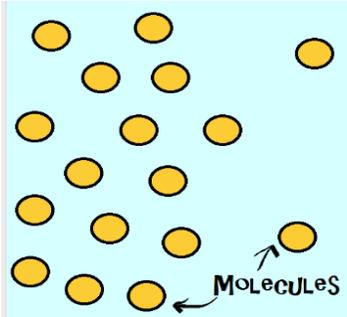


### Amoeba Sisters Video Recap of Osmosis

1. 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.



The left side has a high concentration and the right side has a low concentration and to meet equilibrium, molecules from the left side would need to move over to the right side to balance it.

2. **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 water solute \_\_\_\_\_ concentration of ~~solute~~ molecules.

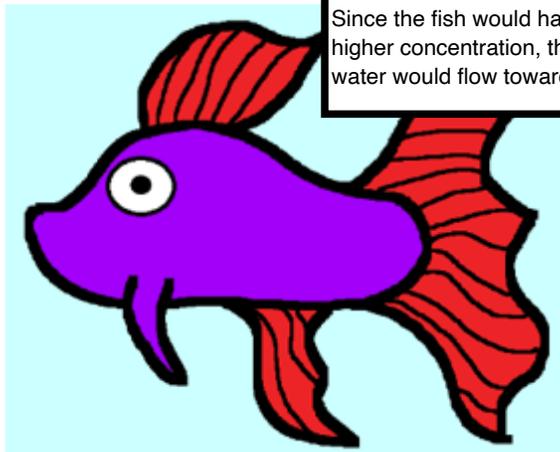
Why can it also be viewed this way?

Water will normally always move to where there is a higher water solute concentration and when you are dealing with IV fluids it helps you to understand how it will move in your body

3. **Osmosis Scenario:** The video clip mentioned a disaster scenario of a saltwater fish being placed in fresh water.

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."**



Hypertonic would be the fish and hypotonic would be the fresh water on the outside. Since the fish would have a higher concentration, the water would flow towards it

4. **Osmosis Scenario:** Fluid movement into the brain after traumatic brain injury can result in dangerous brain swelling.

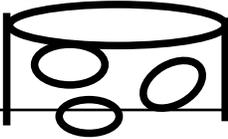
One treatment that can be used in some of these cases is adding a \_\_\_\_\_ Hypertonic \_\_\_\_\_ saline. You need to decide whether this blank should be the word hypertonic or hypotonic. Remember, you are trying to reduce the excessive fluid in the brain.

Explain your answer:

you would use a hypertonic saline because it would draw the fluid out of the brain

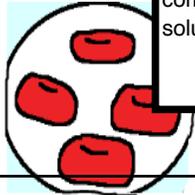
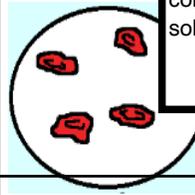
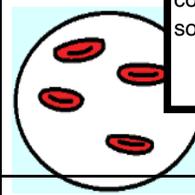


### The Gummy Bear Mystery

<p>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.</p>	<p><b>Viewpoints:</b></p> <p>A) Your sister said that the sugar left the gummy bears, because the gummy bears were <b>hypertonic</b> compared to the water.</p>	<p>6. Whose viewpoint is correct in the viewpoint column? A good answer has a good defense! <b>Defend your answer</b>, and also <b>give reasons why the other explanations are incorrect.</b></p>
<p>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 "<b>hypertonic</b>" and "<b>hypotonic</b>" in your diagram. One label should be for the gummy bears and one label should be for the water.</p>	<p>B) Your friend Joe said that water traveled into the gummy bears, because the gummy bears were <b>hypertonic</b> compared to the water.</p>	<p>I think that answer D was correct as the water flowed into the gummy bears and were hypotonic. Answer C was incorrect because I do not think that the sugar went into the bears as it is already in them. Answer B was wrong because the bears were hypotonic and not hypertonic as the water flowed into the cell. Answer A was wrong because of the same thing as B, the bears were hypotonic.</p>
<p>5. Hypotonic is the bears and hypertonic is the water solution</p> 	<p>C) Your friend Suzy said the sugar went into the gummy bears, because the gummy bears were <b>hypotonic</b> compared to the water.</p>	
	<p>D) Your friend Will said that water traveled into the gummy bears by osmosis, because the gummy bears were <b>hypotonic</b> compared to the water.</p>	

### Hypertonic, Hypotonic, or Isotonic? Oh My!

These red blood cells have all been placed in different solutions! Based on their appearance after being placed in these solutions for a period of time, place on each line (A) for **hypertonic**, (B) for **hypotonic**, or (C) for **isotonic**.

<p>7. The cells are compared to solution.</p> 	<p>8. The cells are compared to solution.</p> 	<p>9. The cells are compared to solution.</p> 
<p>The cells are hypotonic compared to the hypertonic solution</p>	<p>The cells are hypertonic compared to the hypotonic solution</p>	<p>The cells are isotonic compared to the isotonic solution</p>

