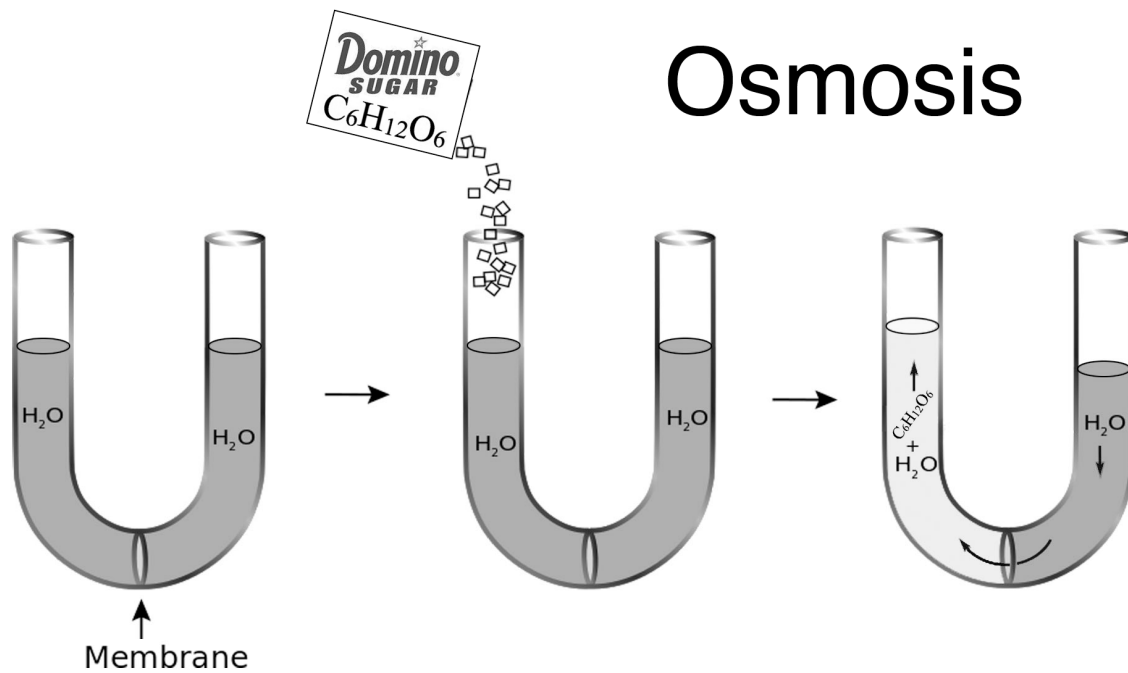


Osmosis



Osmosis is the spontaneous movement of **solvent** molecules [here seen as H₂O] through a selectively permeable membrane into a region of higher **solute** [sugar] concentration. It moves in the direction that tends towards equalizing the solute [sugar] concentrations on the two sides. Osmosis exerts a pressure across the membrane. Water wants to get into the sugar/water side.

Because the sugar cannot pass through the "selectively permeable" membrane, the only way to equalize the solute/water concentration is for water to move into the sugar-water solution. This will happen until the extra pressure exerted by the increased volume on the left side equals the osmotic pressure exerted by osmosis, at which point equilibrium is achieved.

Osmosis is the primary means by which water is transported across cell membranes. The process is ubiquitous in cellular function. The cell wall is a "selectively permeable membrane." Reverse osmosis, overcoming the osmotic pressure and forcing contaminated water through a membrane, is one of the best ways to purify water.

REVERSE OSMOSIS

