

Cell Structure and Function ▪ *Guided Reading and Study*

Looking Inside Cells

This section describes cell structure and function in plant cells, animal cells, and bacteria.

Use Target Reading Skills

Before you read, preview Figure 12. Then write two questions that you have about the illustrations in a graphic organizer like the one below. As you read, answer your questions.

Plant and Animal Cells

Q. How are animal cells different from plant cells?
A.
Q.
A.

Introduction

1. What are organelles?

Enter the Cell

2. The rigid layer of nonliving material that surrounds plant cells is the _____.

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3. Circle the letter of each sentence that is true about the cell wall.

- a. Cell walls are made of cellulose.
- b. Plant cells have cell walls.
- c. Animal cells have cell walls.
- d. Water and oxygen cannot pass through the cell wall.

4. What does the cell wall do?

5. Where is the cell membrane located in cells that have cell walls?

6. Where is the cell membrane located in cells that do NOT have cell walls?

7. Is the following sentence true or false? The main function of the cell membrane is to control what comes into and out of a cell.

Sail On to the Nucleus

8. Circle the letter of each sentence that is true about the nucleus.

- a. Materials pass in and out of the nucleus through pores in the nuclear envelope.
- b. Chromatin contains the instructions that direct the functions of a cell.
- c. The nucleolus is part of the nuclear envelope.
- d. Ribosomes are made in the nucleolus.

Organelles in the Cytoplasm

9. Circle the letter of the part of the cell that is the region between the cell membrane and the nucleus.

- a. organelle
- b. nucleus
- c. cytoplasm
- d. chromatin

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Looking Inside Cells *(continued)*

10. In the table below, describe the function of each organelle in the cytoplasm.

Organelles in Cytoplasm	
Organelle	Function
Mitochondria	
Endoplasmic reticulum	
Ribosomes	
Golgi bodies	
Chloroplasts	
Vacuoles	
Lysosomes	

