Definitions and Concepts for CAIE Biology IGCSE

Topic 3: Movement In and Out of Cells

*Definitions in **bold** are for supplement only*

Active transport - The movement of substances from a low concentration to a higher concentration (against the concentration gradient) across a membrane, with the use of energy from respiration.

Concentration gradient - **The difference in concentration between two areas. The greater the concentration gradient, the faster the rate of diffusion.**

Diffusion - The net spreading out of particles from a high concentration to a lower concentration (down their concentration gradient). **Diffusion is as a result of the kinetic energy of the random movement of particles (passive).**

Diffusion distance - **The distance that substances must diffuse. The smaller the diffusion distance, the faster the rate of diffusion.**

Flaccid - **Describes a plant cell that has been placed in a more concentrated solution. Water leaves the cell by osmosis. The volume decreases and the cytoplasm pulls away from the cell wall.**

Osmosis - The diffusion of water across a partially permeable membrane.

Osmosis - **The diffusion of water molecules from a region of high water concentration to a region of lower water concentration across a partially permeable membrane.**

Plasmolysis - **The process by which the cytoplasm pulls away from the cell wall as a result of water loss from the cell.**

Surface area - **The total area occupied by the surface of an object. The larger the surface area, the faster the rate of diffusion.**

Turgid - **Describes a plant cell that has been placed in a more dilute solution. Water enters the cell by osmosis. The volume increases and the cytoplasm pushes against the cell wall.**

Turgor pressure - **The pressure exerted by fluid within a cell which pushes the cell membrane against the inelastic cell wall.**

Water potential - **A measure of the tendency of water molecules to move from one area to another.**

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