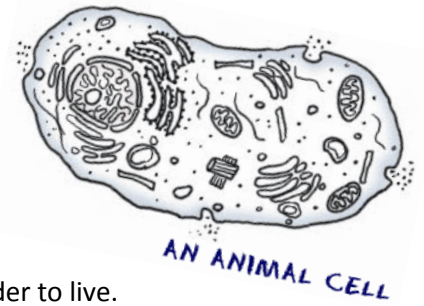


CELL TRANSPORT WEBQUEST

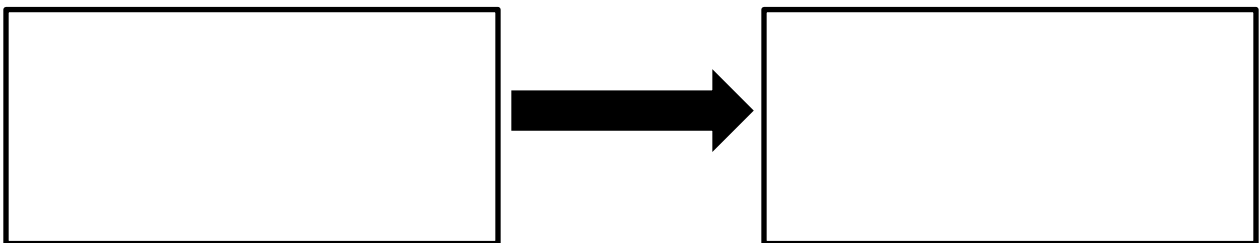


Link 1 – [Cell Transport Overview and Cell Membrane](#)

1. What is meant by **cell transport**?
2. Living organisms must be able to transport materials in and out of the cell in order to live.
Defend this statement with an explanation.
3. Whether or not a molecule can pass through the cell membrane is determined by...
4. How are **smaller molecules** like O_2 and CO_2 able to pass through the openings of the cell membrane?

Link 2 – [Online Textbook Diffusion Tutorial](#)

1. If you have them, plug in your headphones for the remainder of this webquest. Otherwise, simply read the text and watch the animation. Describe what happens to moving molecules within a solution.
2. In terms of *molecules*, explain what happens to a sugar cube when it is placed into a beaker of water.
3. Define **diffusion**.
4. Using the arrow seen below, illustrate the diffusion of molecules from high concentration to low concentration.



5. What can affect the *rate of diffusion*?
6. **Predict:** what would happen if you drop the sugar cube into a beaker of hot water vs. a beaker of cold water?

Link 3 – [Perfume Animation](#)

1. What happened to the perfume molecules when the top was lifted from the bottle?
2. Perfume molecules will continue to spread out until they reach a state of **dynamic equilibrium**. What does this mean?

Link 4 – [Facilitated Diffusion Tutorial](#)

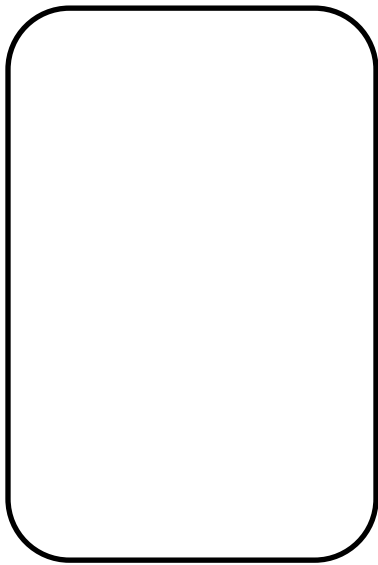
1. What is **facilitated diffusion**?
2. Explain what it means to say these protein channels are **selective** in what they allow into or out of the cell.
3. **Facilitated diffusion** involves the movement of particles (with / against) the concentration gradient.
4. In what ways are simple diffusion and facilitated diffusion the *same*?
5. How are they *different*?

Link 5 – [Online Textbook Osmosis Tutorial](#)

1. Most _____ molecules cannot freely cross the cell membrane. Is this true for water molecules?
2. Define **osmosis**.
3. Why did the water molecules move from the left to the right side? *Be sure to include the term "concentration" in your answer.*
4. The solution with (higher / lower) solutes is **hypertonic**. The solution with (higher / lower) solutes is **hypotonic**.

