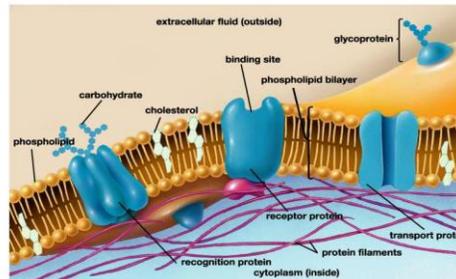
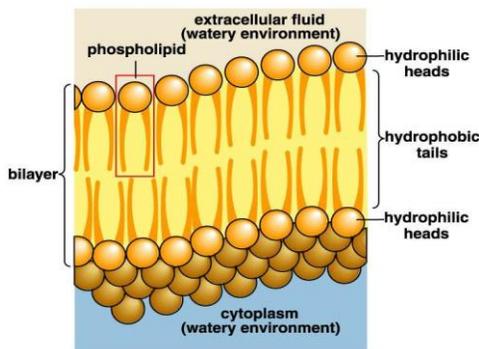


The Cell Membrane: Active and Passive Transport  
Guided Notes

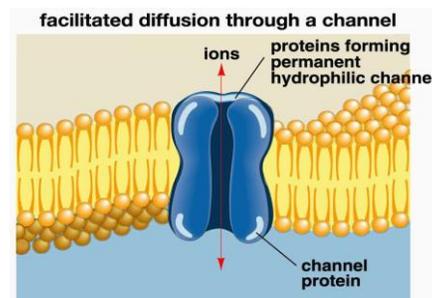
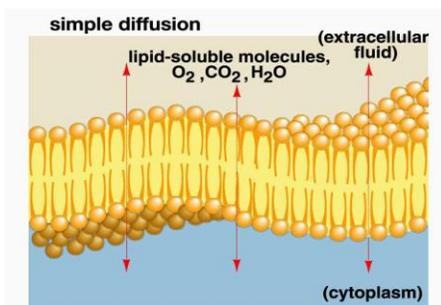
**Cell Membrane**

- ▶ Phospholipid bilayer: hydrophilic heads and hydrophobic tails
- ▶ \_\_\_\_\_
- ▶ Transport proteins (passive transport channels)
- ▶ Ion pumps (active transport pumps)
- ▶ Receptor \_\_\_\_\_ (neurons, hormones, immune system)
- ▶ \_\_\_\_\_ chains ( identification cards)



**Passive Transport**

- ▶ Diffusion - process by which molecules tend to move from an area where they are \_\_\_\_\_ concentrated to an area where they are \_\_\_\_\_ concentrated
- ▶ In \_\_\_\_\_ Transport - Molecules move \_\_\_\_\_ the \_\_\_\_\_ gradient (no energy required)
- ▶ 1) \_\_\_\_\_ -molecules are small enough and soluble can pass directly through the lipid bilayer
- ▶ 2) \_\_\_\_\_ – need transport proteins (molecules are either too large or can't pass through the lipid bilayer themselves)
- ▶ 3) \_\_\_\_\_ – molecules can't pass through lipid bilayer at all, but water can (movement of \_\_\_\_\_)
- ▶ Depends on molecule \_\_\_\_\_, lipid solubility, and \_\_\_\_\_



The Cell Membrane: Active and Passive Transport  
Guided Notes

**Solutions**

- ▶ A \_\_\_\_\_ of solid particles ( \_\_\_\_\_ ) and liquid ( \_\_\_\_\_ )
- ▶ Most common solvent is \_\_\_\_\_
- ▶ Cells are \_\_\_\_\_ by solutions
- ▶ Three types: \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_ solutions

**Isotonic Solutions**

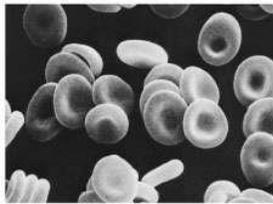
- ▶ Particles are \_\_\_\_\_ inside and outside of the cell
- ▶ Water molecules are equal inside and outside of the cell

**Hypotonic Solutions**

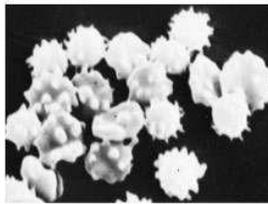
- ▶ There are \_\_\_\_\_ particles inside than outside
- ▶ There is more water outside the cell
- ▶ Water will move \_\_\_\_\_ the cell

**Hypertonic Solutions**

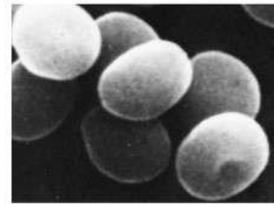
- ▶ There are \_\_\_\_\_ particles outside
- ▶ There is more water inside
- ▶ Water will move \_\_\_\_\_ the cell



(a) isotonic solution



(b) hypertonic solution



10 micrometers

(c) hypotonic solution

