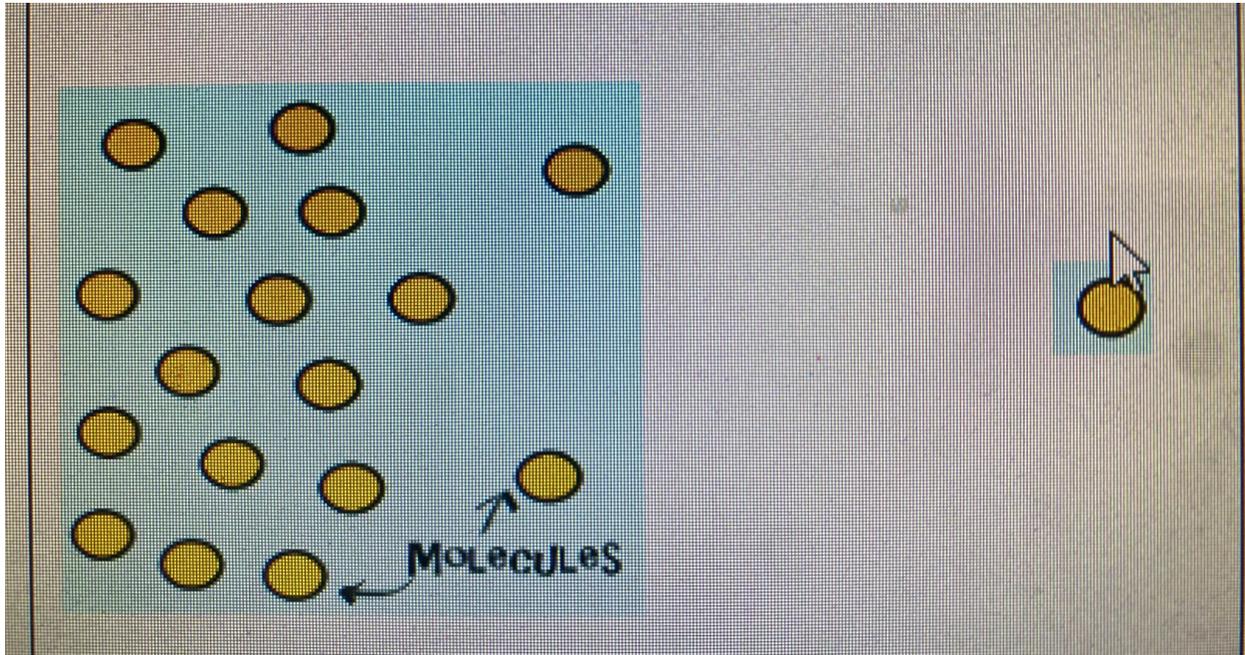


## Amoeba Sisters Video Recap of Osmosis

The below picture represents diffusion of molecules. Place the following labels in the diagram: high concentration, low concentration, and an arrow showing the direction that the molecules would travel before equilibrium is reached.



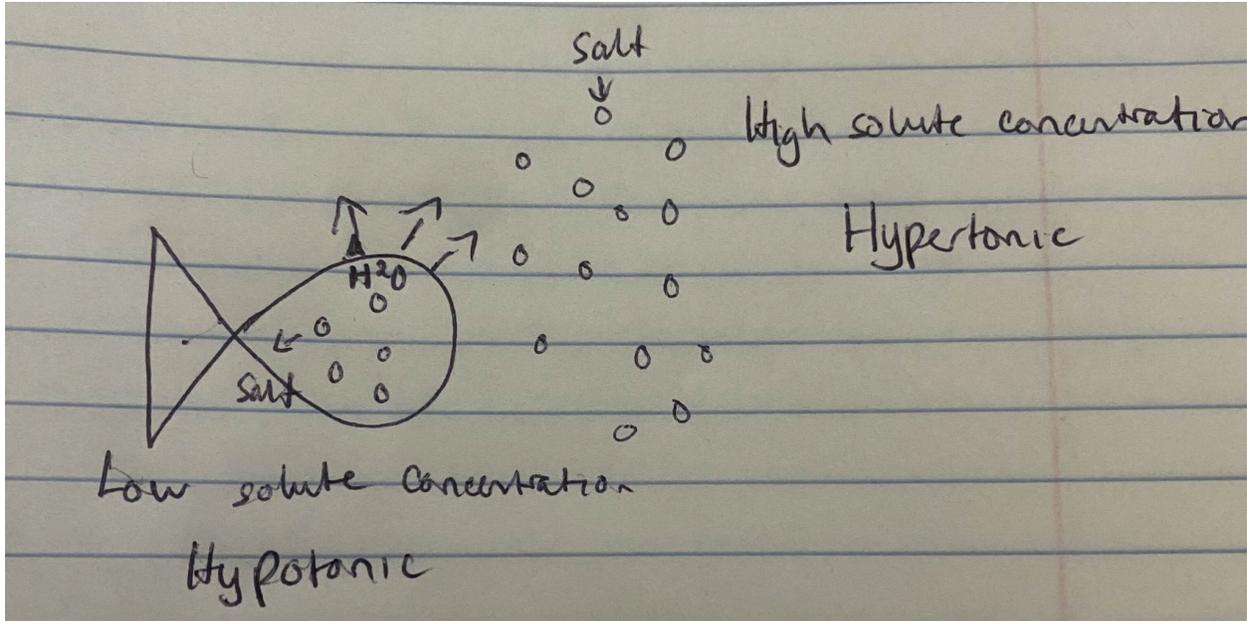
High concentration -----> Low concentration