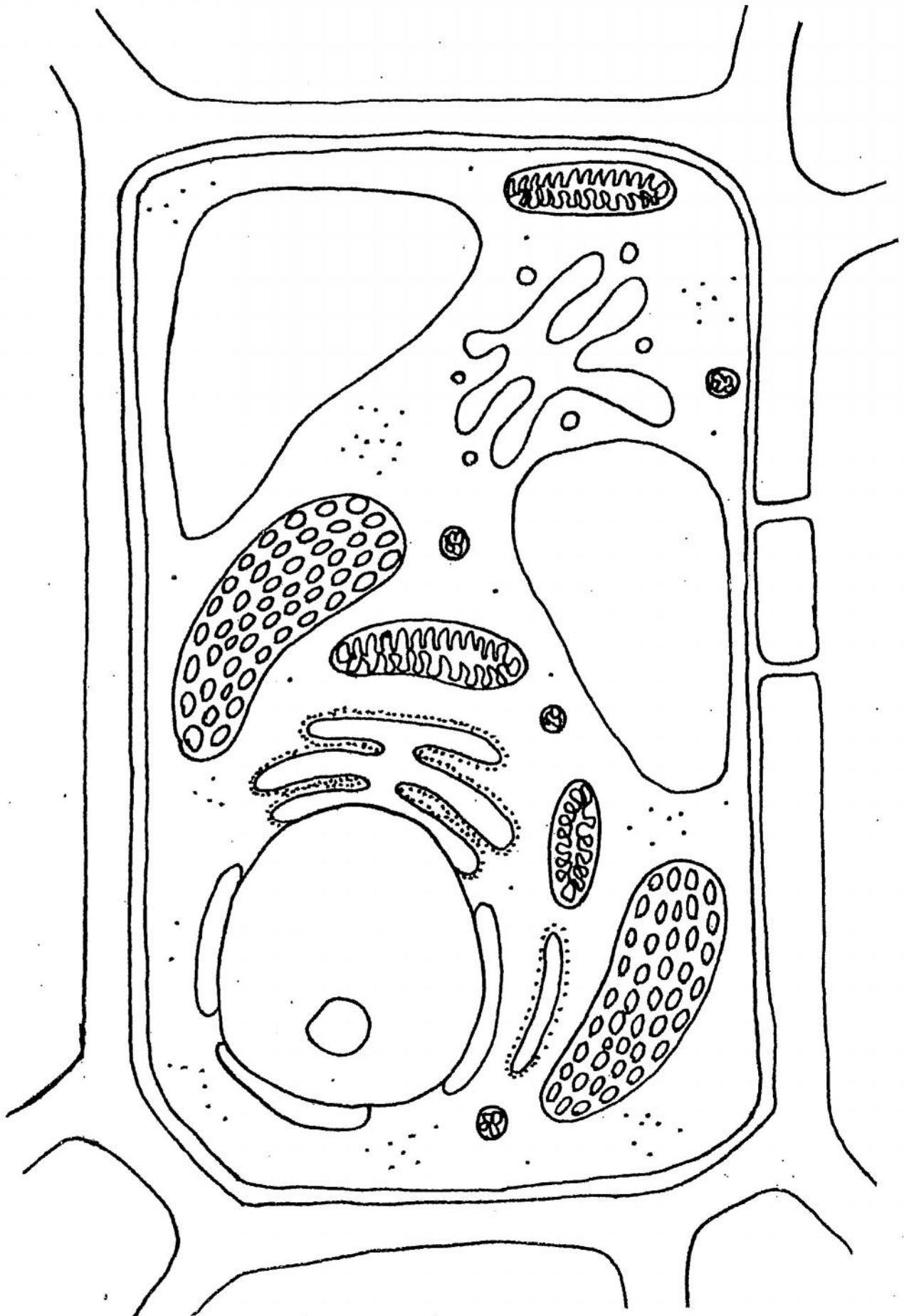
Specialized Cells

11. The structure of each kind of body cell is suited to its _____.

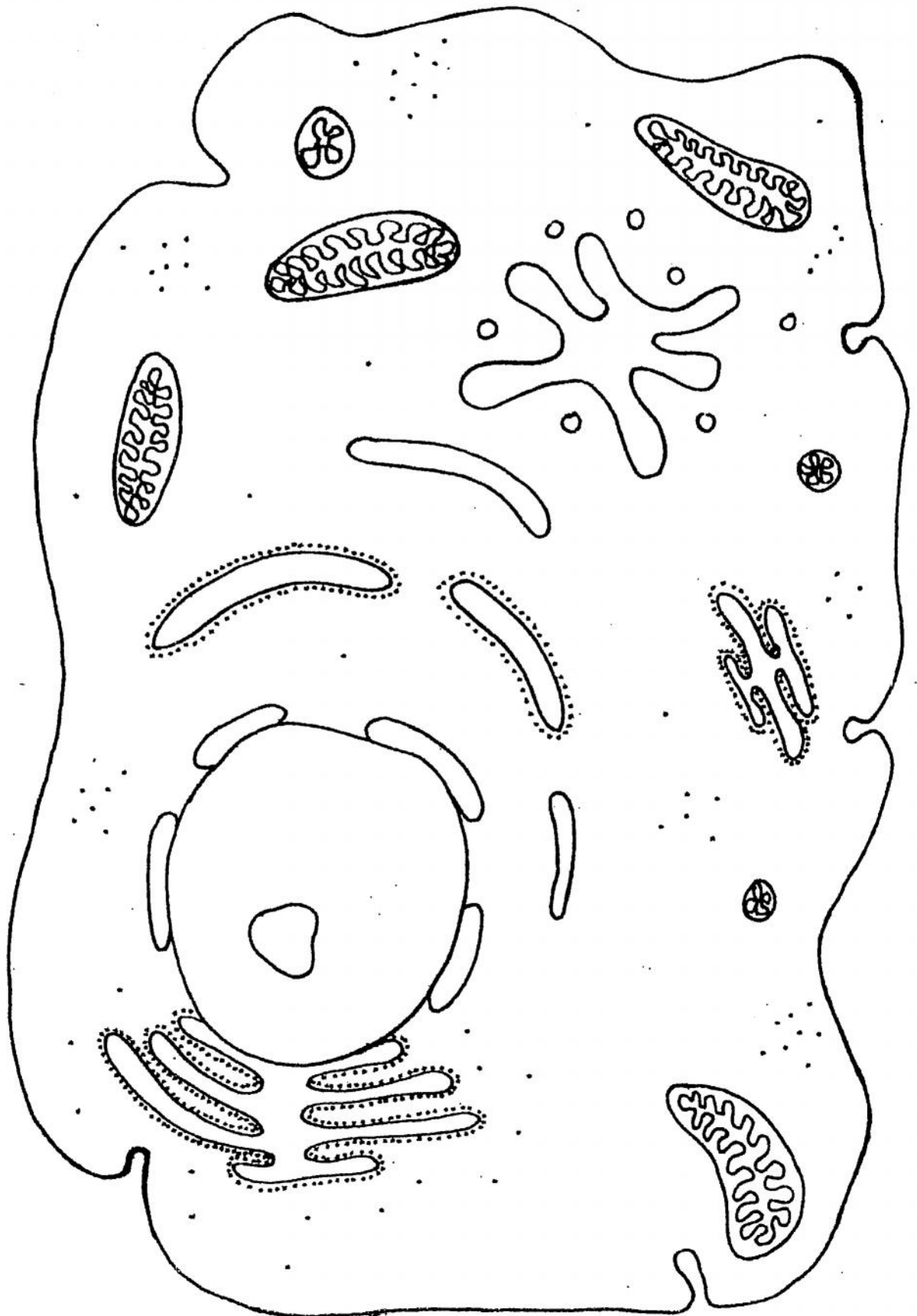
Bacterial Cells

12. Circle the letter of each sentence that is true about bacterial cells.
- a. Bacterial cells are larger than plant or animal cells.
 - b. Bacterial cells have a cell wall and a cell membrane.
 - c. Bacterial cells do not have a nucleus.
 - d. Bacterial cells do not have genetic material.

