Name Date

Section 1.2 Summary

Cells

Textbook pages 22–39

Before You Read

How might the cells of a plant be like the cells of an animal? How might they be different? Write your ideas in the space below.

_____

_____

Mark the Text

Identify Definitions
Highlight the definition of each word that appears in bold type.

What is the cell theory?

The **cell theory** states three important facts about cells.

1. The cell is the basic unit of all life.
2. All living things are made up of one or more cells.
3. All cells come from other living cells.

How are prokaryotic cells different from eukaryotic cells?

There are two main types of cells. **Eukaryotic cells** are cells with organelles that have a membrane around them. You will find out more about organelles below. Plant cells and animal cells are eukaryotic cells.

Prokaryotic cells are cells that do *not* have organelles with membranes around them. **Bacteria** are prokaryotic cells that live just about everywhere on Earth. Some bacteria cause diseases.

It is easy to confuse bacteria with another type of tiny thing that causes disease: viruses. **Viruses** are non-living things that are able to reproduce. Viruses are not cells. Viruses must be present inside the cell of a living thing in order to reproduce.

Reading Check

1. How is a prokaryotic cell different from a eukaryotic cell?

_____

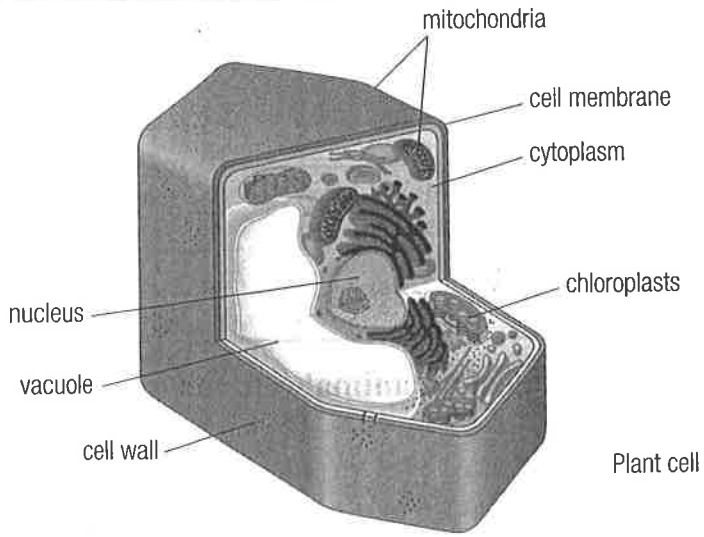
_____

_____

What is inside a cell?

All cells have **organelles** that carry out specific tasks that help the cell to survive. Most of the organelles in animal cells are also found in plant cells. However, animal cells do not have a cell wall or chloroplasts.

Typical Cell Structures



Plant cell

cell membrane: This structure is like a skin that surrounds the whole cell. The cell membrane keeps the inside of the cell separate from what is outside it. The cell membrane also controls what enters and leaves the cell.

nucleus: The nucleus of the cell controls all the cell's activities.

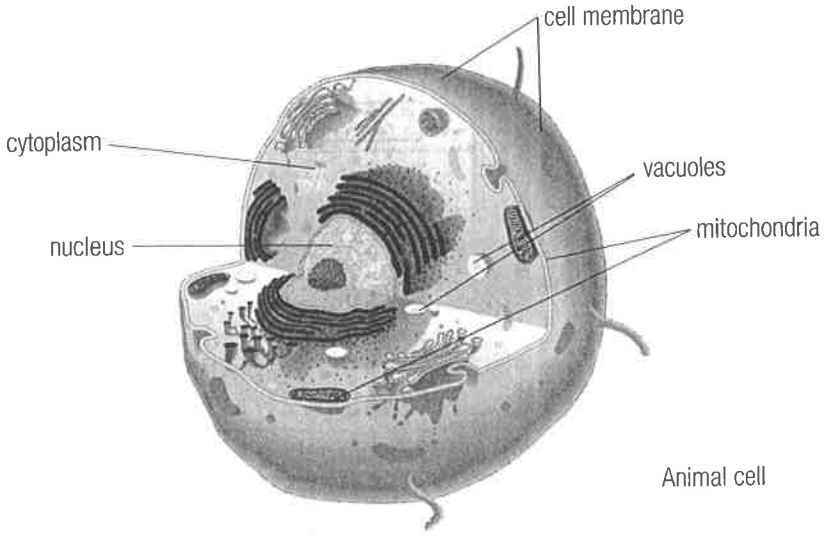
cytoplasm: This clear, jelly-like fluid holds the organelles of the cell in place.

mitochondria: These bean-shaped structures are the energy producers.

vacuoles: Vacuoles store materials such as wastes for a short time. Plant cells usually have one large vacuole. Animal cells have many small vacuoles.

cell wall: The cell wall surrounds the cell membrane of plant cells. The cell wall gives the plant cell protection and supports its box-like shape.

chloroplasts: These green-coloured structures in plant cells trap the Sun's light energy and change it to chemical energy for use by the cell.



