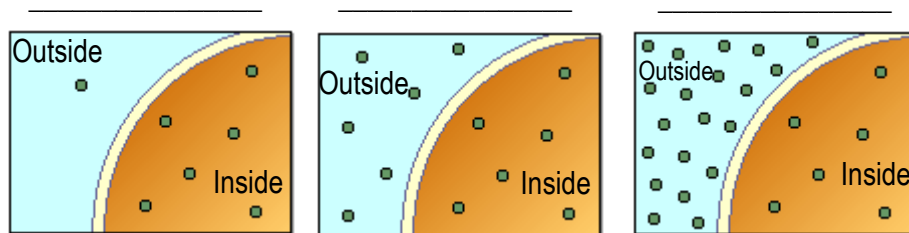


CONCEPT: OSMOSIS

- **Diffusion**: substance movement from high concentrations to low concentrations of the same substance.
- **Osmosis**: diffusion of a solvent (usually _____) across a *semi-permeable* membrane.
 - **Osmotic pressure**: pressure required to prevent the flow of solvent.
- Osmosis direction depends on the _____ (or the relative concentration of solute dissolved in the solutions).
 - _____ solutions have the *same* solute concentration.
 - _____ solutions have *lower* solute concentrations.
 - _____ solutions have *higher* solute concentrations.

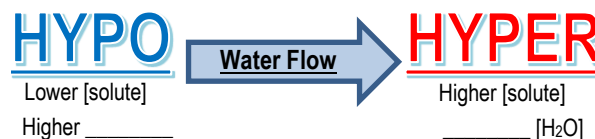
EXAMPLE: Label the tonicity of the outside solution.





Osmosis Direction

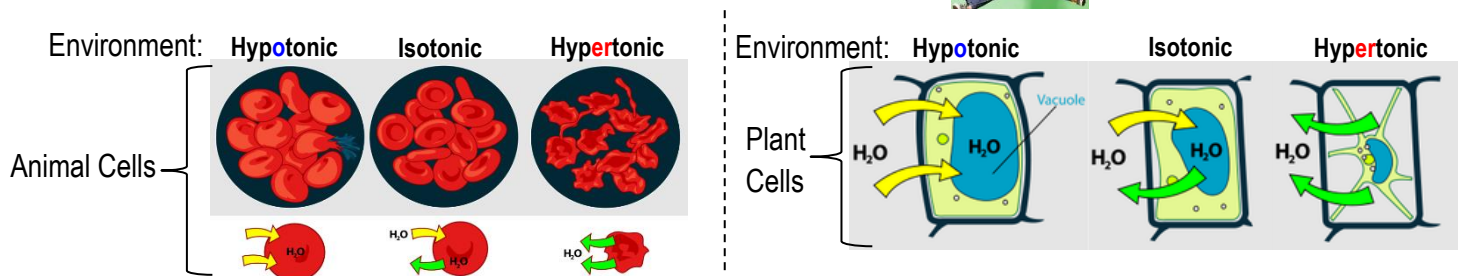
- H₂O will move from _____ to _____ solutions if solutes cannot diffuse across the membrane.
 - Water moves toward the more concentrated solute solution to dilute it until it is _____.
- Water still moves from higher concentrations of water to lower concentrations of water:
 - **Hypotonic** solutions: lower solute concentrations but _____ H₂O concentration.
 - **Hypertonic** solutions: higher solute concentration but _____ H₂O concentration.

EXAMPLE: Direction of Osmosis



Results of Osmosis

- Hyp_____tonic *environments*: cause cells to *swell* like a hippo  & *potentially lyse* (rupture/burst).
 - Cells with _____ do *not* lyse in hypotonic solutions (membrane expansion prevented).
 - Preferred by *plant* cells due to increased _____ (water pressure on cell membrane).
- Hyp_____tonic *environments*: *dehydrate* cells like a hyper-kid gets dehydrated.  Hyper-kids get dehydrated.



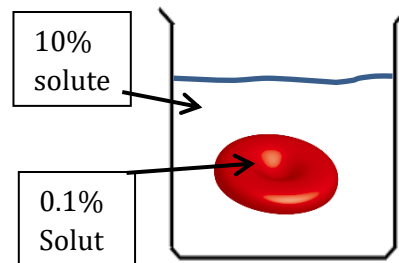
CONCEPT: OSMOSIS

PRACTICE: A) What is the tonicity of the outside solution in comparison to the cell?

- a) Hypotonic
- b) Isotonic
- c) Hypertonic
- d) electrotonic

B) What direction will the water flow?

- a) Inside → Outside
- b) Outside → Inside
- c) Water flows in both directions.
- d) No flow of water.



PRACTICE: Plants become turgid when placed in this type of solution:

- a) Hypotonic
- b) Isotonic
- c) Hypertonic
- d) Megatonic