

## 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? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

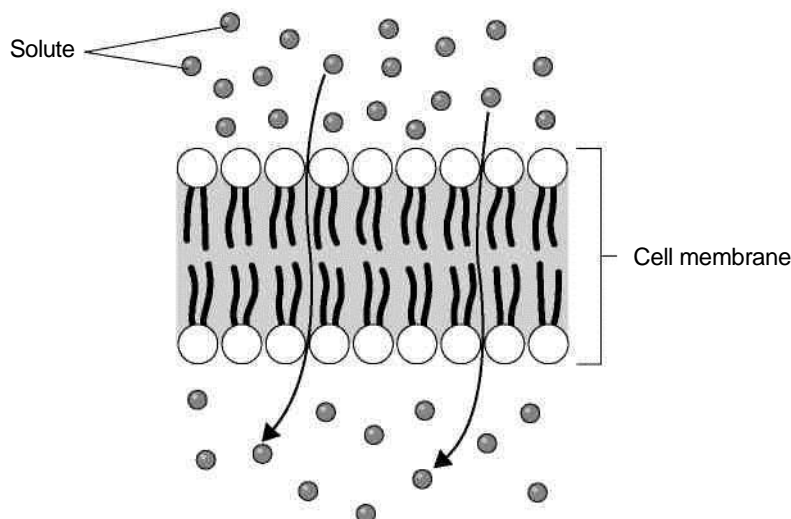
### Cell Walls (page 183)

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? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 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?

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- 13.** What is osmosis? \_\_\_\_\_

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- 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? \_\_\_\_\_

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*Match the situation to the description.*

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

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

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## 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? \_\_\_\_\_  
 \_\_\_\_\_