Plant Cell

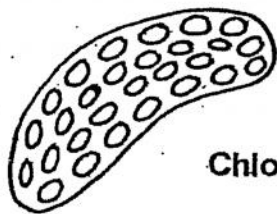


Animal Cell





Lysosome



Chloroplast

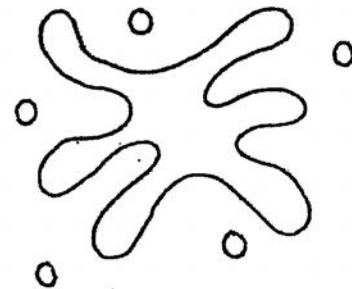
cytoplasm

organelle

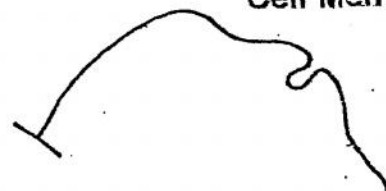
chromatin



Endoplasmic Reticulum



Golgi Complex



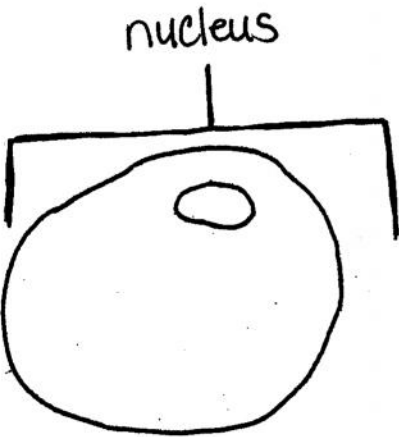
Cell Membrane



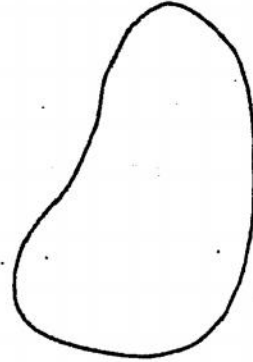
Ribosomes



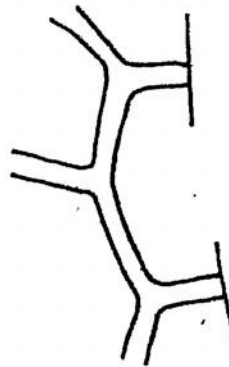
Mitochondria



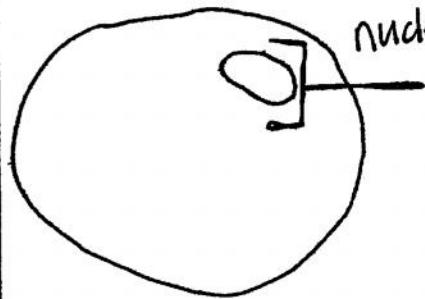
nucleus



Vacuole



Cell Wall

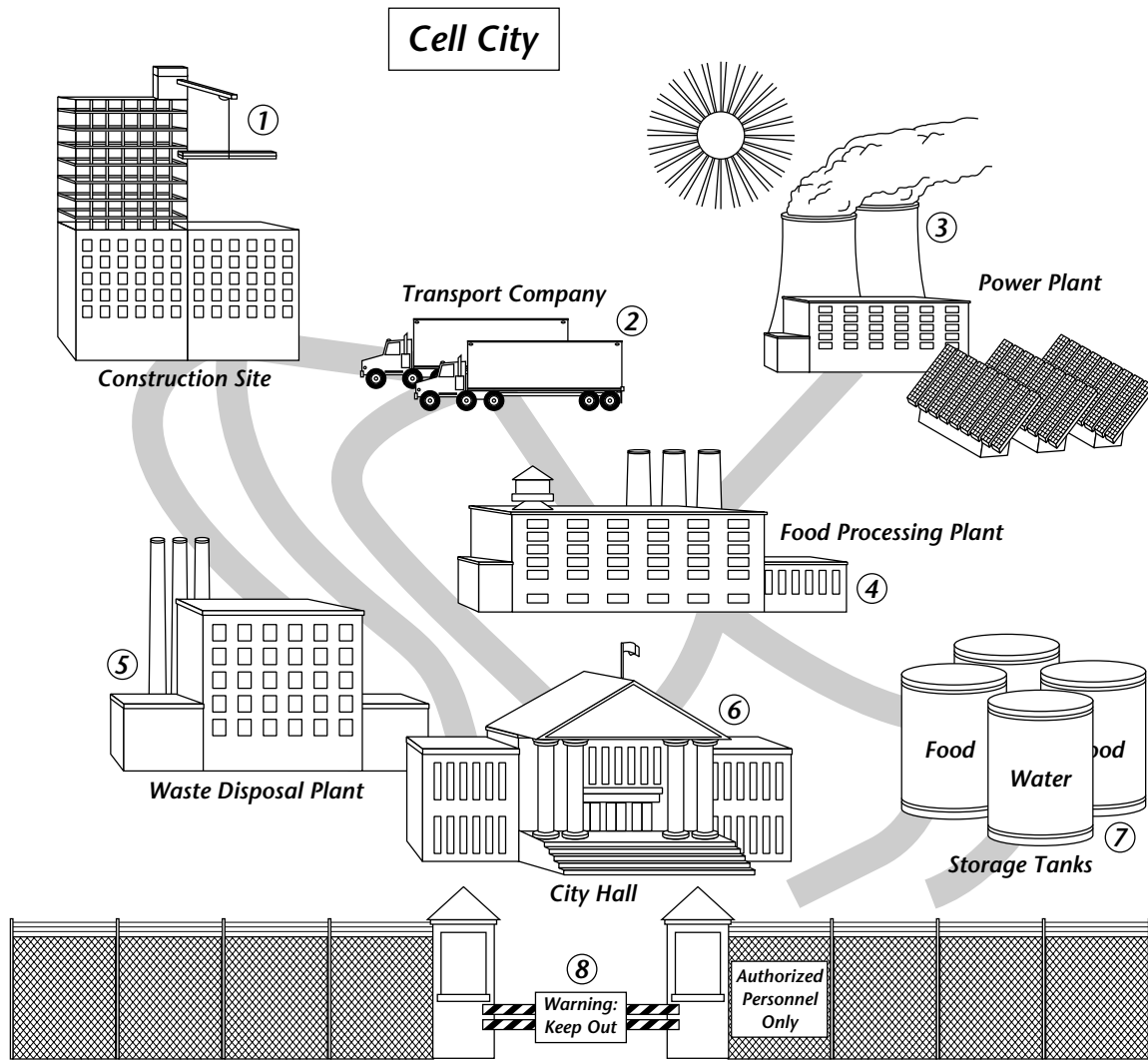


nucleolus

Cell Structure and Function ▪ *Enrich*

Modeling Cell Structures

The figure below shows a city that is a model for a cell. Study the figure, and use it to respond to the items that follow.



Answer the following questions on a separate sheet of paper.

1. State the function performed by each numbered structure in the figure.
2. Now name a cell structure that performs each of these same functions.
3. Does “Cell City” represent a plant cell or an animal cell? Explain your answer.

Cell Structure and Function ▪ *Review and Reinforce*

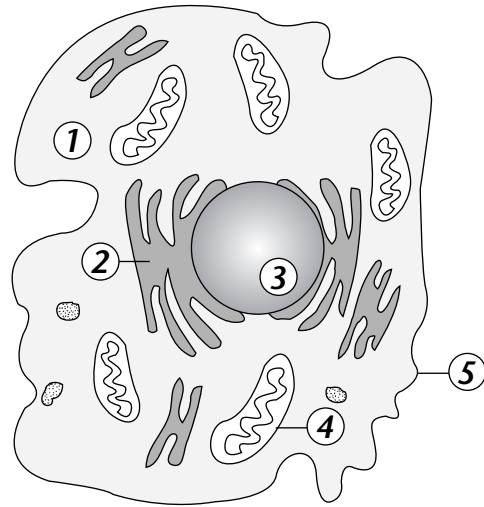
Looking Inside Cells

Understanding Main Ideas

Identify each of the cell structures in the figure.

1. _____
2. _____
3. _____
4. _____
5. _____

Simplified Animal Cell



Cell Structure and Function

Building Vocabulary

Fill in the blank to complete each statement.

6. _____ are tiny cell structures that carry out specific functions within the cell.
7. The rigid layer of nonliving material that surrounds the cells of plants and other organisms is called the _____.
8. In cells without cell walls, the _____ forms the outside boundary that separates the cell from its environment.
9. The _____ is a large, oval structure that directs all of the cell's activities.
10. The region between the cell membrane and the nucleus is called the _____.
11. _____ produce most of the energy the cell needs to carry out its functions.
12. A maze of passageways called the _____ carries proteins and other materials from one part of the cell to another.
13. _____ function as factories to produce proteins.
14. _____ receive proteins and other newly formed materials and distribute them to other parts of the cell.
15. Organelles called _____ capture energy from sunlight and use it to produce food for the cell.
16. The storage area of a cell is called a(n) _____.
17. _____ are small, round structures in cells that break down large food particles into smaller ones.