Name_____ Class_____ Date _____

Section 7–3 Cell Boundaries (pages 182–189)

Key Concepts

- What are the main functions of the cell membrane and the cell wall?
- What happens during diffusion?
- What is osmosis?

Cell Membrane (page 182)

1. What are the functions of the cell membrane? _____

_____

2. The core of nearly all cell membranes is a double-layered sheet called a(an) _____.

3. What is the difference in the function of the proteins and the carbohydrates attached to a cell membrane? _____

_____

_____

Cell Walls (page 183)

4. In what organisms are cell walls found? _____

_____

5. Is the following sentence true or false? The cell wall lies inside the cell membrane.

_____

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

_____

7. What are plant cell walls mostly made of? _____

_____

Diffusion Through Cell Boundaries (pages 183–184)

8. What is the concentration of a solution? _____

_____

9. What is diffusion? _____

_____

_____

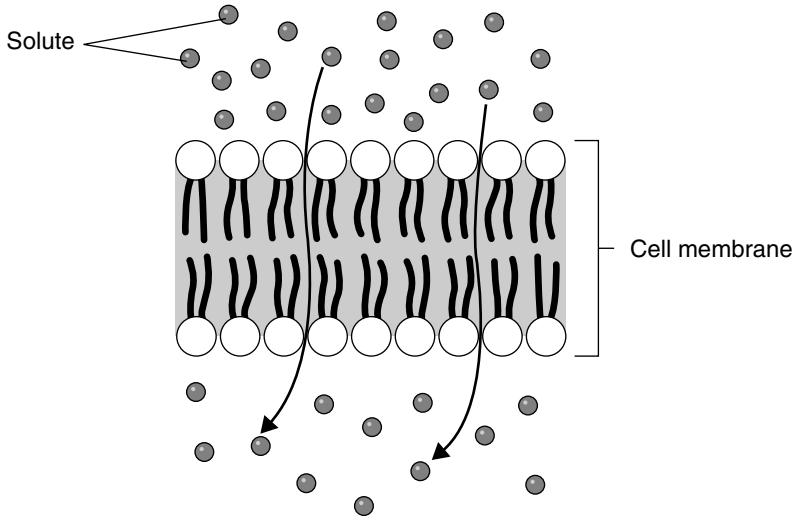
10. What is meant when a system has reached equilibrium? _____

_____

_____

Name_____ Class_____ Date _____

11. The molecules of solute in the illustration are moving through the cell membrane from top to bottom. Indicate with labels which side of the membrane has a high concentration of solute and which has a low concentration.



Osmosis (pages 185–186)

12. What does it mean that biological membranes are selectively permeable?

_____

_____

13. What is osmosis? _____

_____

14. Is the following sentence true or false? Water tends to diffuse from a region where it is less concentrated to a region where it is highly concentrated. _____

15. When will water stop moving across a membrane? _____

_____

_____

Match the situation to the description.

Situation	Description
_____ **16.** Two solutions are isotonic.	**a.** The solution is above strength in solute.
_____ **17.** A solution is hypertonic.	**b.** The solutions are the same strength.
_____ **18.** A solution is hypotonic.	**c.** The solution is below strength in solute.

19. On which side of a selectively permeable membrane does osmosis exert a pressure?

_____

_____

Name_____ Class_____ Date _____

Facilitated Diffusion (page 187)

20. What happens during the process of facilitated diffusion? _____

_____

_____

21. What is the role of protein channels in the cell membrane? _____

_____

_____

22. Is the following sentence true or false? Facilitated diffusion does not require the cell to use energy. _____

Active Transport (pages 188–189)

23. The energy-requiring process that moves material across a cell membrane against a concentration difference is called _____.

24. Is the following sentence true or false? Active transport always requires transport proteins during the process. _____

25. Complete the table about the types of active transport.

TYPES OF ACTIVE TRANSPORT

Type	Description
Endocytosis	
Phagocytosis	
Exocytosis	

26. During endocytosis, what happens to the pocket in the cell membrane when it breaks loose from the membrane? _____

_____