

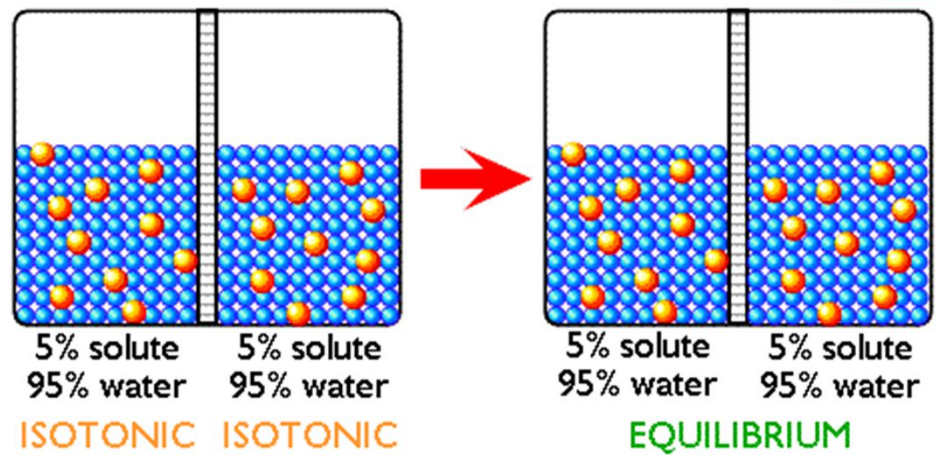
CELLS IN _____ SOLUTION

- same _____ of water and solutes
- Solutes could be: sugars, proteins, etc
- Water

