Name: _____ Date: _____

Review Sheet – Cell Transport Biology 512

Concepts

1. Describe the fluid mosaic model of the cell membrane.

2. What is the function of the cell membrane?

3. Define concentration gradient and dynamic equilibrium.

4. For each type of cell transport below, be able to define and describe each:
   a. Passive transport
      i. Diffusion
      ii. Osmosis

   b. Active transport
      i. Using protein pumps to cross the membrane
      ii. Bulk flow
         1. Endocytosis
            a. Phagocytosis
            b. Pinocytosis

         2. Exocytosis

5. Osmosis – use drawings and describe the movement of water in each solution for an animal and plant cell.
   a. Isotonic solution
   b. Hypotonic solution
   c. Hypertonic solution

6. Which solution would maintain homeostasis in an animal cell? Plant cell?

Lab

7. What is an indicator?

8. Lugol's Iodine is the indicator for starch. What is the original color of iodine? What color did it change in the presence of starch?

9. Benedict's solution is the indicator for glucose. What is the original color of Benedict's solution? When heated, what color did it change in the presence of glucose?

10. Which molecules were able to diffuse through the dialysis tubing? Explain how you determined what molecules diffused or did not diffuse. Give evidence to support your findings.

11. What happens to a plant cell when you place it in a salt solution (hypertonic solution)? Why?
    a. Draw a picture and label the cell wall, cell membrane, and cytoplasm.
    b. Draw an arrow showing the direction of osmosis.

12. What happens to a plant cell when you add distilled water (hypotonic solution)? Why?
    a. Draw a picture and label the cell wall, cell membrane, and cytoplasm.
    b. Draw an arrow showing the direction of osmosis.