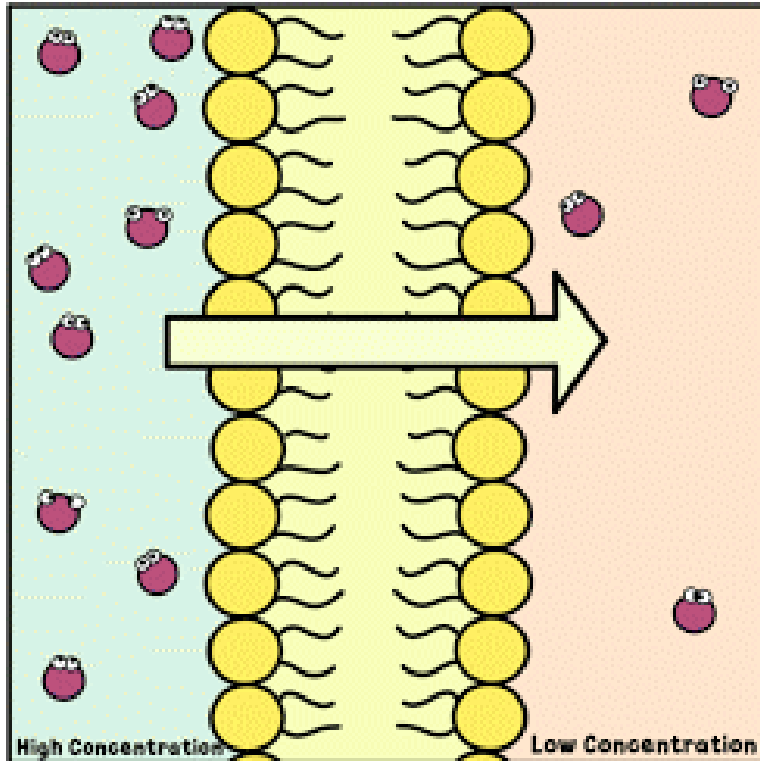


Passive Transport

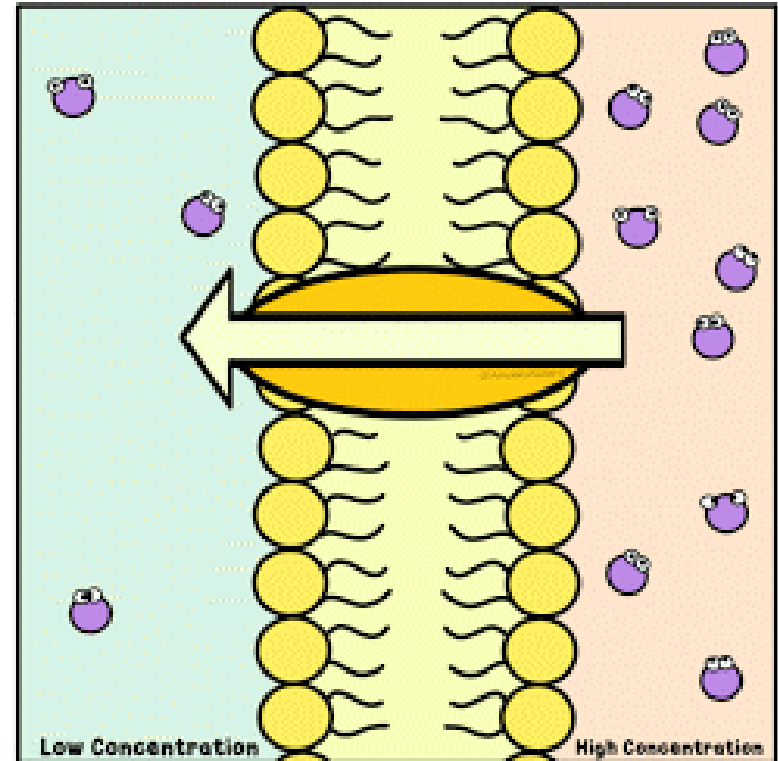
Passive Transport

© Amoeba Sisters

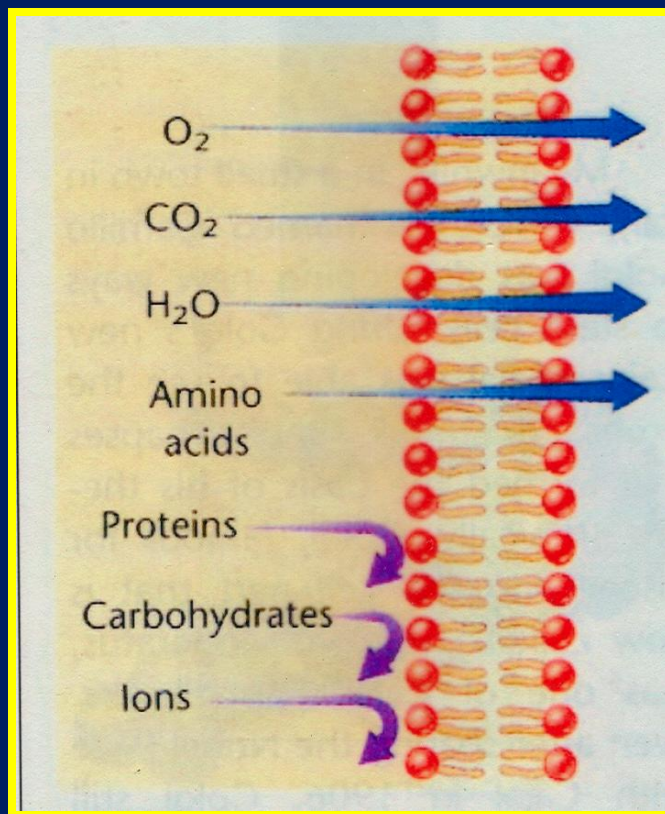
Diffusion



