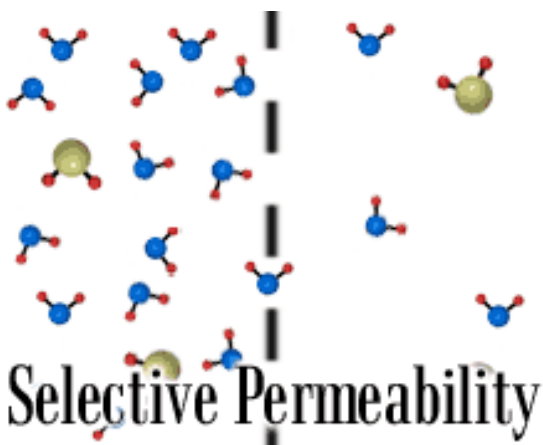
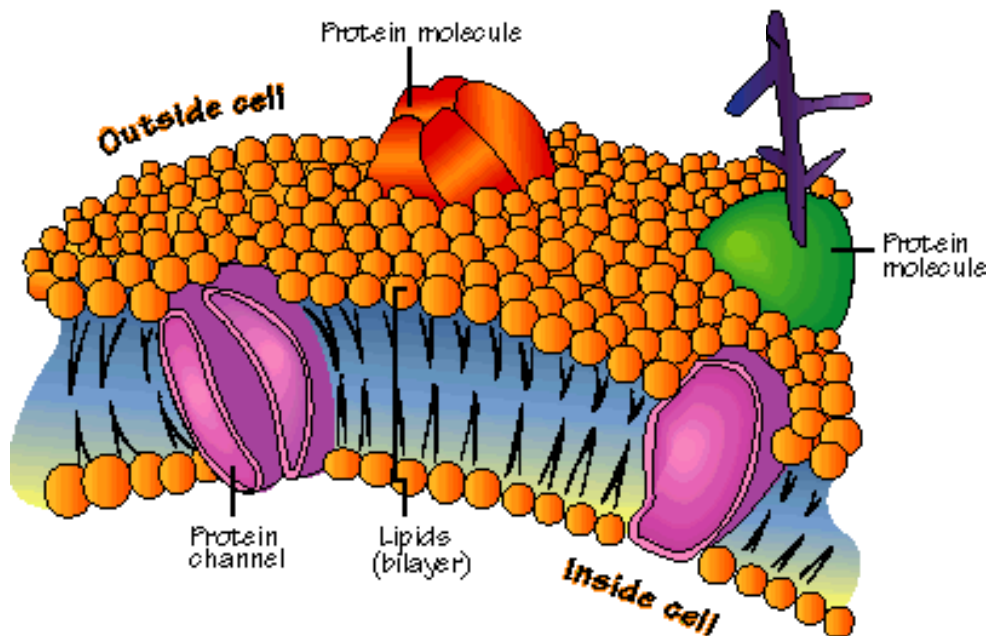


REVIEW: Cellular Transport

Cell Membrane

- ✓ Made of lipids & proteins
- ✓ It is selectively permeable



➤ allows some molecules to pass
through but not others

★ Will a molecule pass through the cell membrane? ★

It **DEPENDS** on its SIZE!

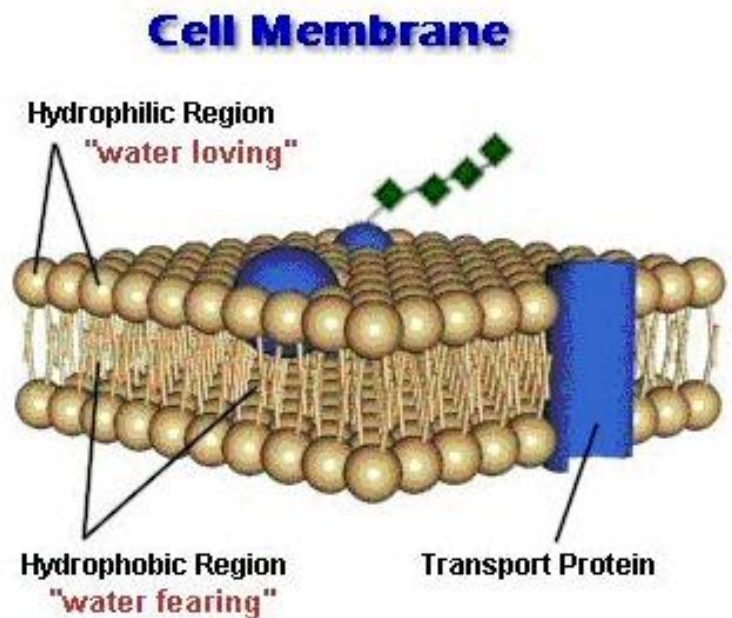
The 2 LAYERS of the CELL MEMBRANE (called the *PHOSPHOLIPID BILAYER*!)

