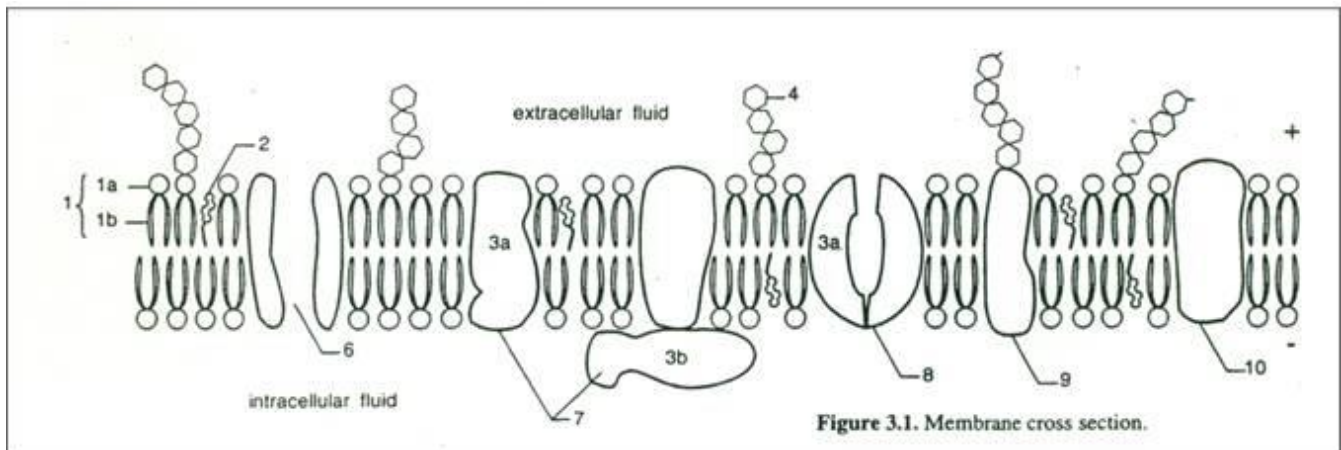


## ***Cell Transport***

(Unit Proficient Review)

1. Define homeostasis.
  
2. Compare and contrast positive and negative feedback.
  
3. Draw a phospholipid and label the parts.



4. In the above diagram of the plasma membrane (fluid mosaic model) label the following structures:
  - a. carbohydrate
  - b. cholesterol
  - c. extrinsic/peripheral protein
  - d. fatty acid tail
  - e. glycerol head
  - f. intrinsic/integral protein for facilitated diffusion
  - g. intrinsic/integral protein for active transport (protein pump)
  - h. phospholipid layer

5. Explain the role polarity plays in the cell membrane and how that relates to hydrophilic and hydrophobic.

6. Complete the following table on cell transport.

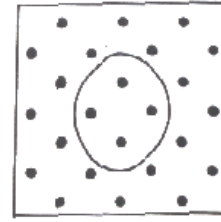
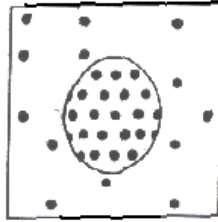
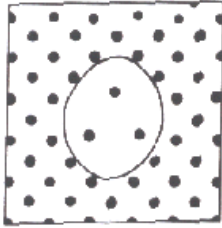
### **How Molecules Cross the Membrane**

	Active/ Passive	Molecules that Move	Direction	Energy Needed?	Protein Needed?
Diffusion					
Osmosis					
Facilitated Diffusion					
Active Transport					

