

Section 1.4 The Cell in its Environment

The cell membrane is selectively permeable -

How Things (O_2 , H_2O , food, waste) get in/out of cells:

Passive Transport-		Active Transport-	
Energy is		Energy is	
Diffusion	Osmosis	Transport Proteins	Engulfing

Cell Structure and Function ▪ *Guided Reading and Study*

The Cell in Its Environment

This section tells how things move into and out of cells.

Use Target Reading Skills

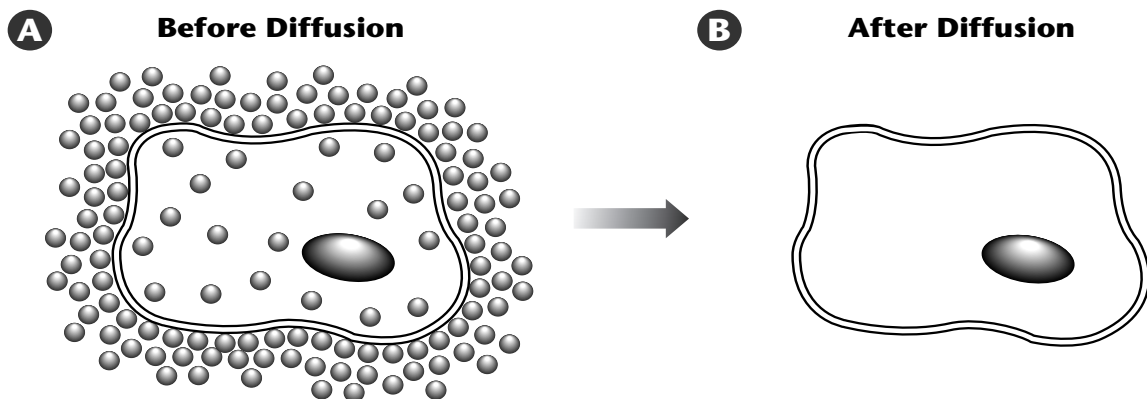
After you read the section, reread the paragraphs that contain definitions of Key Terms. Use all the information you have learned to write a definition of each Key Term in your own words.

Introduction

1. The cell membrane is _____, which means that some substances can pass through it while others cannot.

Diffusion

2. List three ways that substances can move into and out of a cell.
 - a. _____
 - b. _____
 - c. _____
3. In diffusion, molecules move from an area of _____ concentration to an area of _____ concentration.
4. Draw molecules on Part B of the diagram below to show how the molecules are distributed inside and outside the cell after diffusion has occurred.



Cell Structure and Function ▪ *Guided Reading and Study*

Osmosis

5. In _____, water molecules diffuse through a selectively permeable membrane.

Active Transport

6. Two ways of moving things into and out of cells that do NOT need energy are _____ and _____.
Moving materials through a cell membrane without using energy is called _____ transport.

7. How does active transport differ from passive transport?

8. List two ways that the cell moves things by active transport.

a. _____
b. _____

9. Is the following sentence true or false? As a cell gets larger, it takes longer for a molecule that has entered the cell to reach the middle of the cell.

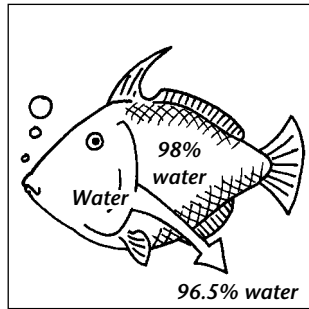


Cell Structure and Function ▪ *Review and Reinforce*

The Cell in Its Environment

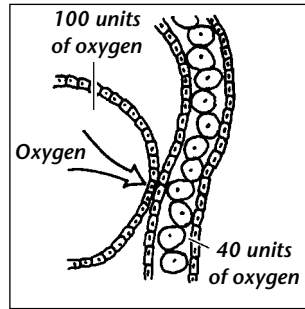
Understanding Main Ideas

Fill in the blank to identify the process illustrated in each of the following figures.



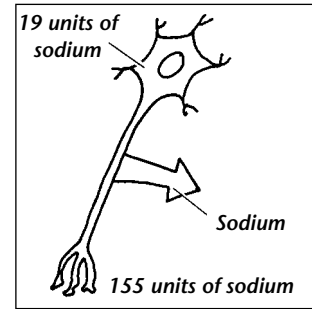
Water moves out of the cells of a saltwater fish and into the ocean.

1. _____



Oxygen moves from the lungs into the bloodstream.

2. _____



Sodium is pumped out of a nerve cell.

3. _____

Answer the following questions on a separate sheet of paper.

4. Explain how osmosis differs from diffusion.
5. Compare and contrast active and passive transport.
6. Identify two methods of active transport.
7. State one reason that cells are small.

Building Vocabulary

If the statement is true, write true. If the statement is false, change the underlined word or words to make the statement true.

- _____ 8. Selectively permeable means letting some but not all substances pass through.
- _____ 9. Osmosis is the process by which molecules tend to move from an area of higher concentration to an area of lower concentration.
- _____ 10. The process by which water moves across a selectively permeable membrane is called diffusion.
- _____ 11. Diffusion and osmosis are types of active transport.
- _____ 12. Passive transport requires the cell's own energy.