

Membrane structure & function

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- ___ 1. The phospholipid bilayer describes a structure with ____.
- a. polar layers on the outside and nonpolar layer on the inside
 - b. nonpolar layers on the outside and a polar layer on the inside
 - c. polar layers on both inside and outside
 - d. nonpolar layers on both inside and outside
- ___ 2. Because the phospholipid molecules and some proteins are free to move, the plasma membrane is said to be a ____.
- a. bilayer
 - b. solid
 - c. fluid mosaic
 - d. fatty acid
- ___ 3. A cell membrane lets certain things pass through, while denying others passage and is therefore said to have
- a. plasmolysis
 - b. selective permeability
 - c. phagocytosis
 - d. dynamic equilibrium
- ___ 4. The major component of the plasma membrane is
- a. carbohydrate
 - b. enzymes
 - c. phospholipids
 - d. proteins

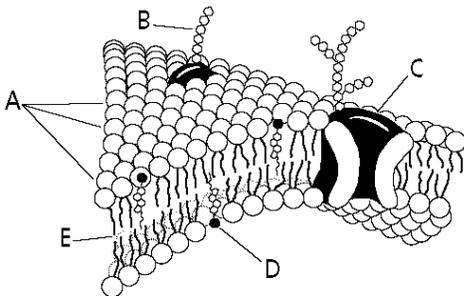


Figure 7-4

- ___ 5. What would happen to the structure in Figure 7-4 if part D is completely removed?
- a. it would become solid and inflexible
 - b. it would disintegrate
 - c. it would have holes in it
 - d. it would collapse in on itself
- ___ 6. What structure in Figure 7-4 is a passage way for large polar molecules or ions?
- a. A
 - b. B
 - c. C
 - d. D
- ___ 7. Where are you least likely to find water in the structure shown in Figure 7-4
- a. A
 - b. B
 - c. C
 - d. E
- ___ 8. The structure labeled "B" is part of a
- a. phospholipid
 - b. glycoprotein
 - c. cholesterol
 - d. Endocytosis

___ 9. Which of the following pictures in Figure 7-5 most likely approximate the motion phospholipids make in a plasma membrane?

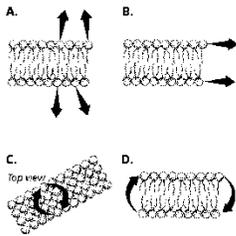


Figure 7-5

- | | |
|------|------|
| a. A | c. C |
| b. B | d. D |
- ___ 10. The cell is in a state of equilibrium, with no Net movement of water when placed in a(n) ___ solution.
- | | |
|---------------|--------------|
| a. osmotic | c. hypotonic |
| b. hypertonic | d. isotonic |
- ___ 11. A cell moves particles from a region of lesser concentration to a region of greater concentration by ____.
- | | |
|--------------------------|---------------------|
| a. facilitated diffusion | c. osmosis |
| b. passive transport | d. active transport |
- ___ 12. If a cell is placed in salt water, water leaves the cell by ____.
- | | |
|--------------|---------------------|
| a. osmosis | c. active transport |
| b. diffusion | d. phagocytosis |
- ___ 13. Which of the following is not a form of passive transport?
- | | |
|---------------------|--------------------------|
| a. simple diffusion | c. facilitated diffusion |
| b. endocytosis | d. osmosis |
- ___ 14. The structure most responsible for maintaining cell homeostasis is the ____.
- | | |
|------------------|--------------------|
| a. cytoplasm | c. cell wall |
| b. mitochondrion | d. plasma membrane |
- ___ 15. Facillitated diffusion
- | | |
|---------------------------------|--|
| a. requires a membrane protein. | c. moves molecules against a concentration gradient. |
| b. requires ATP. | d. transports small nonpolar molecules like Oxygen. |
- ___ 16. In simple diffusion
- | | |
|---|---|
| a. energy from ATP is required | c. molecules move against a concentration gradient |
| b. small nonpolar molecules pass directly through the phospholipids | d. small nonpolar molecules pass through a protein, down a concentration gradient |
- ___ 17. A human white blood cell engulfs, “eats”, a bacterial cell by:
- | | |
|--|------------------|
| a. carrier-mediated facilitated diffusion. | c. phagocytosis. |
| b. exocytosis. | d. pinocytosis. |

- ___ 28. When unequal amounts of a solute are found on opposite sides of a membrane
- concentration gradient
 - dynamic equilibrium
 - Fluid Mosaic
 - isotonic
- ___ 29. When solutes continue to cross the membrane despite being isotonic
- concentration gradient
 - dynamic equilibrium
 - Fluid Mosaic
 - hypertonic
- ___ 30. Which conditions shown in Figure 8-4 might cause a cell to burst?

