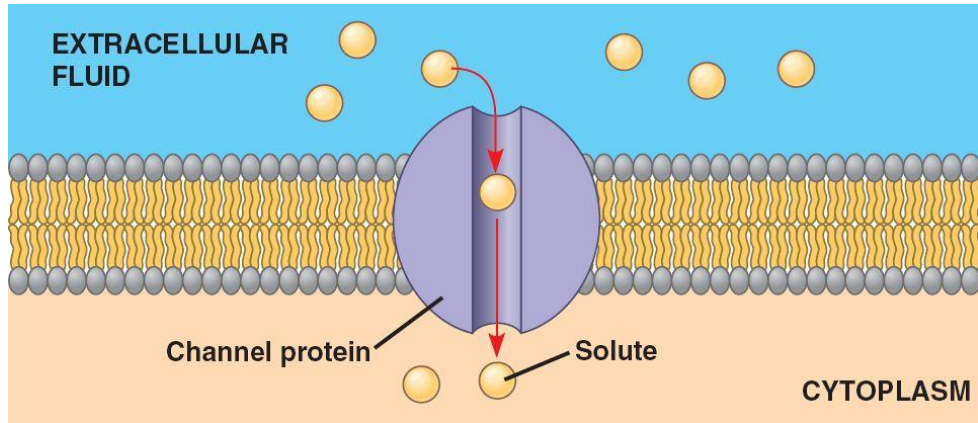


Cell Transport

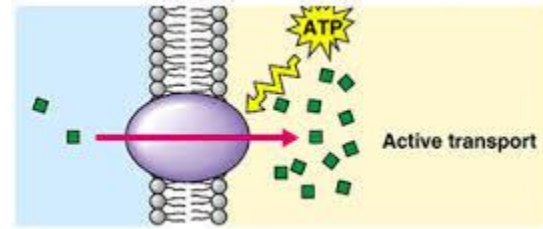
Vocabulary

passive transport = does not need energy to move



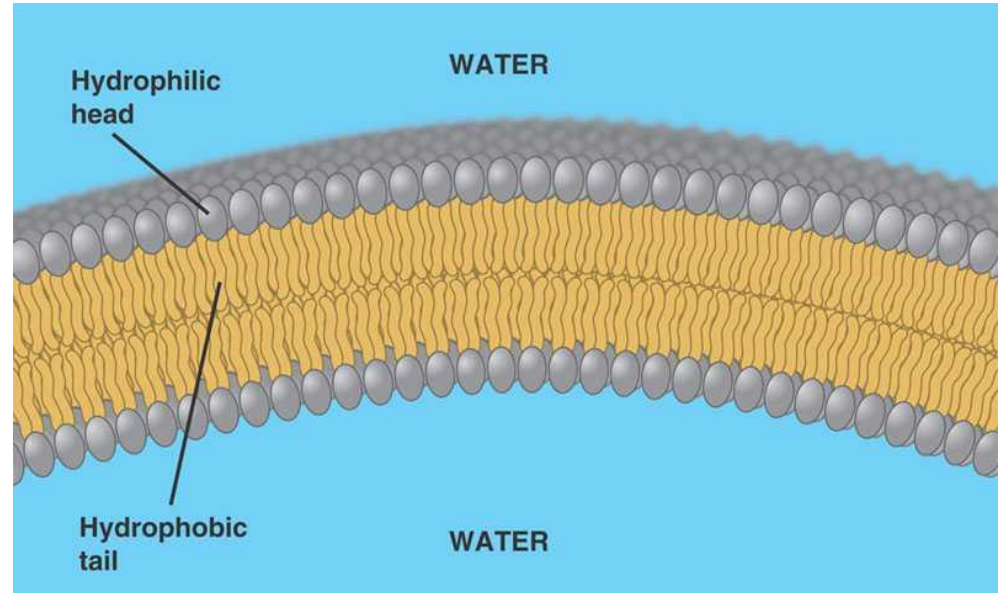
Vocabulary

active transport = needs energy to move



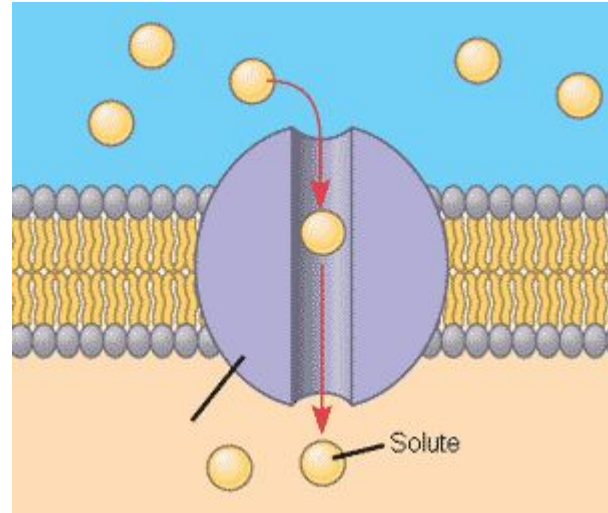
Vocabulary

Phospholipid bilayer= membrane with two layers



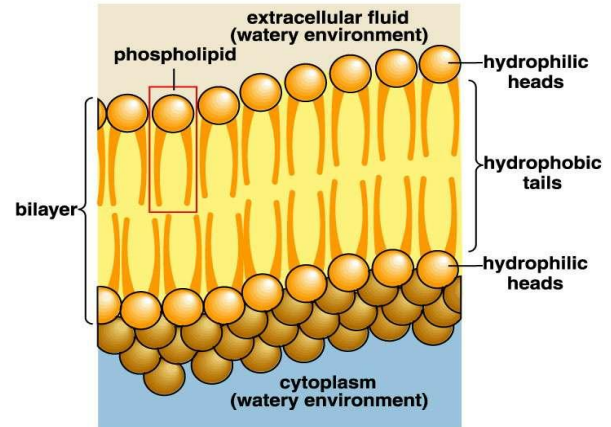
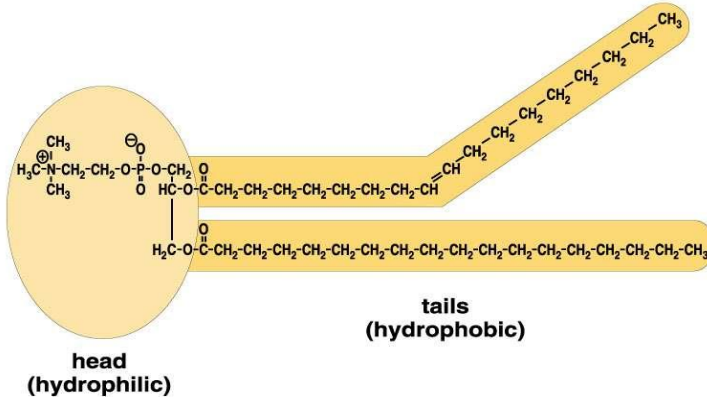
Vocabulary

Transport proteins = moves molecules



Cell Membrane Structure

- Phospholipid bilayer: Two layers of hydrophilic phosphate heads and hydrophobic lipid tails
 - This is the structure of the cell membrane!

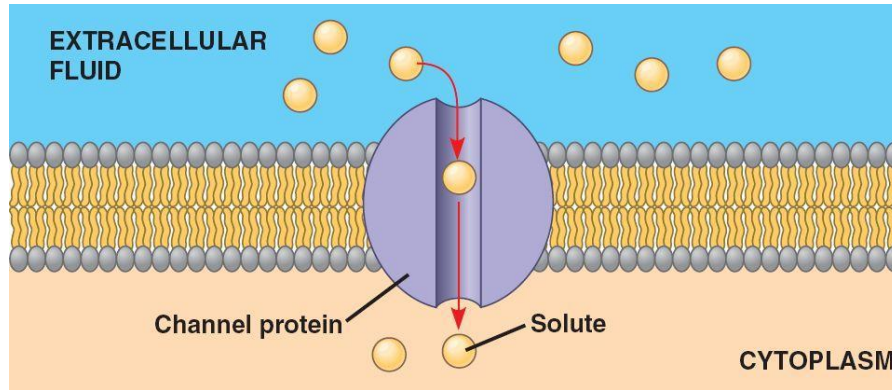


Membrane Transport

- The cell membrane is **selectively permeable**
 - Some molecules can pass, others cannot
- Two ways substances cross a membrane
 - 1) Passive transport
 - 2) Active transport