_____ through membrane but

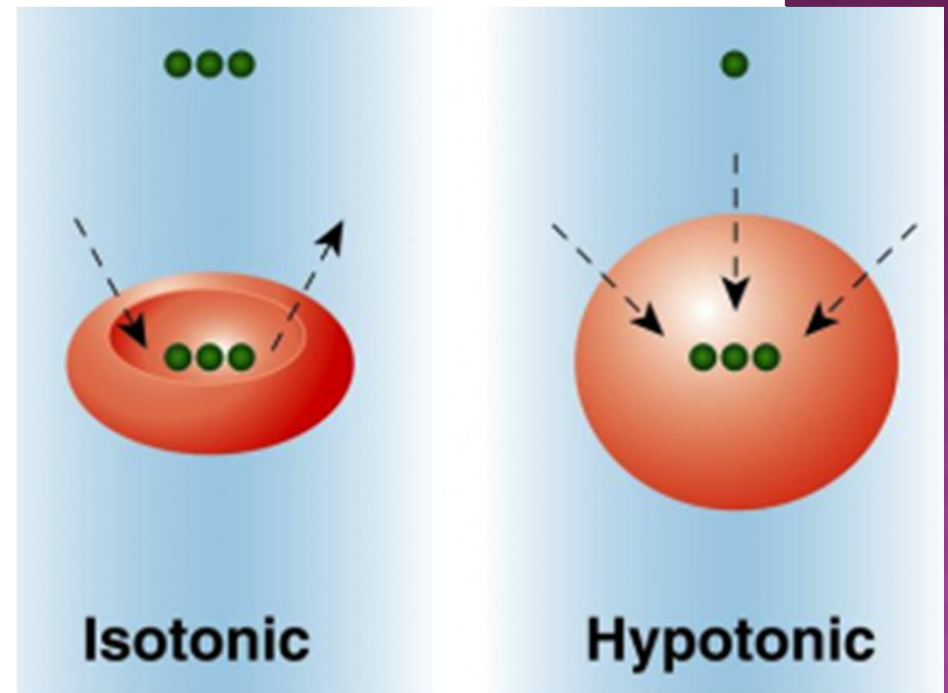
_____ stays the same

- **Cell keeps its**



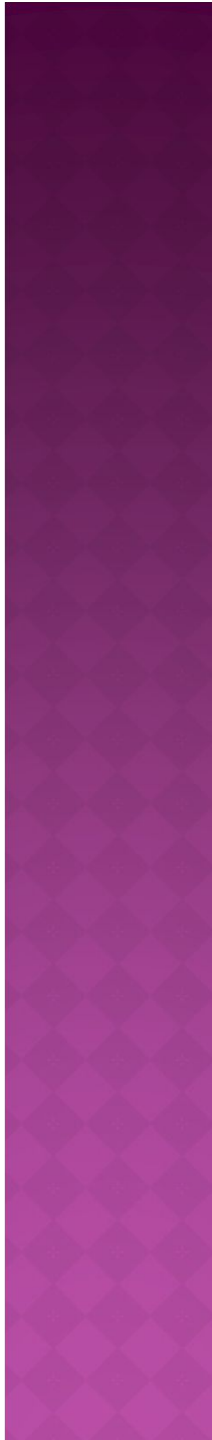
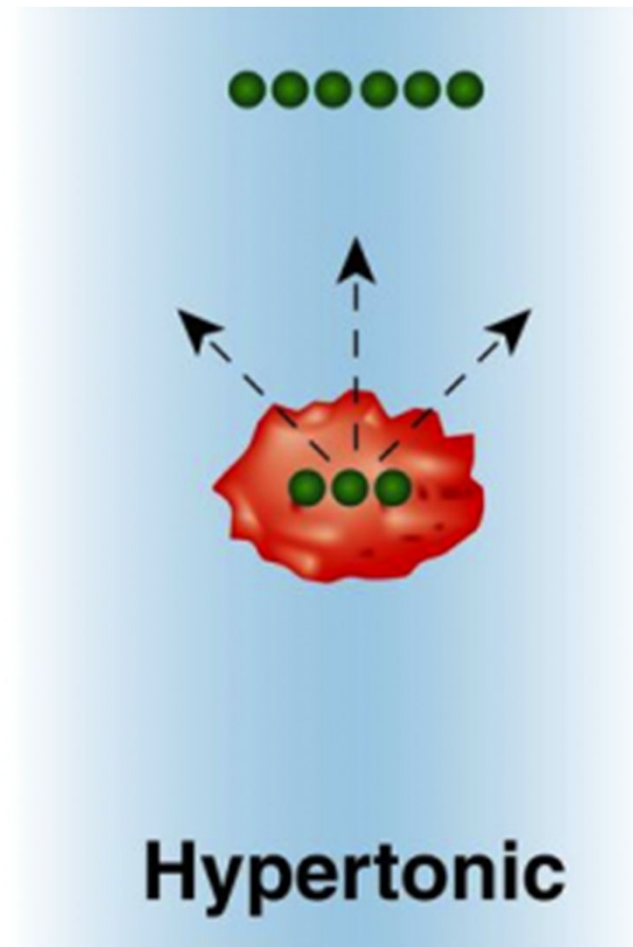
CELLS IN A _____ SOLUTION

- Cell is in a solution that has a _____ concentration of _____
- More water _____ the cell than _____
- **Water will flow _____ the cell**
- Creates _____ within the cell
- If pressure increases too high the cell _____
- Plants do not burst
 - _____



CELLS IN A _____ SOLUTION

- ◉ More solute _____ of the cell than inside
- ◉ Water will _____ of the cell
- ◉ Animal cells will _____
- ◉ Plant cells will _____

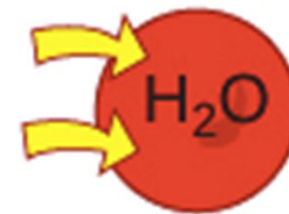
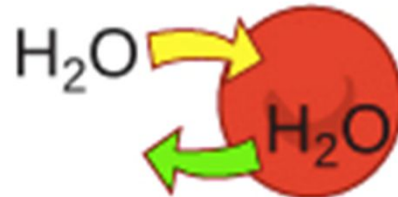


ISOTONIC, HYPOTONIC, HYPERTONIC

solution

solution

solution



ACTIVE TRANSPORT

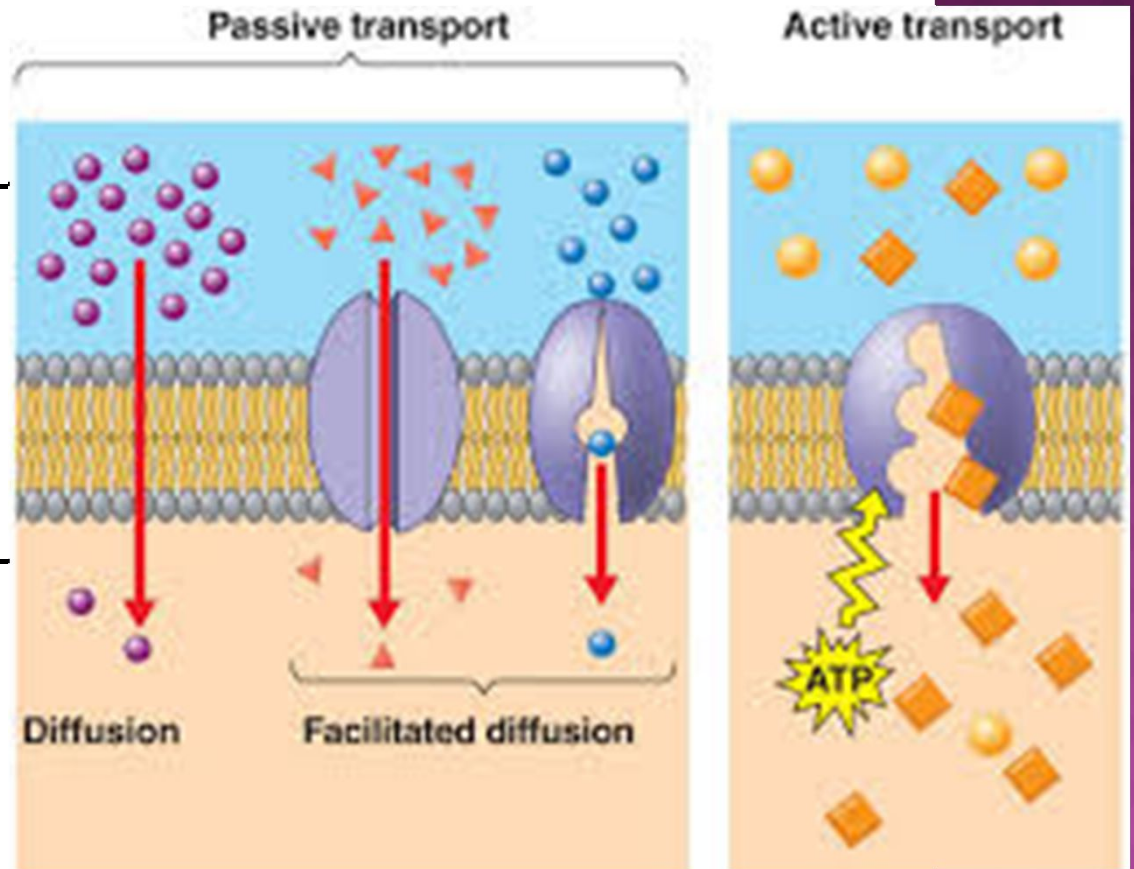
○ Move from

_____ to

■ UP THE HILL!

○ Requires _____

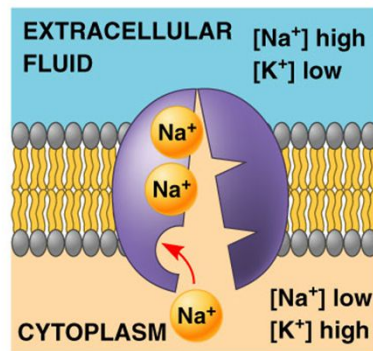
○ _____ called pumps help substances across



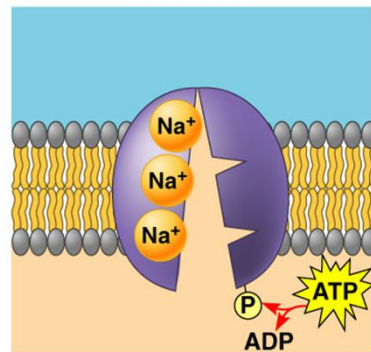
POTASSIUM PUMP

- Found in _____
- Balances the amount of sodium and potassium ions
 - Sodium ion = _____
 - Potassium ion = _____
 - These are atoms that have _____
- The pump _____
- Moves Na^+ _____ of the cell AND K^+ _____ cell at same time