The HYDROPHILIC Layer

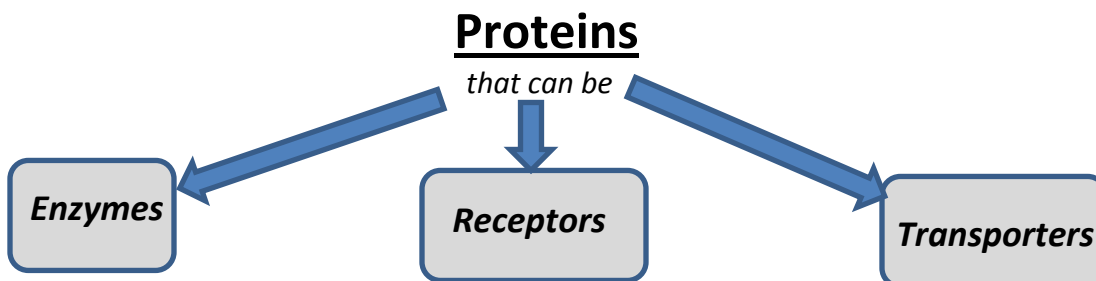
- ✓ It LOVES WATER
- ✓ It is ALWAYS on the OUTSIDE of the membrane

The HYDROPHOBIC Layer

- ✓ It FEARS WATER
- ✓ It is ALWAYS on the INSIDE of the membrane



★ These layers are made of....



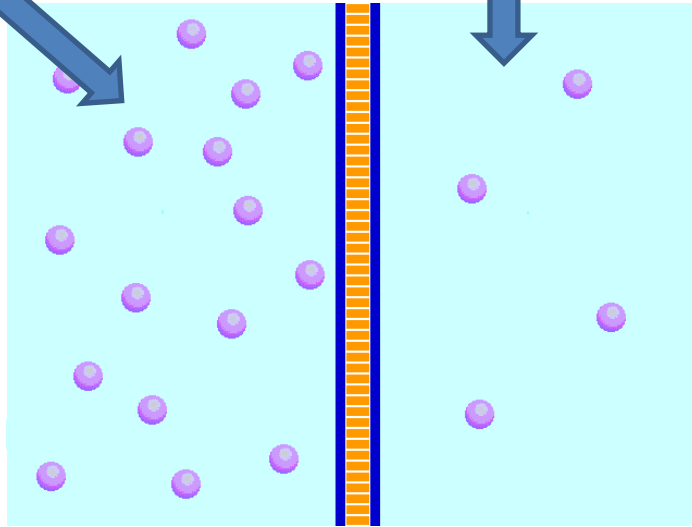
Concentration



amount of molecules

HIGH concentration = a lot

LOW concentration = a little



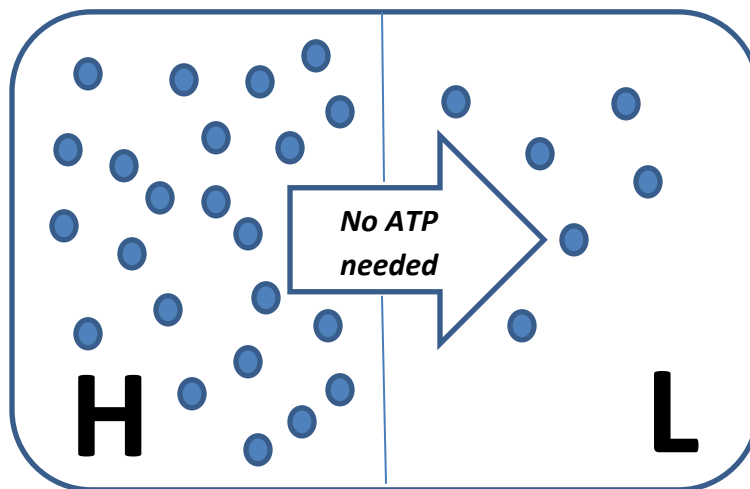
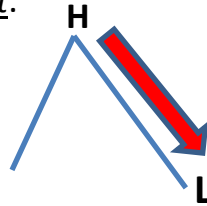
Concentration Gradient = different amount of molecules on either side

Equilibrium = same amount on each side



Passive Transport

- ✓ NO ENERGY needed (NO ATP!)
- ✓ Molecules move from HIGH to LOW because they want to spread out.
- ✓ Moving "down the concentration gradient."



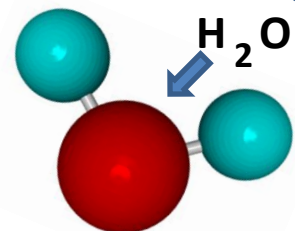
Diffusion

- ✓ Movement of molecules from HIGH to LOW
- ✓ NO ATP needed!

Osmosis



Diffusion of WATER



OSMOSIS is PASSIVE TRANSPORT (no energy was needed!)

Remember....

STARCH is TOO BIG to pass through the membrane

Starch STOP!

GLUCOSE is SMALL enough to pass through the membrane

Glucose GO!



“Where there is SALT....WATER will follow.”



SALT Solution will pull water OUT OF THE CELL.....the CELL SHRINKS

DISTILLED WATER will push water INTO THE CELL.....the CELL GROWS

Active Transport

- ✓ Requires ENERGY to move molecules
- ✓ Pumps molecules “up the concentration gradient.”
- ✓ Molecules move from LOW to HIGH

