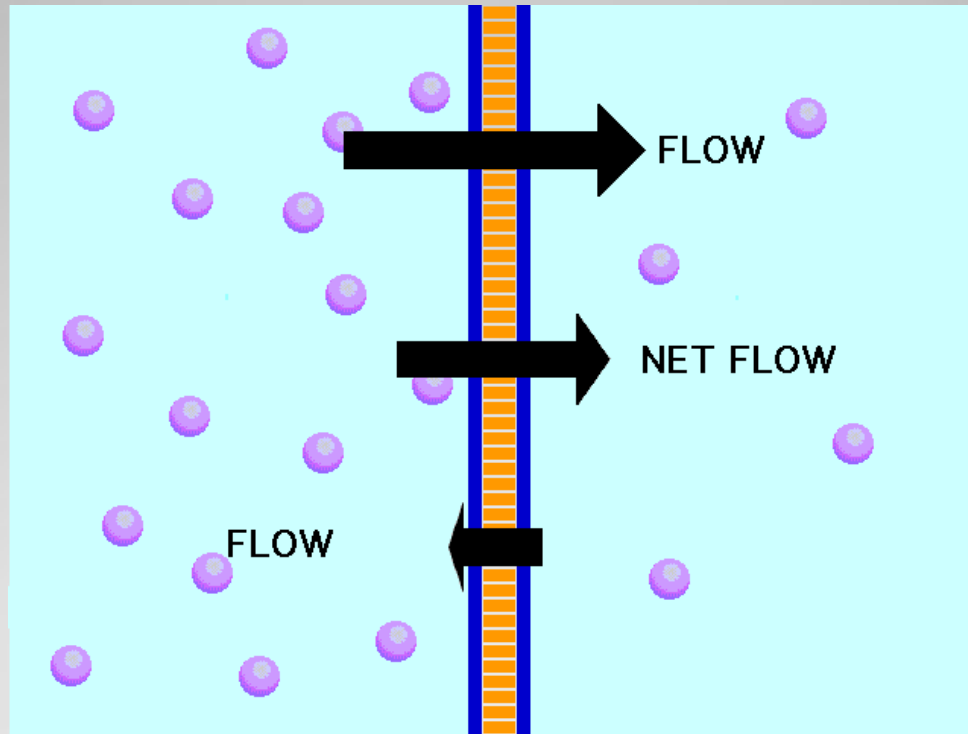


# Diffusion Notes

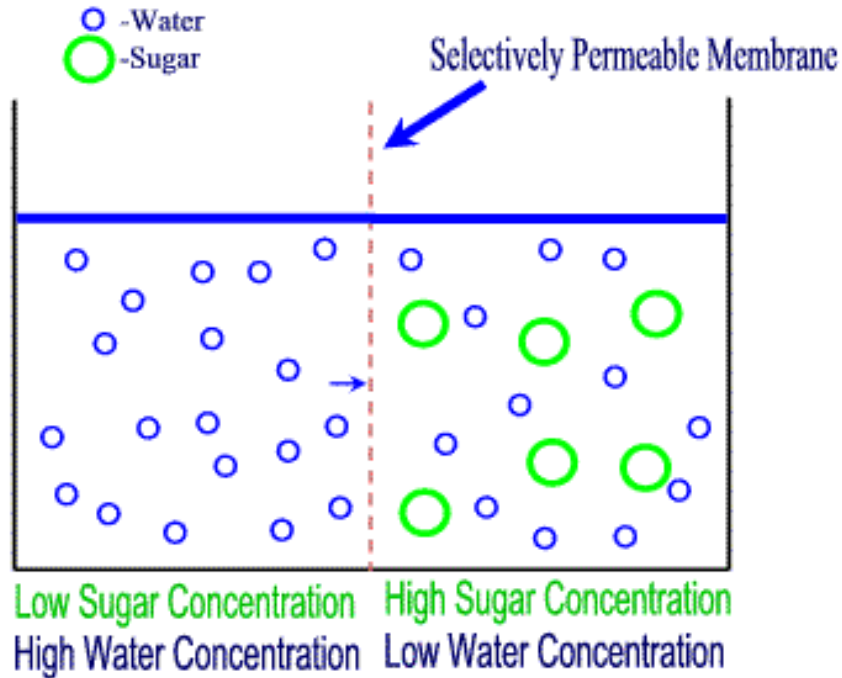
Diffusion, Osmosis, Facilitated Diffusion and Active Transport



