RAVEN CHAPTER 6 GUIDED NOTES: MEMBRANES

1. Describe the structure of a phospholipid molecule. Be sure to describe their behavior in relationship to water.

2. What happens when a collection of phospholipids molecules are placed in water?

3. Explain the significance of this behavior in relationship to the evolution of life.

4. What is meant by the phrase “the plasma membrane is fluid”?

5. Explain the fluid mosaic model.

6. How is the fluidity of the cell membrane altered?
7. Describe the components of the cell membrane. Explain the function of each and give an example.

a. _________________________________________________________________
   _________________________________________________________________

b. _________________________________________________________________


c. _________________________________________________________________


d. _________________________________________________________________

8. List and briefly describe the different classes of membrane proteins and the roles they play.

a. _________________________________________________________________

b. _________________________________________________________________


c. _________________________________________________________________


d. _________________________________________________________________


e. _________________________________________________________________

f. _________________________________________________________________
9. Describe how the structure of membrane proteins allows some proteins to be permanently anchored within the cell membrane as a transmembrane protein whereas other proteins can move freely about the surface of the membrane.

10. The cell membrane is selectively permeable. Explain what that means. Which molecules easily cross the membrane? How are molecules transported that do not easily cross the membrane?

11. Define the following
   a. Diffusion ____________________________
   b. Facilitated Diffusion_____________________
   c. Osmosis ________________________________
   d. Hypotonic ______________________________
   e. Hypertonic ______________________________
   f. Isotonic _________________________________
12. What is happening in the diagram below?

13. Explain how facilitated diffusion works and give an example.
   
   __________________________________________________
   __________________________________________________
   __________________________________________________
   __________________________________________________

14. What is the function of aquaporins? Why are they necessary?
   
   __________________________________________________
   __________________________________________________
   __________________________________________________
   __________________________________________________

15. What do animal & plant cells do when placed in solutions that are:

   a. Hypotonic __________________________________________
   
   b. Hypertonic __________________________________________
   
   c. Isotonic ____________________________________________

16. How does the Paramecium maintain osmoregulation?
   
   __________________________________________________
   __________________________________________________
17. What is the difference between exocytosis and endocytosis?

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18. Distinguish between pinocytosis and phagocytosis.

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19. Describe an example of receptor-mediated endocytosis.

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20. How do active and passive transport differ?

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21. The sodium-potassium pump uses ________________ to pump ________________

out of the cell and ________________ into the cell.

22. Define coupled transport and give an example.

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23. Define counter transport and give an example

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