

## Skills Worksheet

# Test Prep Pretest

In the space provided, write the letter of the description that best matches each term.

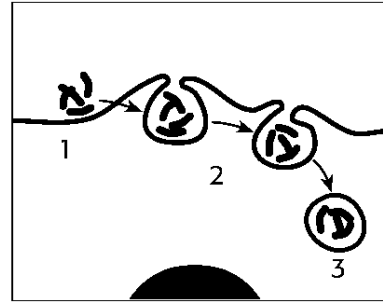
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|------------------------------|---|
| _____ 1. phospholipid        | a. the movement of water from a region of higher concentration to a region of lower concentration, passing through a selectively permeable membrane |
| _____ 2. cell-surface marker | b. a substance, located in the cell membrane and made of amino acids, that binds with specific molecules, causing a change in the cell              |
| _____ 3. receptor protein    | c. most often a molecule that serves to carry information between cells   |
| _____ 4. channel protein     | d. a substance, located in the cell membrane and made of amino acids, which other substances can pass through to cross the cell membrane            |
| _____ 5. carrier protein     | e. the state in which the distribution of a substance is even throughout a region   |
| _____ 6. diffusion           | f. a substance, located in the cell membrane and made of amino acids, that moves other substances across the cell membrane                          |
| _____ 7. osmosis             | g. a substance, located in the cell membrane and made of amino acids and sugars, that aids in the identification of cell type                       |
| _____ 8. equilibrium         | h. the movement of a substance from a region of higher concentration to a region of lower concentration   |
| _____ 9. signal              | i. a substance made of a phosphate group and two fatty acids  |
| _____ 10. second messenger   | j. a substance, generated when a signal molecule binds with a receptor protein, that serves as a signal inside the cell                             |



Test Prep Pretest *continued*

Question 18 refers to the figure at right.

18. The process shown in the figure is \_\_\_\_\_.



Complete each statement by writing the correct term or phase in the space provided.

19. The head of a phospholipid is \_\_\_\_\_,

\_\_\_\_\_ , so it is attracted to water. The tails are \_\_\_\_\_,

\_\_\_\_\_ , so they are repelled by water.

20. Membrane proteins remain stable in a cell membrane because the nonpolar amino acids in each protein are attracted to the \_\_\_\_\_ of the lipid bilayer, while the polar amino acids in each protein are attracted to the \_\_\_\_\_ on either side of the cell membrane. This creates a tension in all membrane proteins that holds them in place.

21. When a substance moves from an area of low concentration to an area of higher concentration, the substance moves \_\_\_\_\_ its \_\_\_\_\_ concentration gradient.

22. Plant cells are healthiest in a(n) \_\_\_\_\_ solution because they swell with water, helping to give the plant support.

23. Two cells communicate when a(n) \_\_\_\_\_ sent by one cell binds with a(n) \_\_\_\_\_ in the membrane of another cell, causing the latter to change shape. This relays information into the second cell's cytoplasm.

Read each question, and write your answer in the space provided.

24. How does the cell membrane help a cell maintain homeostasis?

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\_\_\_\_\_

**Test Prep Pretest** *continued*

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25. How does facilitated diffusion differ from simple diffusion? Give examples of each.

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26. Describe the purpose of the sodium-potassium pump, and explain how it works.

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27. Why is osmosis important for cells?

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28. How does a cell consume a food particle that is too large to pass through a channel protein?

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29. What are three different ways that a cell can respond to a signal?

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