# Diffusion

Molecules move from an area of high concentration to an area of low concentration. Homeostasis/equilibrium: maintaining a balance

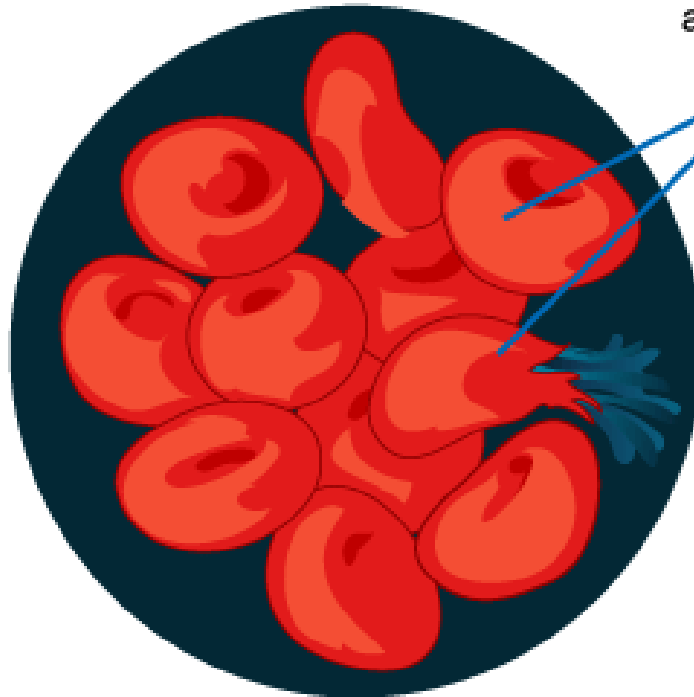
# Osmosis



## Osmosis

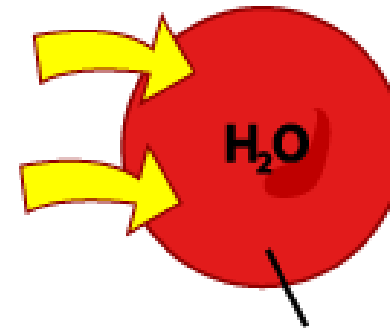
Diffusion of water through a selectively permeable membrane; some molecules can't pass through the membrane so water does instead to balance it out.

# Hypotonic



The cells inflate  
and eventually burst

Water is transported  
into the cell



Solute concentration  
inside the cell is HIGHER

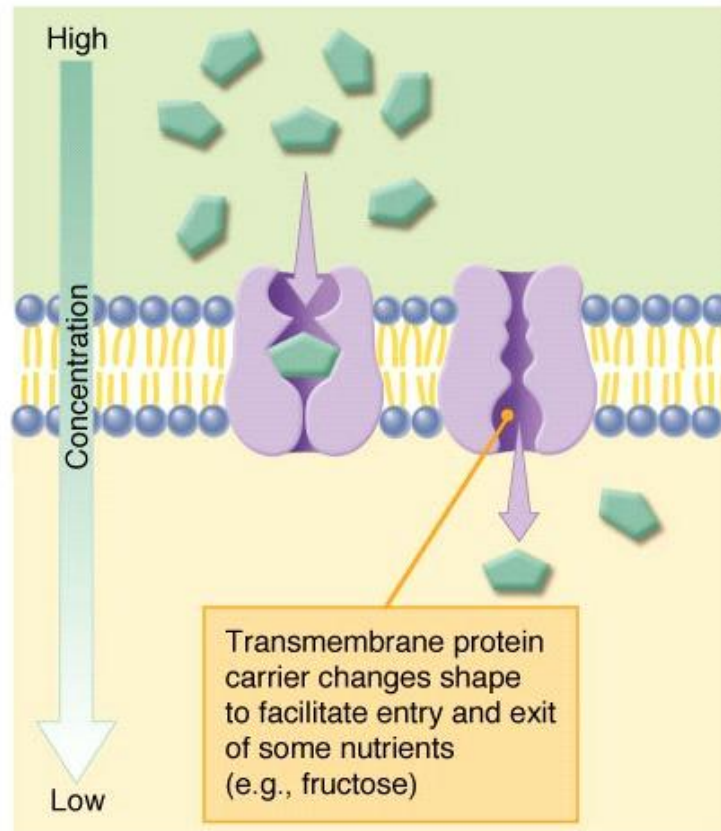
## Types of solutions in osmosis:

Isotonic: same

Hypotonic: low concentration (swell or shrink?)

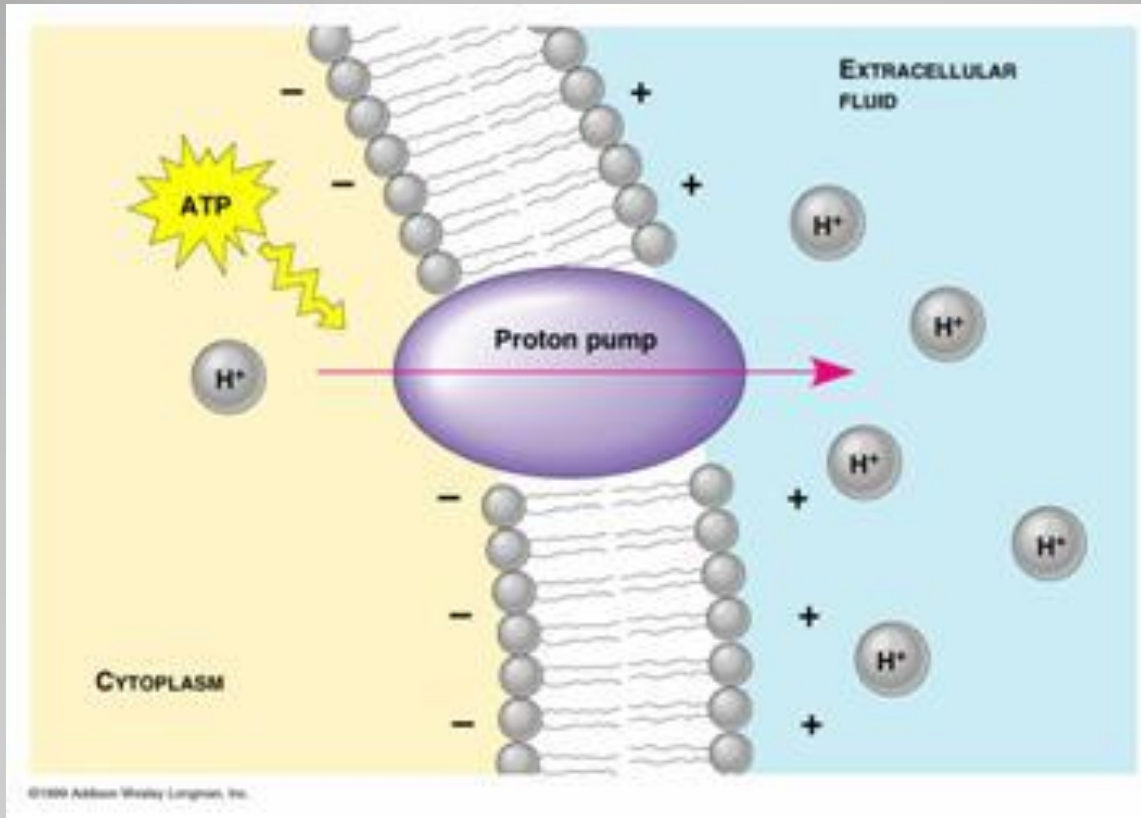
Hypertonic: high concentration (swell or shrink?)

