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|  | **DIFFUSION** | **OSMOSIS** | **ACTIVE TRANSPORT** | **FACILITATED DIFFUSION** |
| **What is it?** | Movement of particles from areas of high concentration to areas of low concentration | The diffusion of water molecules from areas of high water concentration to areas of low water concentration | When cells use energy to take in needed materials that are in lower concentration outside the cell than inside | The transport of substances through a cell membrane along a concentration gradient with the aid of carrier proteins |
| **Process** | Diffuse through Plasma Membrane | Diffuse through Plasma Membrane | Uses a protein pump that requires ENERGY to start | Uses a carrier protein |
| **Importance** | Exchanges gases during respiration, photosynthesis, and transpiration (takes place in plants) | Osmosis influences the distribution of nutrients and the release of metabolic waste products. In plants responsible for the absorption of soil water and for liquid to travel to leaves | Helps to maintain internal concentrations of solutes | Allows materials to enter the cell that could not diffuse through the pores of the cell membrane |
| **Concentration Gradient** | HIGH to LOW  (no energy requirement) | HIGH to LOW  (no energy requirement) | LOW to HIGH  (ENERGY required) | HIGH TO LOW (no energy requirement) |
| **Examples** | Oxygen and Carbon Dioxide pass through Plasma Membrane | Movement of water into all different types of cells | Important in maintaining different solute concentrations in nerve signals | Glucose molecules traveling into the cell |

***COMPARSION CHART***