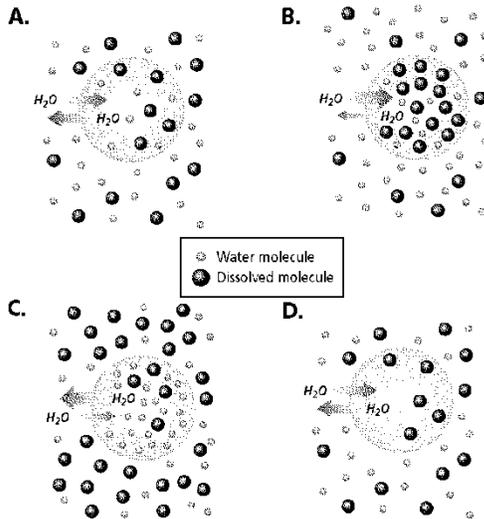


Figure 8-4

- A
 - B
 - C
 - D
- ___ 31. Which letter, in fig 8-4, above shows a cell in a hypertonic solution?
- A
 - B
 - C
 - D
- ___ 32. A cell with 20% glucose and 10% sodium is in a solution with 10% glucose and 20% sodium. The membrane is impermeable to sodium. What kind of solution is the cell in after diffusion occurs?
- hypertonic
 - hypotonic
 - isotonic
 - .

Membrane structure & function
Answer Section

MULTIPLE CHOICE

- | | | | | |
|-----|-------------------|--------|--------|----------|
| 1. | ANS: A | PTS: 1 | DIF: B | OBJ: 7-5 |
| | NAT: C1 C5 G1 | STA: 1 | | |
| 2. | ANS: C | PTS: 1 | DIF: B | OBJ: 7-5 |
| | NAT: C1 C5 G1 | STA: 1 | | |
| 3. | ANS: B | PTS: 1 | DIF: B | OBJ: 7-4 |
| | NAT: C1 C5 G1 | STA: 1 | | |
| 4. | ANS: C | PTS: 1 | DIF: B | OBJ: 7-5 |
| | NAT: C1 C5 G1 | STA: 1 | | |
| 5. | ANS: A | PTS: 1 | DIF: A | OBJ: 7-3 |
| | NAT: C1 C5 G1 | STA: 1 | | |
| 6. | ANS: C | PTS: 1 | DIF: A | OBJ: 7-3 |
| | NAT: C1 C5 G1 | STA: 1 | | |
| 7. | ANS: D | PTS: 1 | DIF: A | OBJ: 7-3 |
| | NAT: C1 C5 G1 | STA: 1 | | |
| 8. | ANS: B | PTS: 1 | | |
| 9. | ANS: C | PTS: 1 | DIF: A | OBJ: 7-4 |
| | NAT: C1 C5 G1 | STA: 1 | | |
| 10. | ANS: D | PTS: 1 | DIF: B | OBJ: 8-2 |
| | NAT: C1 C5 | STA: 1 | | |
| 11. | ANS: D | PTS: 1 | DIF: B | OBJ: 8-1 |
| | NAT: C1 C5 | STA: 1 | | |
| 12. | ANS: A | PTS: 1 | DIF: B | OBJ: 8-1 |
| | NAT: C1 C5 | STA: 1 | | |
| 13. | ANS: B | PTS: 1 | DIF: B | OBJ: 8-1 |
| | NAT: C1 C5 | STA: 1 | | |
| 14. | ANS: D | PTS: 1 | DIF: B | OBJ: 8-1 |
| | NAT: C1 C5 | STA: 1 | | |
| 15. | ANS: A | PTS: 1 | | |
| 16. | ANS: B | PTS: 1 | | |
| 17. | ANS: C | PTS: 1 | | |
| 18. | ANS: D | PTS: 1 | | |
| 19. | ANS: C | PTS: 1 | DIF: A | OBJ: 8-1 |
| | NAT: C1 C5 | STA: 1 | | |
| 20. | ANS: C | PTS: 1 | | |
| 21. | ANS: B | PTS: 1 | | |
| 22. | ANS: A | PTS: 1 | | |
| 23. | ANS: C | PTS: 1 | | |
| 24. | ANS: B | PTS: 1 | | |
| 25. | ANS: B | PTS: 1 | | |
| 26. | ANS: C | PTS: 1 | | |
| 27. | ANS: C | PTS: 1 | | |
| 28. | ANS: A | PTS: 1 | | |

29.	ANS: B	PTS: 1		
30.	ANS: B	PTS: 1	DIF: A	OBJ: 8-2
	NAT: C1 C5	STA: 1		
31.	ANS: C	PTS: 1		
32.	ANS: B	PTS: 1		