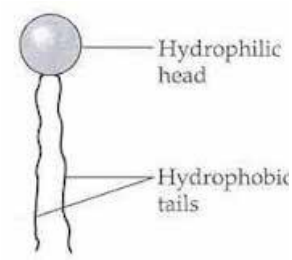
The Cell Membrane: Guided Notes

- The cell membrane _____ the cell, regulating the _____ of materials into and out of the cell.
- Lipid Bilayer: A _____ layer of _____that make up the membrane

MACROMOLECULES: LIPIDS

- *Phospholipid:*



Phosphate Head:

Two Fatty Acid Tails:

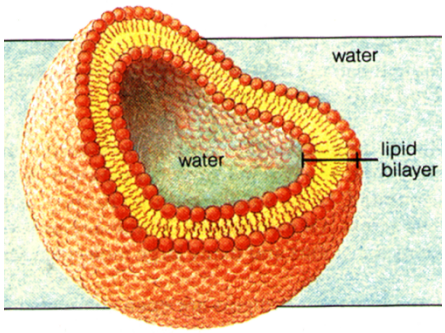
Two Layers:

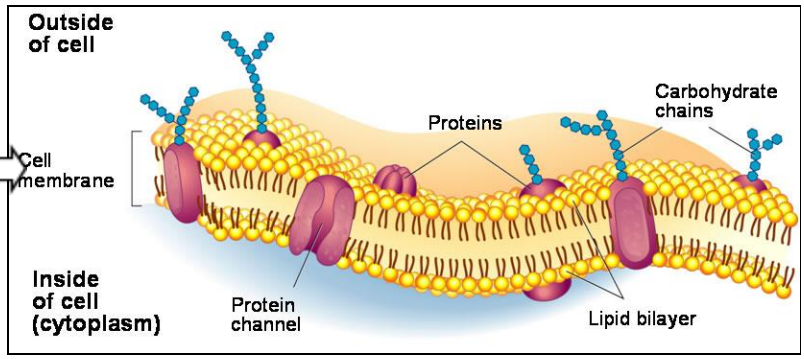
Outsides: Polar Heads

Inside: Nonpolar Tails

- Other Lipids Include:

CELL MEMBRANE STRUCTURE





Phospholipids: Arranged so hydrophilic (_____) ends face _____ and hydrophobic (_____) tails create the _____

Transmembrane Proteins:

Cholesterol:

Glycolipids and Carbohydrates:

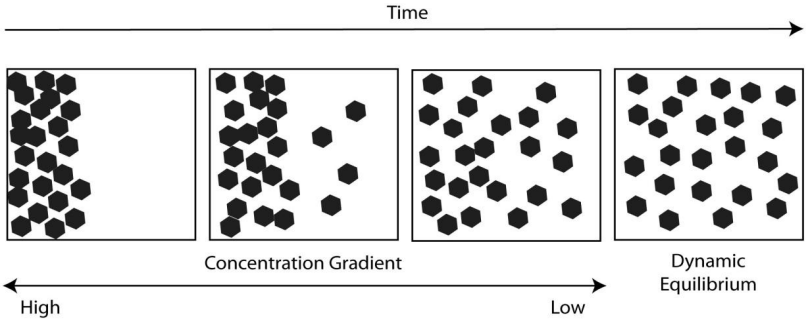
- *Think about it:* How do molecules such as glycolipids and surface carbohydrates play a role in organ transplant recipients?

The Fluid Mosaic Model:

Selectively Permeable:

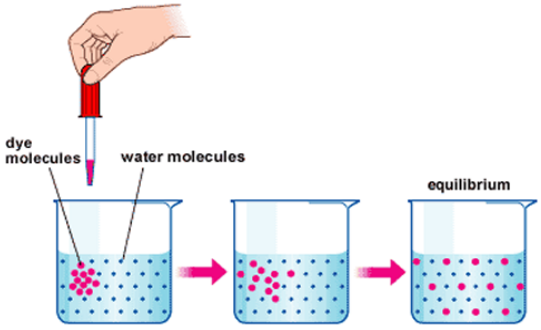
PASSIVE TRANSPORT: OSMOSIS AND DIFFUSION

- ***Passive Transport*** is:
- Three types → Simple diffusion, facilitated diffusion, osmosis



Explain concentration gradient. What is taking place in the diagram to the left?

Diffusion:

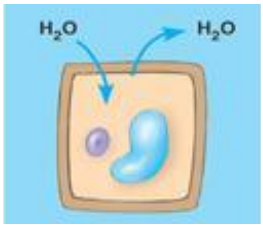


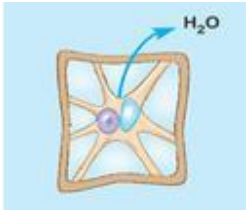
Facilitated Diffusion:

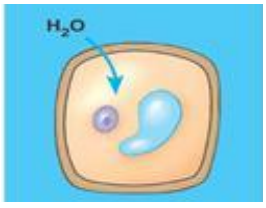
Osmosis:

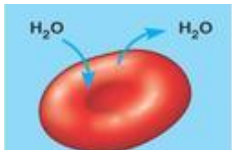
Solvent vs. Solute:

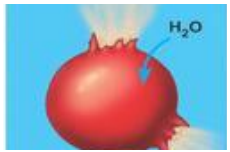
HOW OSMOSIS WORKS











ACTIVE TRANSPORT

- ***Active Transport*** is movement of _____ AGAINST their _____
  - Movement from _____ to _____ concentration.
  - _____ is REQUIRED.

- Types→
  - ***Protein pumps:***
  - ***Bulk Transport****:* Larger _____ are transported by _____ that merge with the cell membrane. (Examples: Exocytosis and Endocytosis)

EXOCYTOSIS	ENDOCYTOSIS

HOMEOSTASIS

- ***Homeostasis*** is the process by which an organisms _____ environment is kept at _____(stable) in spite of changes in the _____ environment
  - Examples include:

- Cells can maintain homeostasis through active and passive transport and buffers.
  - A ***buffer*** is a chemical that can _____ or _____ the pH
  - Buffer Example: