Name _____ Class _____ Date _____

SECTION 2-2 **Structure and Function of Cells** *(pages 45–57)*

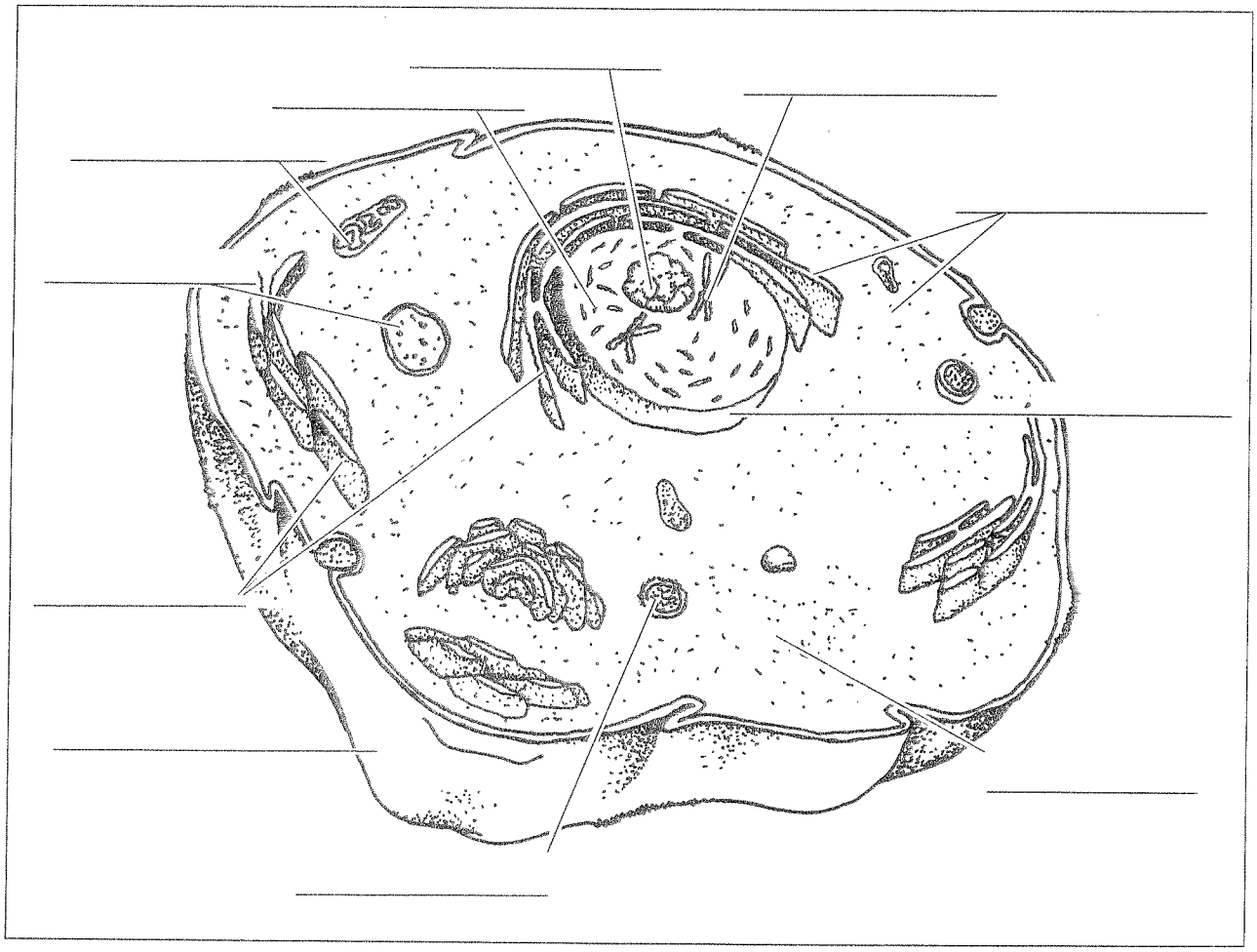
KEY CONCEPTS

- The structures within a cell function in providing protection and support, forming a barrier between the cell and its environment, building and repairing cell parts, transporting materials, storing and releasing energy, getting rid of waste materials, and increasing in number.

