form.

Energy must be concentrated to do work

The Second Law- energy transfer is a result of energy loss.

(Kinetic -> Potential -> Kinetic) OR Solar (photosynthesis) -> Carbohydrates -> Fire

FLUID MOSAIC MODEL

PASSIVE TRANSPORT

Does not require energy transport.

Ex: Simple Diffusion- powered by gradients (net movement of molecules or ions from an area of higher concentration to an area of lower concentration (directly through lipid bilayer).

ACTIVE TRANSPORT

Requires ATP energy input; Sodium-Potassium pumps keep ions in high concentration on either side of nerve cell membranes in preparation for nerve conduction.

MICROVILLI

Extend a cell's surface area in the digestive tract, which the A/V affects a cell's shape.

ENZYMES

Organic molecules that catalyze (speed up) chemical reactions without being consumed.

CILIA & FLAGELLA

Cell organelles

Cilia are short, hair like appendages extending from the surface of a living cell.

Flagella are long, threadlike appendages on the surface of a living cell.

Cilia is the tail of the body flagella.

ORGANELLES

Membranous structures that perform specific jobs for the cell (isolate reactions)

METABOLIC SET POINT

Is the genetically predetermined rate of one's metabolism. It can be changed temporarily through exercise (Also through stimulants although not as recommended due to side effects.)

BULK FLOW

Movement of liquids by pressure or gravity.

Ex: blood through a blood vessel and food going through digestive track.

EFFECTS ON SMOKING ON THE BRAIN