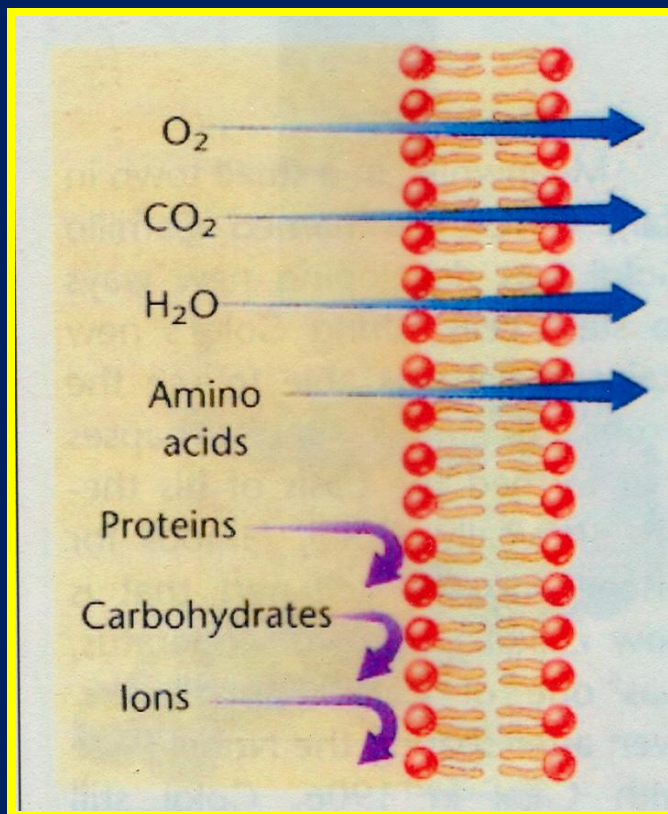
Facilitated Diffusion



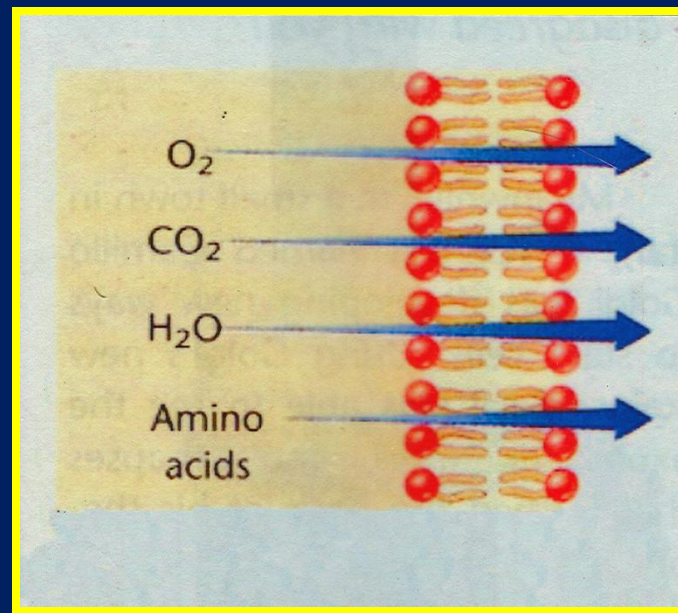
Oxygen and carbon dioxide gases, water, and small molecules can easily pass through the phospholipid bilayer