7. What are the four factors that impact the rate of diffusion?

8. Define hypertonic, hypotonic, and isotonic.

9. Label the pictures below as hypertonic, hypotonic, or isotonic for the **solution** the cell is in.



\_\_\_\_\_

\_\_\_\_\_

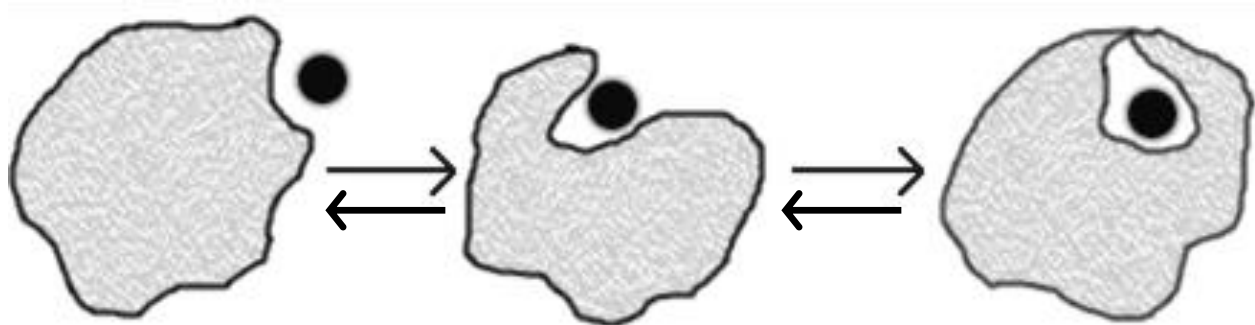
\_\_\_\_\_

10. Explain how a dynamic equilibrium works.

11. How does an animal cell respond in a hypotonic solution? A plant cell?

12. Complete the table by checking the correct column for each statement.

Statement	Isotonic Solution	Hypotonic Solution	Hypertonic Solution
1. Causes a cell to swell.			
2. Doesn't change the shape of the cell.			
3. Causes osmosis.			
4. Causes a cell to shrink.			

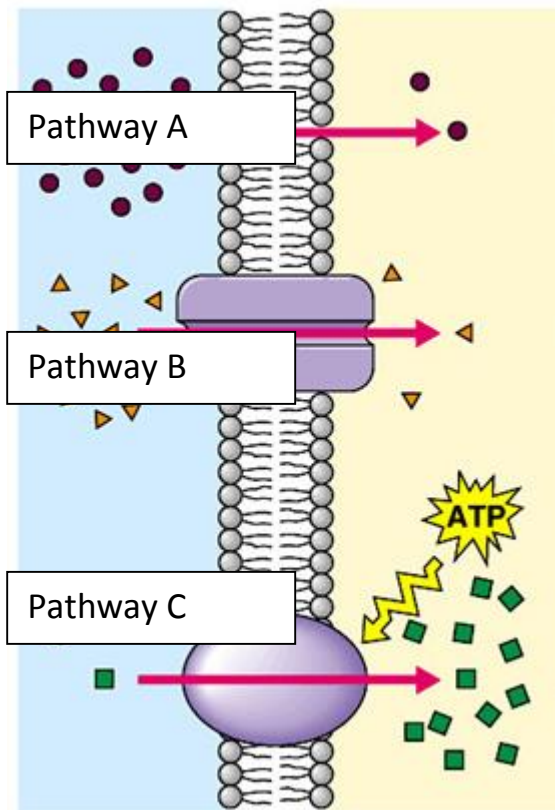


13. Use the diagram above to answer the following questions about bulk transport.

a. If I follow the directional arrows to the right it shows the process of \_\_\_\_\_

b. If I follow the directional arrows to the left it shows the process of \_\_\_\_\_

(Unit Mastery Review)



14. Using the pathways above, answer the following questions.

- Which pathway(s) illustrate passive transport: \_\_\_\_\_
- Which pathway(s) illustrate active transport: \_\_\_\_\_
- What type of transport is occurring in pathway A? \_\_\_\_\_
- What type of transport is occurring in pathway B? \_\_\_\_\_
- What type of transport that is occurring in pathway C? \_\_\_\_\_
- What type of molecule is most likely moving through pathway A? \_\_\_\_\_
- What type of molecule is most likely moving through pathway B? \_\_\_\_\_
- What type of molecule is most likely moving through pathway C? \_\_\_\_\_

15. Describe plasmolysis and give an example of a real life application.

16. Complete the following table on tonicity. **READ EACH EXAMPLE CAREFULLY.** Determine the condition of the cell (hypertonic, hypotonic, isotonic) before and after osmosis occurs. Also determine the percent of water in each cell after osmosis has occurred and equilibrium has been achieved.

<b>Example</b>	<b>Cell (before)</b>	<b>Solution (before)</b>	<b>Cell (after)</b>
Example #1	Water: 88%	44% water	Water:        %
	Condition:		Condition:
Example #2	Water: 90%	60% solutes	Water:        %
	Condition:		Condition:
Example #3	Water: 85%	15% solutes	Water:        %
	Condition:		Condition:
Example #4	Water: 40%	41% water	Water:        %
	Condition:		Condition:
Example #5	Water: 20%	80% water	Water:        %
	Condition:		Condition:
Example #6	Water: 10%	70% water	Water:        %
	Condition:		Condition:
Example #7	Water: 60%	30% water	Water:        %
	Condition:		Condition:
Example #8	Water: 45%	30% solutes	Water:        %
	Condition:		Condition:
Example #9	Water: 26%	18% water	Water:        %
	Condition:		Condition:
Example #10	Water: 75%	15% solutes	Water:        %
	Condition:		Condition: