

Biology Chapter 4: Cells and Their Environment

Objectives:

Passive Transport

- Diffusion
- Osmosis
- Crossing the Cell Membrane

Active Transport

- Movement against a concentration gradient
- Movement in Vesicles
- Membrane Receptor Proteins

Vocabulary

1. passive transport
2. concentration gradient
3. equilibrium
4. diffusion
5. osmosis
6. hypertonic solution
7. hypotonic solution
8. isotonic solution
9. ion channel
10. carrier protein
11. facilitated diffusion
12. active transport
13. sodium-potassium pump
14. endocytosis
15. exocytosis
16. receptor protein
17. second messenger

At the end of this unit, you should be able to:

- Distinguish between diffusion and equilibrium.
- Describe how the diffusion of ions across a cell membrane differs from the diffusion of non-polar molecules across the cell membrane.
- Explain how some substances cross the cell membrane by facilitated diffusion.
- Distinguish between passive and active transport.
- Describe how the sodium-potassium pump helps prevent animal cells from bursting.
- Compare two ways that the binding of a signal molecule to a receptor protein causes a change in the activity of the receiving cell.
- Identify the terms endocytosis and exocytosis and distinguish between them.