## FACILITATED DIFFUSION



# Facilitated Diffusion

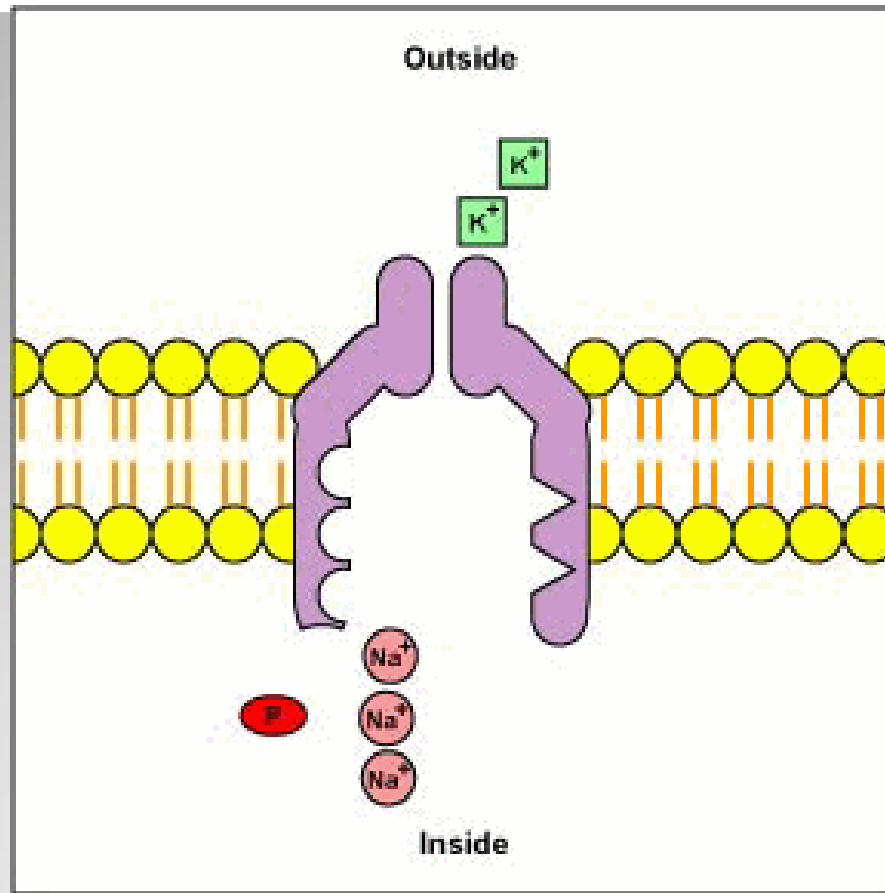
Diffusion using a protein channel (example: sugar in cells)



# Active Transport

Requires energy, is used against the concentration gradient

Types: pump, endocytosis, exocytosis

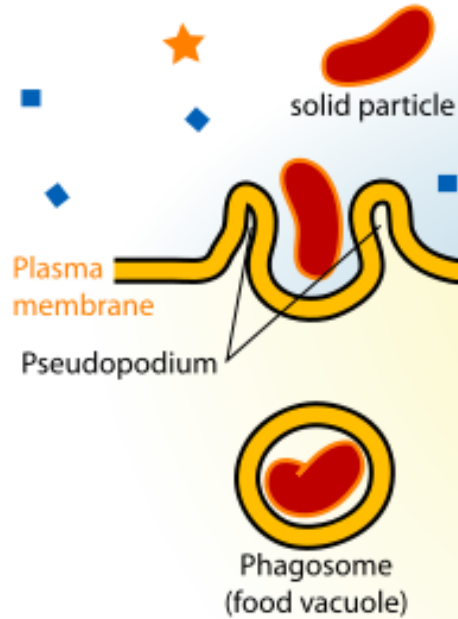


# Pump

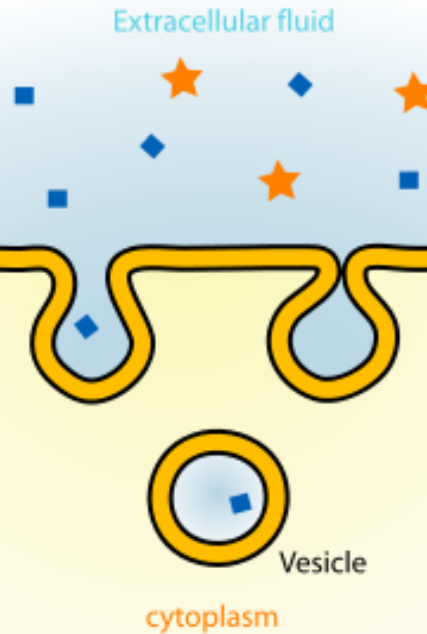
Pump one molecule in while pumping another out