Large molecules, like proteins and carbohydrates, or charged molecules, ions, cannot pass through easily



When molecules can pass easily through the membrane, no energy is required by the cell and the process is called **Passive Transport**

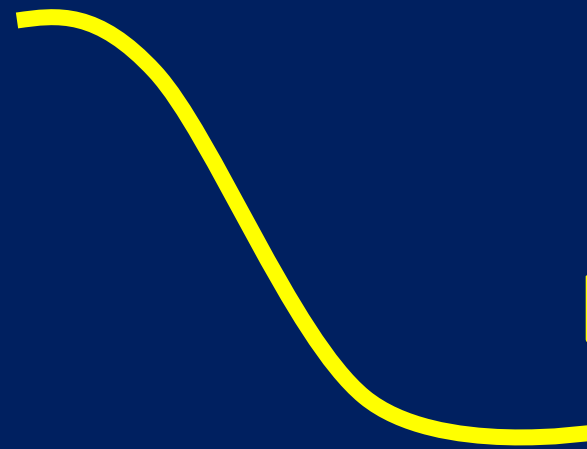


Gases, water, and small molecules

During passive transport, molecules move from areas of high concentration to areas of low concentration



High



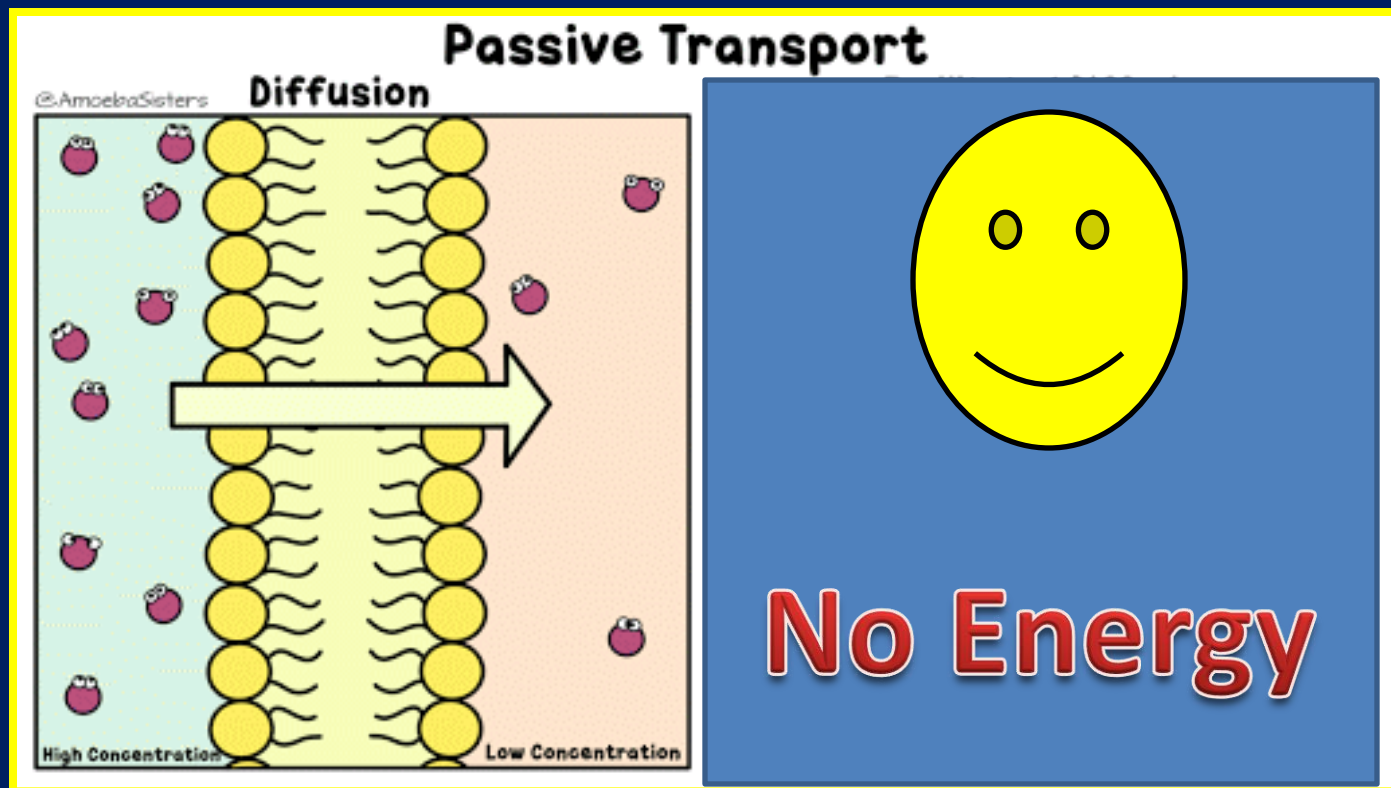
Low

Requires No Energy

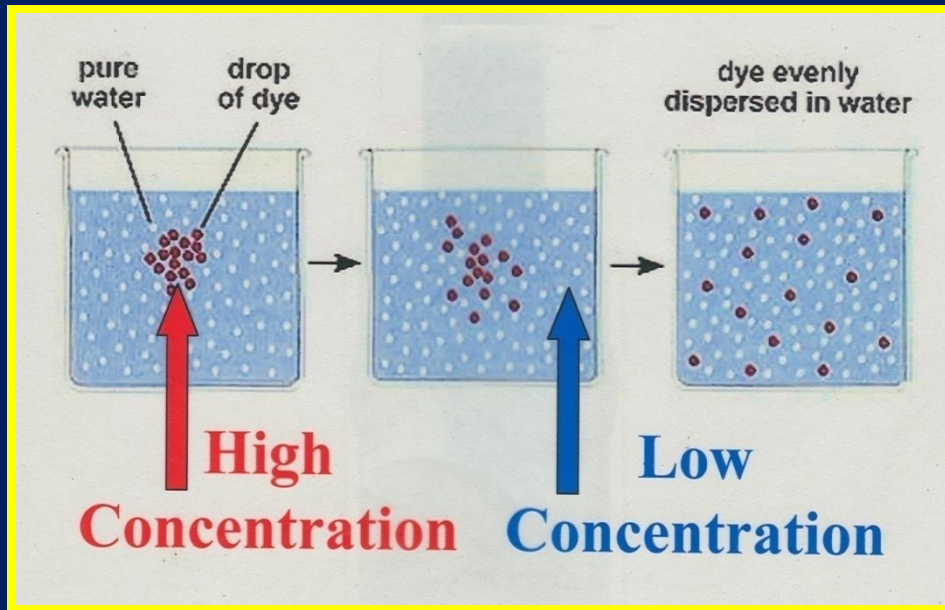
Three types of Passive Transport Mechanisms