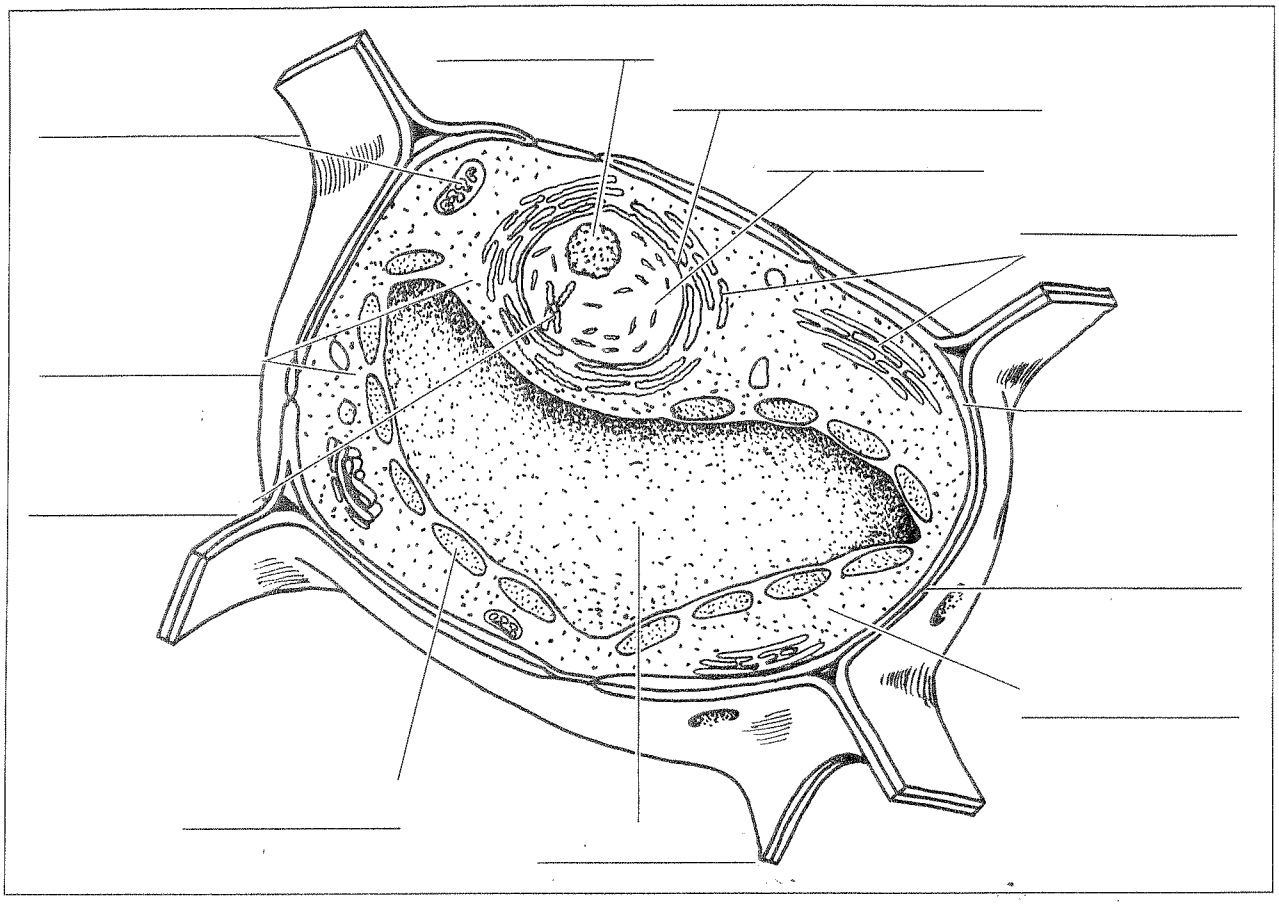
Building Vocabulary Skills: Labeling Diagrams

The following diagrams show two typical cells. In the space provided above each diagram, identify whether the cell is a plant cell or an animal cell. Then label each cell structure by writing the correct term on each blank.

TYPICAL _____ CELL



TYPICAL _____ CELL



Organizing Information: Using the Main Ideas

The accompanying table gives the following information about each of the main parts of the cell: its name, a brief description of it, its function(s), and whether it is found in a typical plant cell, a typical animal cell, or both. Complete the table, then use it to answer the questions that follow.

Cell Part	Description	Function	Plant, Animal, Both
	Strong, stiff, nonliving layer outside the cell membrane; in plants, made of cellulose		
Cell membrane			

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Cell Part	Description	Function	Plant, Animal, Both
	Region between the nucleus and the cell membrane; consists of a jellylike substance that contains many organelles		
Nucleus			
Nucleolus			
	One of a set of structures found in the nucleus; made of DNA, plus some protein		
Endoplasmic reticulum			
	Small, grainlike body made primarily of RNA; may be attached to endoplasmic reticulum or floating free in cytoplasm; produced in nucleolus	Place where proteins are made	

Cell Part	Description	Function	Plant, Animal, Both
	Rod-shaped organelle; located in the cytoplasm; has a smooth outer membrane and a greatly folded inner membrane		Both
Vacuole			
Lysosome			Animal, rare in plant
		Captures energy in sunlight and uses it to produce food	Plant

1. Name the organelles that are found in the cytoplasm. _____

_____

2. Name two cell parts that are found in plant cells and are not found in animal cells.

_____

3. Why is the process that takes place in a mitochondrion often described as being the opposite of the process that takes place in a chloroplast? _____

_____

_____

_____

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Getting the Job Done: Understanding the Main Ideas

1. Explain *division of labor* in your own words. _____

_____

2. Have you ever thought about what kind of job you would like to have when you grow up? List ten jobs you would like to have, or once thought you might like to have.

_____

_____

3. Select one of the jobs you listed in question 2. Is there any special training you need to get that job? Explain. _____

_____

4. Would you be able to do all ten of the jobs you listed in question 2 at the same time? Explain. _____

5. Would you be able to do each of the ten jobs as well as a person who could spend all their time and energy on just one of the jobs? Explain. _____

_____

6. Explain why specializing in one job is an advantage to a person. _____

_____

_____

To a cell in an organism. _____

_____

_____

7. Explain how specialization can lead to people—and cells—becoming dependent on one another for survival. _____

_____

_____

8. How is a multicellular organism similar to a human community? _____

_____

_____

9. Complete the following table.

Level of Organization	Definition	Example in the Circulatory System	Other Examples
Cell			
Tissue			
Organ			
Organ System			
Organism = all the levels of organization together			