## Endocytosis

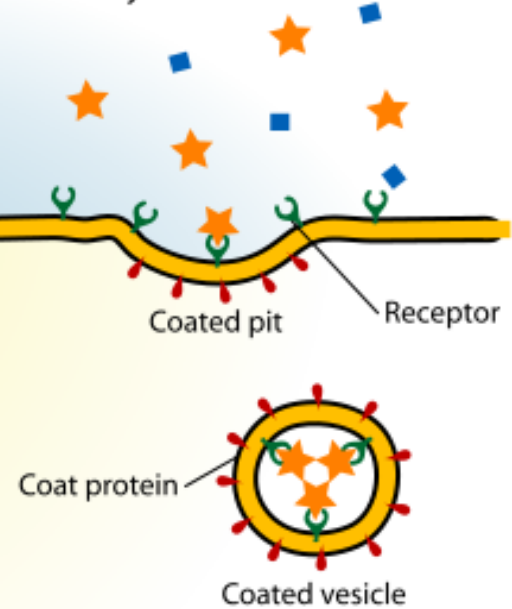
### Phagocytosis



### Pinocytosis



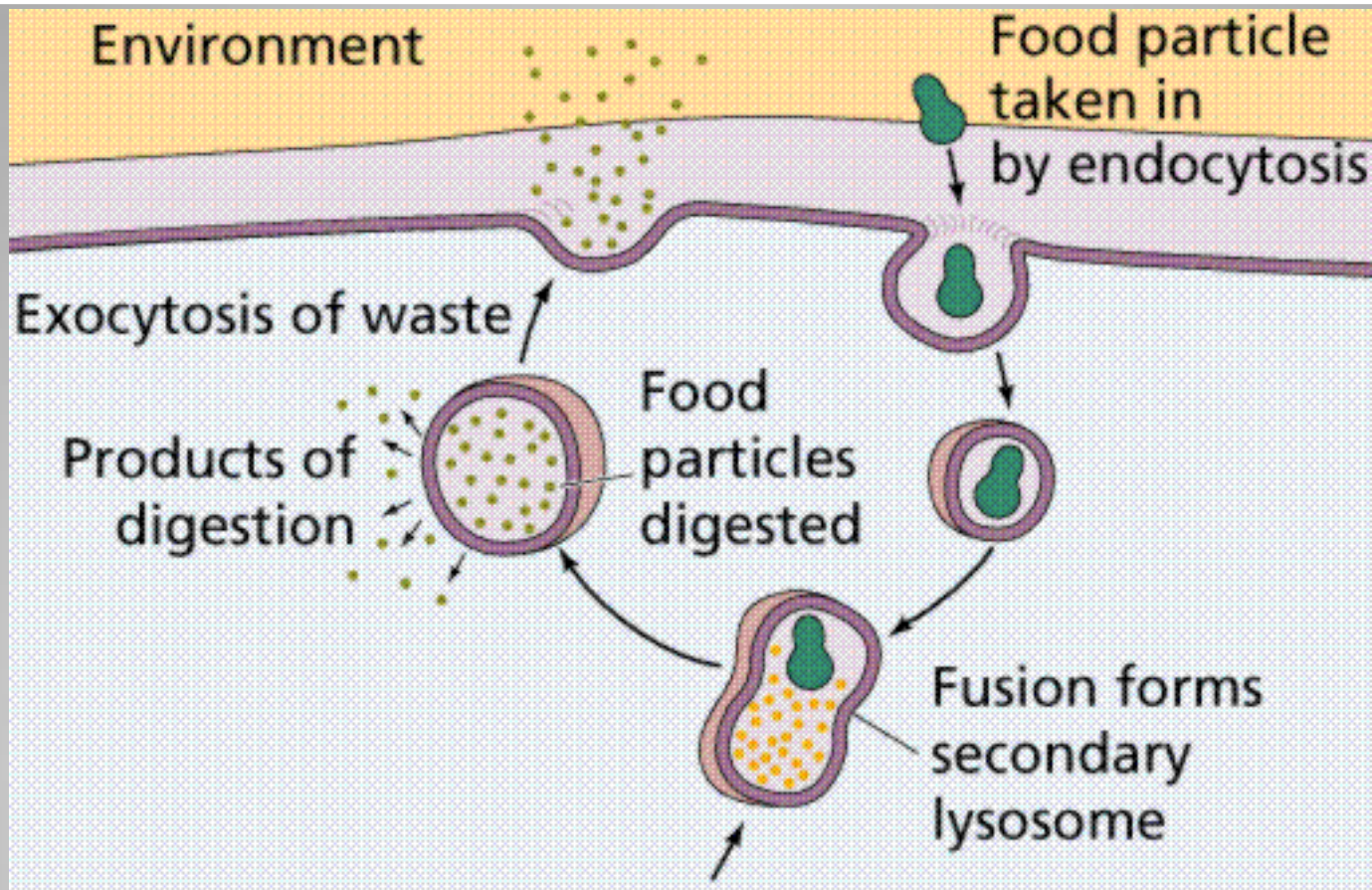
### Receptor-mediated endocytosis



# Endocytosis

Taking material into the cell by infoldings (specifically phagocytosis)





# Exocytosis

Spitting out material