1. Simple Diffusion
2. Facilitated Diffusion
3. Osmosis

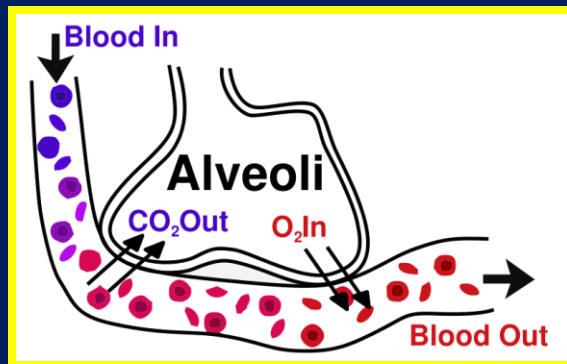
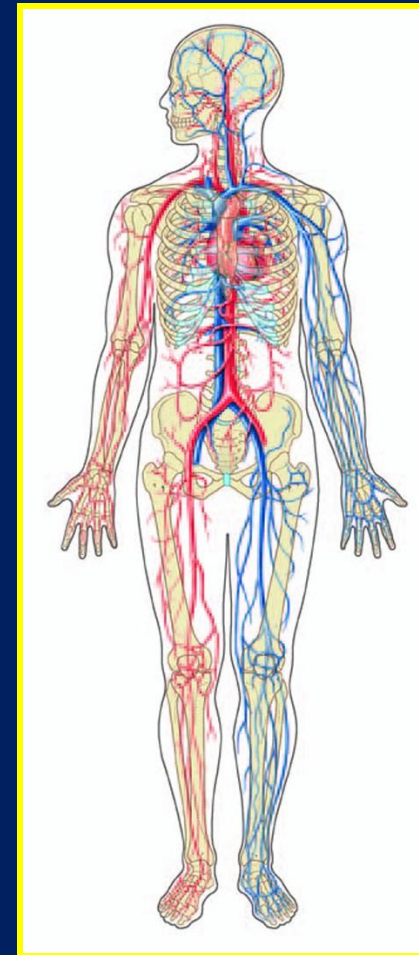
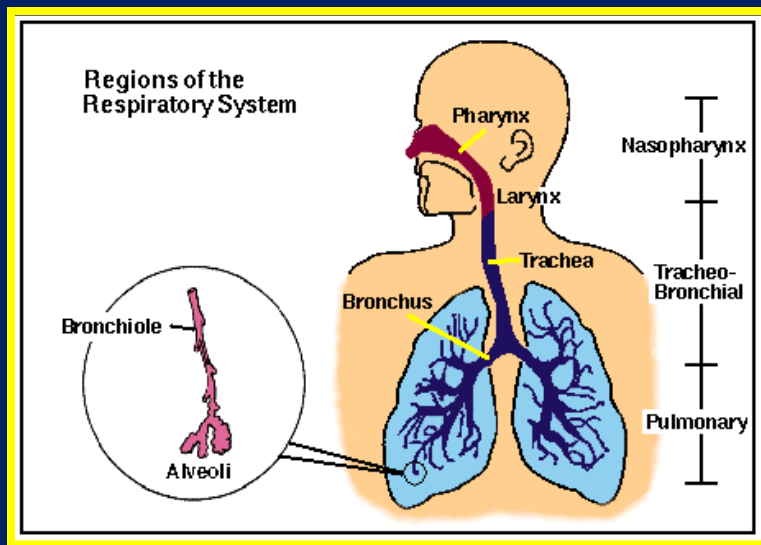
When gas or small molecules move from areas of high concentration to areas of low concentration, it is called
Simple Diffusion



