

Name

Class

Date

Skills Worksheet

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Directed Reading

Section: Active Transport

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

- 1 The transport of a substance across the cell membrane against its concentration gradient is called _____.
- 2 Active transport requires the cell to use _____.
- 3 The energy needed for active transport is usually supplied by _____.
4. The sodium-potassium pump is a(n) _____ protein.
5. The concentration of sodium ions inside the cell is usually _____ than the concentration of sodium ions outside the cell.
6. The concentration of potassium ions inside the cell is usually _____ than the concentration of potassium ions outside the cell.
7. The sodium-potassium pump picks up _____ ions outside the cell.
8. The sodium-potassium pump releases _____ ions inside the cell.

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

9. Explain why proteins and polysaccharides cannot diffuse through the membrane like water doe

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Directed Reading *continued*

- 1 What is the difference between endocytosis and exocytosis?

- 2 How is a vesicle formed in endocytosis?

- 3 What happens to a vesicle in exocytosis?

- 4 How do sodium-potassium pumps support the efficient functioning of cells?

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

_____ 14. signal molecule _____ 15. receptor protein _____ 16. ion channel
_____ 17. second messenger _____ 18. enzyme action _____ 19. beta blocker
_____ 20. changes in permeability

- a. a large protein in the cell membrane that transports a specific ion
- b. acts as a signal molecule in the cytoplasm
- c. a protein that binds to a specific signal molecule
- d. speeds up chemical reactions in the cell
- e. a drug that interferes with the binding of signal molecules to receptor proteins in heart muscles

- f. carries information throughout the body and to other cells
- g. occur when a receptor protein is coupled with an ion channel