Transport Mechanisms

Passive Transport	Active Transport
No energy Expenditure Move DOWN a concentration Gradient **Examples:** 1. **Diffusion** • Commonly occurs in liquids/gases • - the rate of diffusion influenced by type of materials, temperature, and concentration • speed of diffusion is dependent only on the concentration gradient. 2. **Osmosis**: special case of diffusion that involves the movt of water molecules across a membrane **3. Facilitated Diffusion:** utilizes membrane protein channels to allow charged molecules (which otherwise could not diffuse across the cell membrane) to freely diffuse in/out of the cell. These channels come into greatest use with small ions like K+, Na+, and Cl-. • The speed of facilitated transport is limited by # of protein channels available	Requires Energy Move UP a concentration Gradient **Example:** 1. **Proton Pump** 2. **Exocytosis:** Molecules packaged in a vesicle that separates them out from the rest of the cell. The vesicle fuses with its specific membrane structure and its contents are released without the vesicle, which is incorporated back into the cell's membrane. **3. Endocytosis:** 3 types ▫ Pinocytosis: ingesting small molecules and/or fluids surrounding the cell in a process known as fluid-phase endocytosis. ▫ Phagocytosis involves the ingestion of large molecules, such as microorganisms or cell debris using large vesicles, or vacuoles. White blood cells use phagocytosis to remove foreign particles from the blood stream. • Receptor Mediated Endocytosis: molecules bind to receptors in membrane. Pit is created.