

## Chapter 7.3 Cell Boundaries

1. Name two functions of the cell membrane:

\_\_\_\_\_

2. The cell membrane contains \_\_\_\_\_ molecules that are embedded in the lipid bilayer.

3. Why do scientists call the membrane a "mosaic"? \_\_\_\_\_

4. On the image, label the

a. lipid bilayer

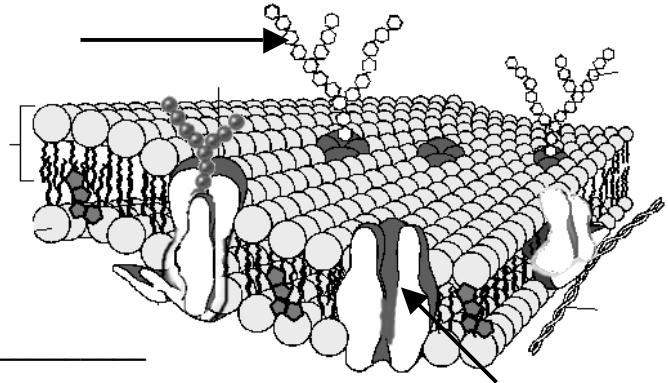
b. protein channel

c. carbohydrate chains

5. What three types of organisms have cell walls? \_\_\_\_\_

6. What is the main function of the cell wall?

\_\_\_\_\_



7. What are plant cell walls composed of? \_\_\_\_\_

8. One of the most important functions of the cell membrane is to \_\_\_\_\_ the movement of dissolved \_\_\_\_\_ from the liquid on one side of the membrane to the liquid on the other.

9. A solution is a \_\_\_\_\_ of two or more substances.

10. Define diffusion: \_\_\_\_\_

\_\_\_\_\_

11. When the particles are the same throughout, the system has reached \_\_\_\_\_

12. Diffusion depends on \_\_\_\_\_ particle movements, therefore it [ does | does not ] (circle) require energy.

### OSMOSIS

13. If a substance is able to diffuse across a membrane, the membrane is said to be \_\_\_\_\_

14. Define osmosis: \_\_\_\_\_

15. Isotonic means \_\_\_\_\_

Hypertonic means \_\_\_\_\_

Hypotonic means \_\_\_\_\_

16. Because cells are hypertonic in relation to fresh water, \_\_\_\_\_ produces a net movement of water into the cell. If that happens, the cell will become \_\_\_\_\_ and can even burst.

17. In plant and bacteria cells, what keeps them from bursting due to osmotic pressure? \_\_\_\_\_

## **FACILITATED DIFFUSION**

18. Cell membranes have \_\_\_\_\_ that make it easy for certain molecules to cross the membrane.
19. When proteins help molecules move across the membrane, it is called \_\_\_\_\_
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## **ACTIVE TRANSPORT**

20. Active transport moves molecules [ with | against ] the concentration gradient.
21. Active transport requires \_\_\_\_\_
22. Changes in protein shape seem to play an important role in the \_\_\_\_\_ process.
23. Define endocytosis: \_\_\_\_\_
24. What are the two types of endocytosis? \_\_\_\_\_
25. How does an amoeba get its food? \_\_\_\_\_
26. Cells release large amounts of material in a process called \_\_\_\_\_

## **TEST YOURSELF**

1. Which of the following is NOT an example of active transport?  
a. facilitated diffusion    b. osmosis    c. endocytosis    d. both a & b
2. Which process always involves the movement of materials from inside the cell to outside the cell?  
a. osmosis    b. exocytosis    c. phagocytosis    d. pinocytosis
3. Cell membranes are constructed mainly from:  
a. lipid bilayers    b. carbohydrate gates    c. protein pumps    d. free moving proteins
4. A substance that moves across a cell membrane without using the cell's energy tends to move:  
a. away from the area of equilibrium  
b. away from the area where it is less concentrated  
c. away from the area where it is more concentrated  
d. toward the middle of the cell
5. The movement of water across a selectively permeable membrane is called:  
a. exocytosis    b. endocytosis    c. phagocytosis    d. osmosis