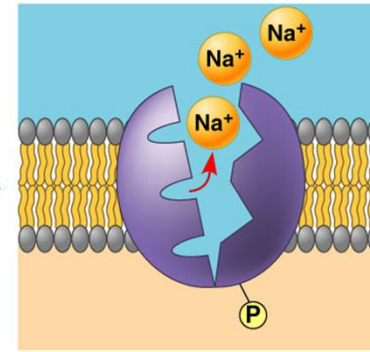
SODIUM POTASSIUM PUMP



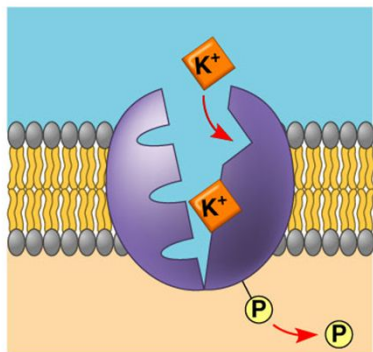
1 Cytoplasmic Na^+ binds to the sodium-potassium pump.



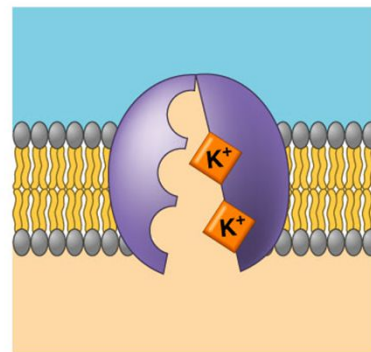
2 Na^+ binding stimulates phosphorylation by ATP.



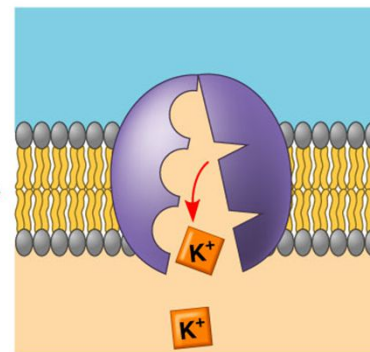
3 Phosphorylation causes the protein to change its conformation, expelling Na^+ to the outside.



4 Extracellular K^+ binds to the protein, triggering release of the phosphate group.



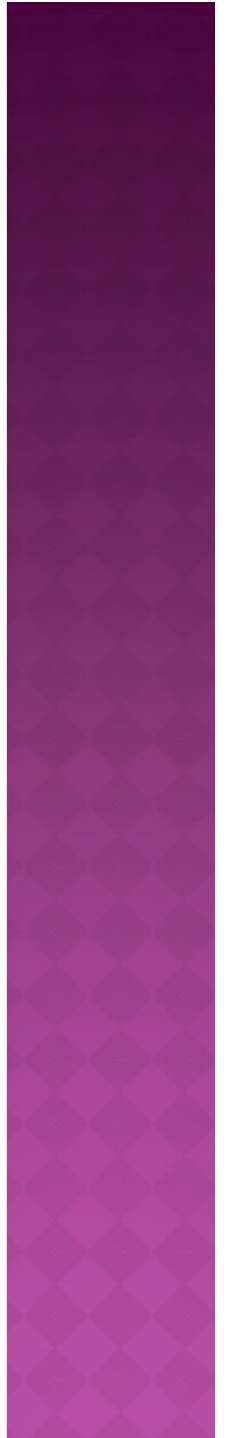
5 Loss of the phosphate restores the protein's original conformation.



6 K^+ is released and Na^+ sites are receptive again; the cycle repeats.

TRANSPORT OF LARGE PARTICLES

- Endocytosis
- Cell _____ something on the _____
- Brings the substance into the cell
- _____ off and leaves the substance within the cell
- Requires _____
- Exocytosis
- Secretes something _____ of the cell
- Expel wastes
- Requires _____
- Opposite of _____



TRANSPORT OF LARGE PARTICLES