Animal cell

Reading Check

2. Name two organelles that are found in plant cells but not in animal cells.

_____

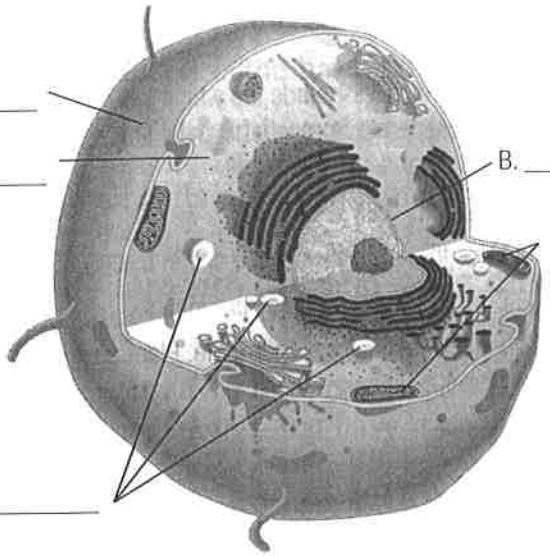
_____

Use with textbook page 27.

Parts of cells

Vocabulary	
cell membrane	vacuole
nucleus	vacuoles
cell wall	cytoplasm
chloroplast	mitochondria

Use the terms in the box to label the parts of an animal cell and a plant cell. Terms may be used more than once.



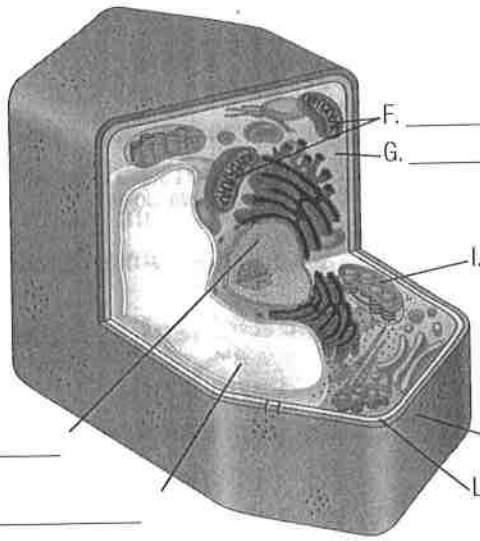
A. _____

B. _____

C. _____

D. _____

E. _____



F. _____

G. _____

H. _____

I. _____

J. _____

K. _____

L. _____

Name _____ Date _____

Cloze Activity
Section 1.2

Use with textbook pages 24–29.

Inside a cell

Vocabulary	
bacteria	living thing
cell theory	mitochondria
cell membrane	organelle
cell wall	prokaryotic
chloroplasts	nucleus
cytoplasm	vacuoles
eukaryotic	viruses

Use the terms in the vocabulary box to fill in the blanks. Each term may be used only once. You will not need to use all the terms.

1. A(n) _____ is a cell structure in which functions are carried out to ensure the cell's survival.

2. Each cell is surrounded by a _____ that separates the interior of the cell from its surroundings.

3. Within the cell is a jelly-like substance called _____.

4. The _____ is the organelle that controls all the activities within the cell.

5. The _____ are the energy producers in the cell.

6. _____ are temporary storage compartments that sometimes store waste.

7. The _____ is a tough, rigid structure that surrounds the cell membrane and protects the cell.

8. The _____ trap the energy from the Sun and change it into chemical energy.

9. Plant and animal cells are examples of _____ cells.

10. _____ cells are cells that do not have organelles with membranes around them.

11. _____ are examples of prokaryotic cells that can cause disease.

12. _____ are examples of non-living things that are able to reproduce.

Name _____ Date _____

Comprehension
Section 1.2

Use with textbook pages 32–34.

True or false?

Read the statements given below. If the statement is true, write "T" on the line in front of the statement. If it is false, write "F" and rewrite the statement to make it true.

1. _____ The cell is the basic unit of life.

2. _____ All organisms are composed of only one cell.

3. _____ Animal cells use chloroplasts to trap the Sun's energy.

4. _____ Prokaryotic cells are cells that are surrounded by a cell wall.

5. _____ Eukaryotic cells are cells that are surrounded by a cell membrane.

6. _____ Some bacteria cause diseases.

7. _____ Viruses are non-living things.

8. _____ Bacteria are an example of eukaryotic cells.