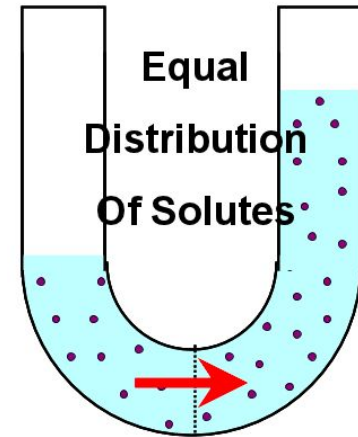
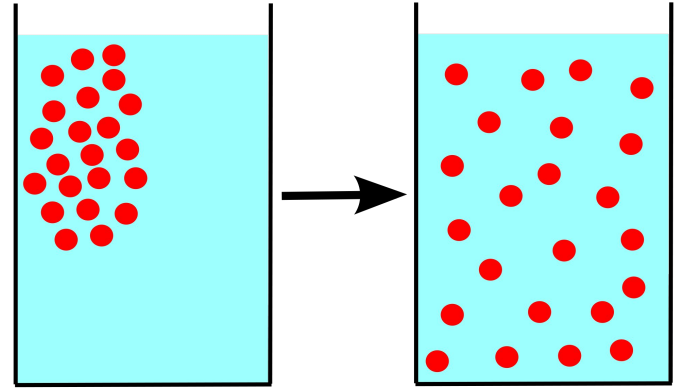
Passive Transport

- Passive transport
 - No cellular energy (ATP) required
 - Substance moves down its concentration gradient
 - Difference in concentration between two areas



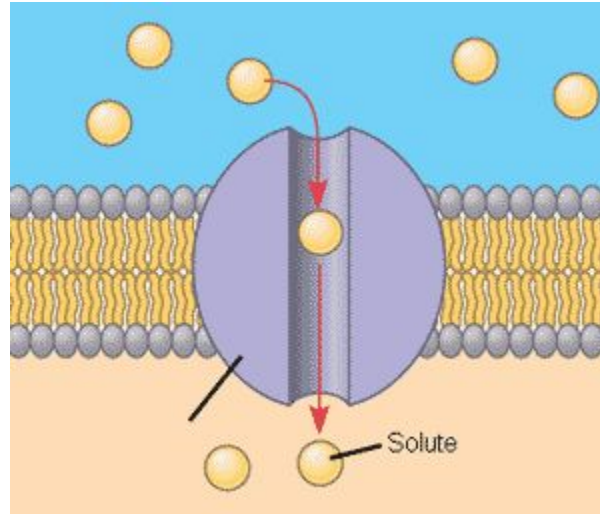
Passive transport

- Two types of passive transport
 - **Diffusion**
 - 1) Simple diffusion
 - 2) Osmosis
 - 3) Facilitated diffusion
 - Using transport proteins
 - **Filtration**
 - *Usually across capillary walls*



Passive Transport

Transport proteins help molecules enter or exit the cell membrane



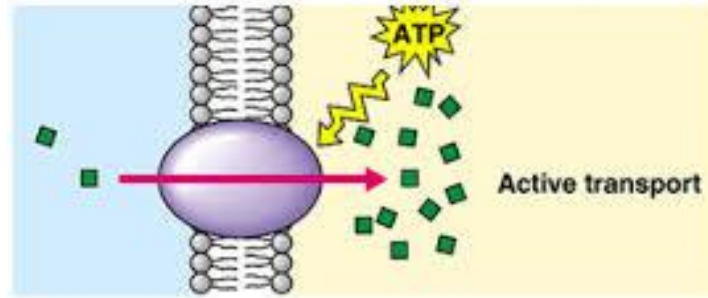
Passive transport

The type of transport depends on concentration gradient, molecule size, and lipid solubility (ability to dissolve in fat)

1. **simple diffusion** - molecules are small enough and are lipid soluble
2. **facilitated diffusion** – molecules are too large or are not lipid soluble
3. **osmosis** – molecules are not lipid soluble, but water is lipid soluble → water passes

Active Transport

- **Active transport**
 - Moves solute against its concentration gradient
 - Energy (ATP) required
 - Occurs only in living cell membranes



Cellular Transport

- a. transport protein
- b. active transport
- c. diffusion
- d. passive transport
- e. osmosis
- f. equilibrium

- _____ 1. The diffusion of water through a cell membrane
- _____ 2. The movement of substances through the cell membrane without the use of cellular energy
- _____ 3. Used to help substances enter or exit the cell membrane
- _____ 4. When energy is required to move materials through a cell membrane
- _____ 5. When the molecules of one substance are spread evenly throughout another substance to become balanced
- _____ 6. When molecules move from areas of high concentration to areas of low concentration

Cell Transport

- a. transport protein
- b. active transport
- c. diffusion
- d. passive transport
- e. osmosis
- f. equilibrium

- e** The diffusion of water through a cell membrane
- d** The movement of substances through the cell membrane without the use of cellular energy
- a** Used to help substances enter or exit the cell membrane
- b** When energy is required to move materials through a cell membrane
- f** When the molecules of one substance are spread evenly throughout another substance to become balanced
- c** When molecules move from areas of high concentration to areas of low concentration