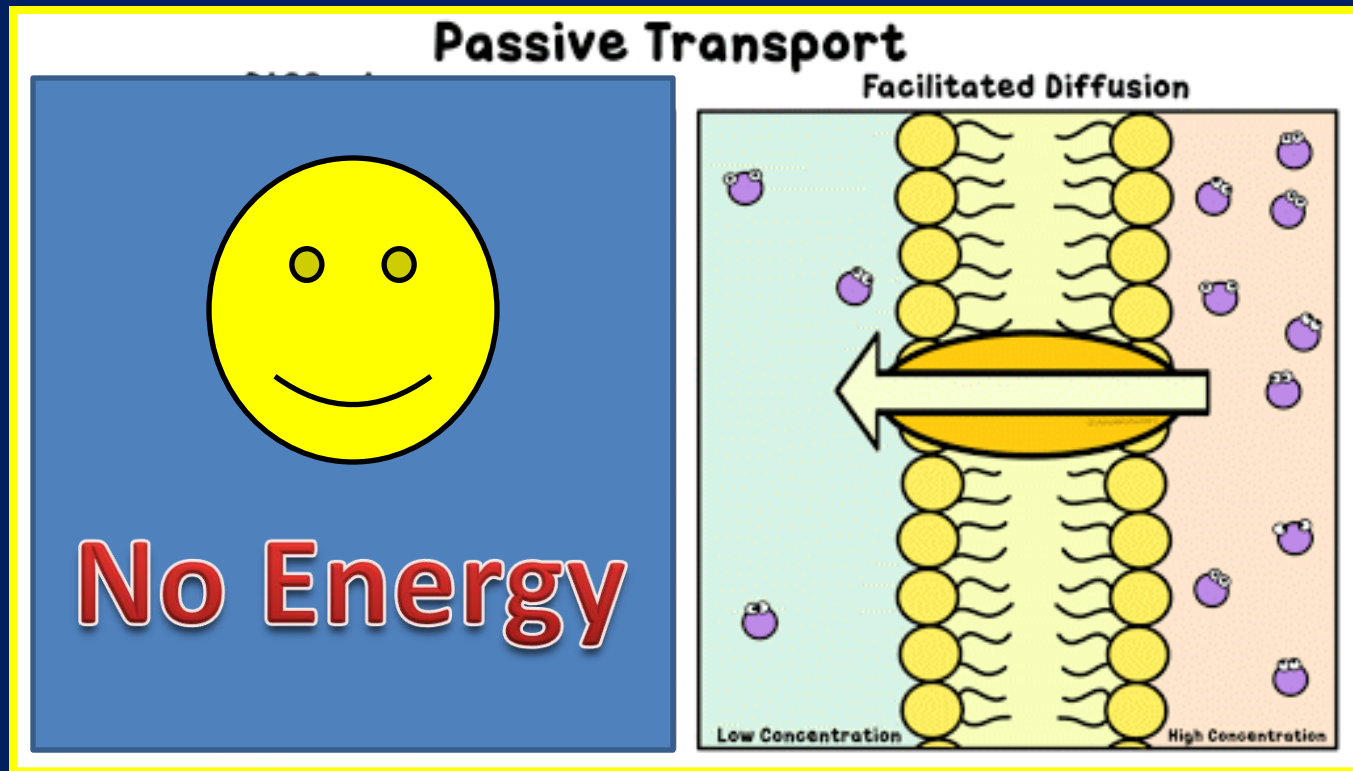
Simple Diffusion



Gas exchange between oxygen and carbon dioxide, into and out of lung cells, takes place with diffusion

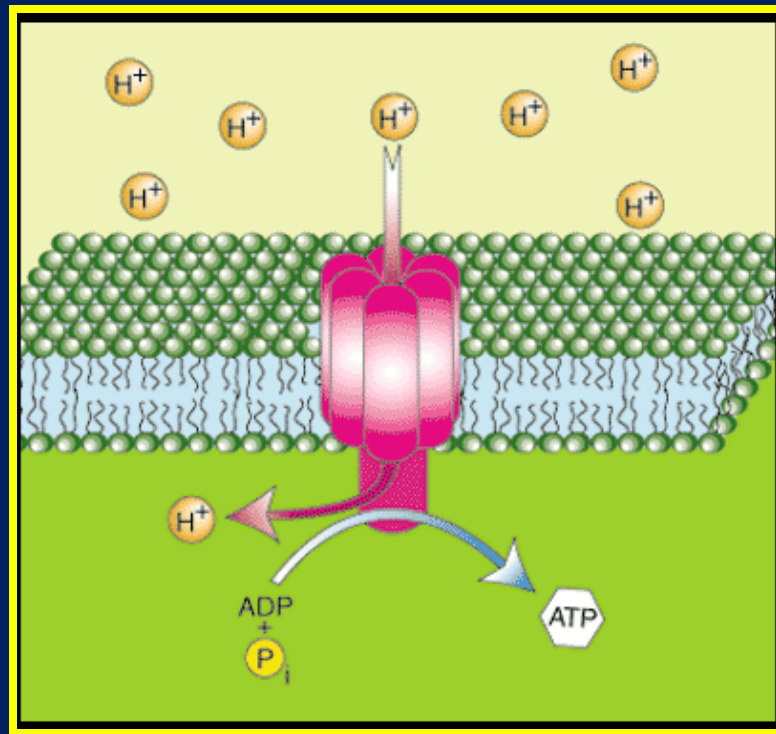


In some cases, proteins can help move molecules across the membrane in a process called **facilitated diffusion**



High concentration to Low Concentration

Hydrogen ions, needed during cellular respiration reactions, have a charge and so they can't just pass through the phospholipids. Instead, they pass through **channel proteins** that insulate their charges.



Osmosis

Diffusion of water across a semi-permeable membrane from areas of high water concentration to areas of low water concentration is called **Osmosis**