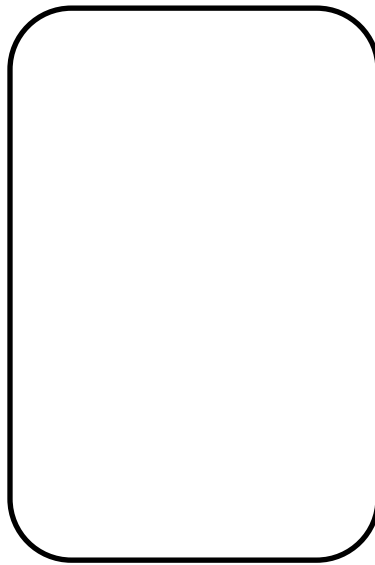
Link 6 – [Osmosis Scenarios](#)

1. Read the text on the left. Why is the cell membrane considered *selectively permeable*?
2. Water naturally moves from a _____ concentration to a _____ concentration.
3. Place and drag the red blood cell to the three solutions. Draw and describe what happens to the cell in each beaker.



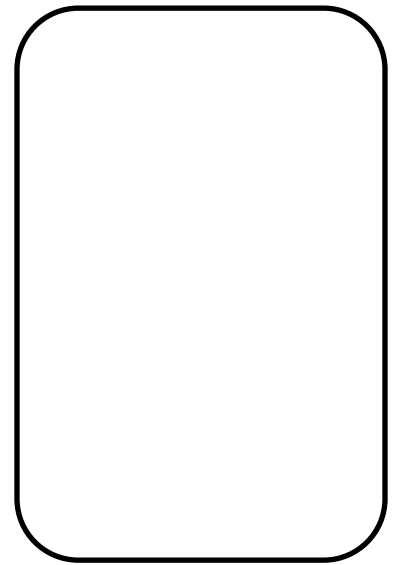
Hypotonic

What happened to the cell?



Isotonic

What happened to the cell?



Hypertonic

What happened to the cell?

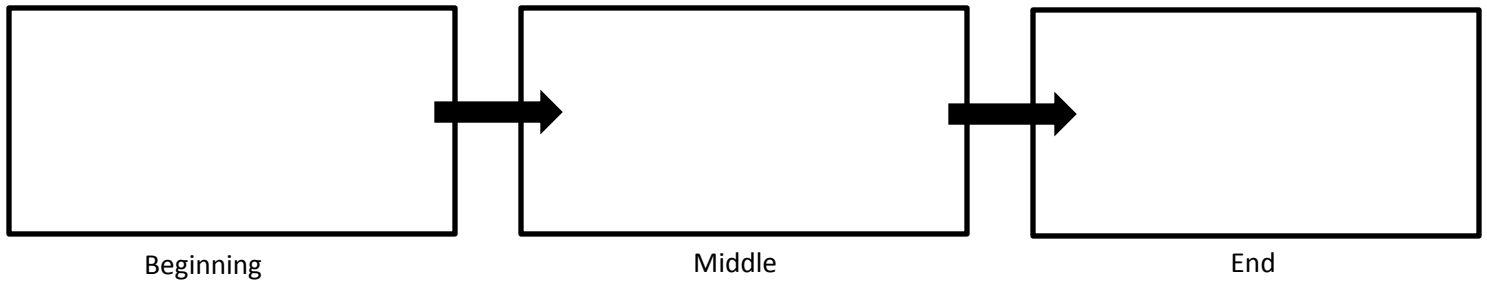
4. Perform the same virtual experiment with the Elodea and the Paramecium. Why do the cells remain unchanged when placed into an *isotonic solution*?

Link 7 – [Active Transport](#)

1. Define *active transport*.
2. In what type of situation would active transport take place?
3. Draw a venn diagram in the space below. *Compare and contrast active transport and passive transport.*

Link 8 – [Endocytosis and Exocytosis](#)

1. Draw and summarize the process of **endocytosis**.



2. Draw and summarize the process of **exocytosis**.