Osmosis is a type of diffusion, but it involves the movement of water. Similar to diffusion, osmosis is the movement of molecules (water molecules if osmosis) from a high concentration to a low concentration. The video clip explains that you can also look at water as moving to a higher concentration of solute molecules. Why can it also be viewed this way? Because water will move from high water concentration (Low solute concentration) to low water concentration (high solute concentration) to achieve equilibrium.

Osmosis Scenario: The video clip mentioned a disaster scenario of a saltwater fish being placed in freshwater. What would occur if, instead, a freshwater fish was placed in saltwater?

Your answer needs to have an arrow indicating the direction of water flow in osmosis, a label for "hypertonic," and a label for "hypotonic."

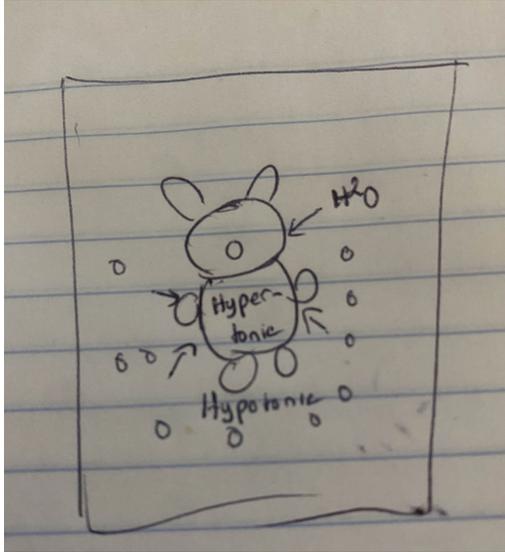
If a freshwater fish was placed in saltwater, cells inside the freshwater fish have lower solute concentration than the surrounding environment (high solute concentration). Water molecules inside the fish will follow the concentration gradient and move to the surrounding environment. Leave cells in the fish to shrivel called hypertonic.



Osmosis Scenario: Fluid movement into the brain after traumatic brain injury can result in dangerous brain swelling. One treatment that can be used in some of these cases is adding a hypertonic saline. You need to decide whether this blank should be the word hypertonic or hypotonic. Remember, you are trying to reduce the excessive fluid in the brain. Explain your answer:

The saline should be hypertonic because it will help withdraw the excessive fluid in the brain out since water molecules will move out of the cells to the hypertonic environment.

Do you like gummy bears? We do! They are one of our favorite snacks, though we (try to) eat them in moderation because they are high in sugar. Consider that your sister is in a foul mood and decides to dump your gummy bears in your ice water about 30 minutes before you get home. The gummy bears are greatly enlarged by the time you get home! Your sister and some friends have different viewpoints for what happened. Draw a diagram below showing the enlarged gummy bears in a cup of water. Place the labels "hypertonic" and "hypotonic" in your diagram. One label should be for the gummy bears and one label should be for the water.

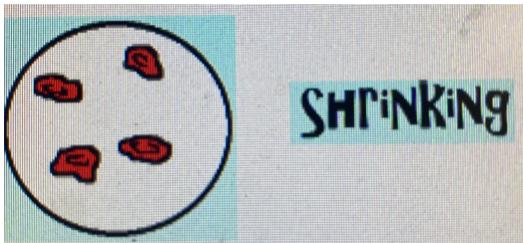


Whose viewpoint is correct in the viewpoint column? A good answer has a good defense! Defend your answer, and also give reasons why the other explanations are incorrect. B is correct because the gummy bears are hypertonic to the water because it has sugar molecules in it which lead to higher concentration of solutes than the surrounding environment.

The cells are hypertonic compared to the hypotonic solution.



The cells are hypotonic compared to the hypertonic solution.



The cells are isotonic compared to the isotonic solution.

