Looking Inside Cells (pages 60–67)

Enter the Cell (page 61)

Key Concept: **A plant's cell wall helps to protect and support the cell. The cell membrane controls what substances come into and out of a cell.**

- An **organelle** is a structure in the cell that has a specific function.
- The **cell wall** is a stiff layer that protects and supports the cell. Animal cells do not have cell walls.
- The **cell membrane** forms the boundary between the cell and its environment. The cell membrane controls what goes in and out of a cell.

Answer the following questions. Use your textbook and the ideas above.

1. A structure inside a cell that has a specific function is a(an) _____.

2. Read each word in the box. In each sentence below, fill in the correct word or words.

cell membrane	cell wall	organelle

a. A stiff layer that protects and supports the cell is the _____.

b. The cell boundary that controls what goes in and out of a cell is the _____.

3. Is the following sentence true or false? Animal cells do not have a cell wall. _____

Sail on to the Nucleus (page 62)

Key Concept: **Think of the nucleus as the cell's control center, directing all of the cell's activities.**

- The cell nucleus is the control center of the cell.
- The nucleus is protected by a membrane called the nuclear envelope.
- The nucleus holds the genetic information. The genetic information controls what the cell does.

Answer the following question. Use your textbook and the ideas above.

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

a. The nucleus is the control center of the cell.

b. The cell membrane protects the nucleus.

c. The nucleus holds the genetic information.

Organelles in the Cytoplasm (pages 63–66)

Key Concept: **The cytoplasm has many organelles that carry out the life functions of a cell.**

- The **cytoplasm** (cy tuh PLAZ um) is the thick, gel-like fluid found between the cell membrane and the nucleus. The cytoplasm has many organelles.
- **Mitochondria** (my tuh KAHN dree uh) are rod-shaped organelles known as the "powerhouses" of the cell. Mitochondria change food to energy.
- **Ribosomes** (RY buh sohm) are very small grainlike structures that make proteins.
- Only plants cells have chloroplasts. **Chloroplasts** (KLOR uh plasts) are green organelles that capture the energy from sunlight and use it to make food.

Answer the following questions. Use your textbook and the ideas on page 32.

5. Circle the letter of the gel-like fluid found between the cell membrane and the nucleus.

a. organelle

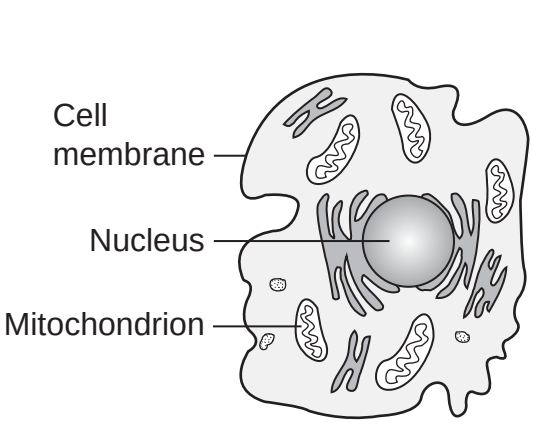
b. cytoplasm

c. nuclear envelope

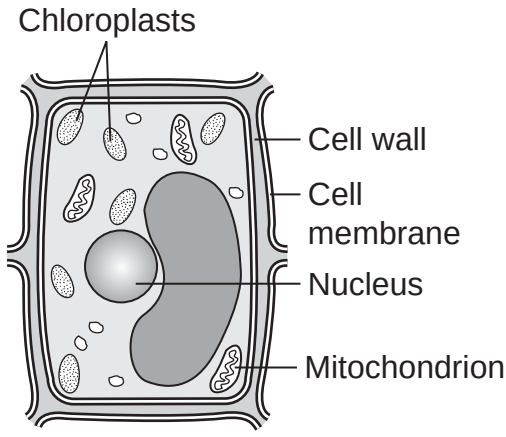
6. Draw a line from each organelle to its function.

Organelle	Function
mitochondria	**a.** make proteins
ribosomes	**b.** capture the energy from sunlight
chloroplasts	**c.** change food to energy the cell can use

7. The picture shows two different cells. One cell is an animal cell. The other cell is a plant cell. Read the labels for the cell parts. Circle the letter of the plant cell.



a.



b.

Specialized Cells (page 67)

Key Concept: **In many-celled organisms, cells are often organized into tissues, organs, and organ systems.**

- In a many-celled organism, cells are often very different from each other. These cells have different shapes and different jobs.
- A tissue is a group of cells that work together to do a specific job. For example, nervous tissue is made up of nerve cells.
- A group of different tissues is an organ. Your brain is an organ.
- An organ system is a group of organs working together. Your brain is part of the nervous system.

Answer the following questions. Use your textbook and the ideas above.

8. Is the following sentence true or false? In a many-celled organism, all the cells look the same.

_____

9. Circle the letter of an organ.

a. nerve cells
b. brain
c. nervous system

10. Complete the flowchart about how cells are organized.

Cell Organization