

## Review: Introduction to the Cell: Plant and Animal Cells

### PART: A

1. Decide whether each statement about the cell theory is true or false. If a statement is false, rewrite it to make it true.
  - b. The cell is the basic unit of life.
  - c. Some cells come from pre-existing cells.
  - d. All living things are made up of many cells.
  - e. Cells vary in size and shape.(Answer 1: a. T, b. T, c. F: all living things are made of one or more cells, d. T)
2. Which statement is not a part of the cell theory?
  - a. Plant cells contain chloroplasts.
  - b. All cells come from pre-existing cells.
  - c. The cell is the basic organizational unit of life.
  - d. The activity of an entire organism depends on the total activity of its independent cells.
3. Decide whether each statement about the cell theory is true or false. If a statement is false, rewrite it to make it true.
  - a. The mitochondrion contains genetic information that controls all cell activities.
  - b. The function of the cell membrane is both to support the cell and to allow *no* substances to enter the cell.
  - c. The *chromosomes* are the compact forms of the cells that contain the DNA strands.
  - d. Plant and animal cells have *most* of the major cell structures in common.
  - e. Cellular respiration occurs in the *nucleus* of the cell.(Answer 3: a. F: nucleus, b. F: some, c. T d. T e. F: mitochondria)
4. The specialized parts of a cell that carry out specific functions necessary for life are called the:
  - a. organelles
  - b. mitochondria
  - c. nucleus
  - d. Golgi bodies
5. The organelle of the cell described as fluid-filled tubes responsible for transporting materials, such as proteins, through the cell is called what?
  - a. Golgi bodies
  - b. endoplasmic reticulum
  - c. nucleus
  - d. vacuole
6. What is one of the purposes of the cell wall in a plant cell?
  - a. It provides protection for the cell.
  - b. It allows some substances to enter the cell.
  - c. It keeps out some substances from the cell.
  - d. It allows the cell mobility.
7. All of the following organelles are found in plant cells only, *except*
  - a. cell wall
  - b. cell membrane
  - c. a large vacuole
  - d. chloroplasts

(Multiple Choice Answer: 4a 5b 6a 7b 8d 9c)

8. What contains the instructions that tell a cell what functions to perform?
  - a. mitochondria
  - b. Golgi bodies
  - c. endoplasmic reticulum
  - d. nucleus
  
9. A cell membrane can be described as being selectively permeable. What does this mean?
  - a. It allows all types of particles to flow freely in and out of the cell.
  - b. It allows millions of tiny objects to cross into the cell constantly.
  - c. It allows certain particles to enter the cell and blocks others.
  - d. It does not allow objects to enter the cell.

**PART: B** Match the following description to the terms provided below the descriptions:

1. \_\_\_\_\_ thick surface structure that gives shape, support and protection to plant cells
2. \_\_\_\_\_ control center of the cell: directs all the cells activities; involved in cell division
3. \_\_\_\_\_ release energy for cell functions; powerhouse of the cell
4. \_\_\_\_\_ “factories” for building proteins
5. \_\_\_\_\_ “roadways” for moving materials throughout the cell
6. \_\_\_\_\_ manufacture ribosome parts (proteins and RNA)
7. \_\_\_\_\_ sticky, semi-fluid material inside a living cell in which the other cell organelles are suspended
8. \_\_\_\_\_ contain digestive enzymes
9. \_\_\_\_\_ encloses the cell’s genetic material
10. \_\_\_\_\_ storehouse for excess water, food, wastes, etc.
11. \_\_\_\_\_ green organelles of plant cells where photosynthesis takes place
12. \_\_\_\_\_ package useful materials and secrete them to the outside of the cell
13. \_\_\_\_\_ strands within the nucleus which form chromosomes
14. \_\_\_\_\_ holds the contents of the cell together
15. \_\_\_\_\_ hereditary material that carries the genetic code

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|-----------------|-----------------|--------------------------|---------------------|
| A. nucleus      | B. chloroplasts | C. ribosomes             | D. vacuoles         |
| E. DNA          | F. Golgi bodies | G. lysosomes             | H. cell membrane    |
| I. Chromatin    | J. cell wall    | K. nucleolus             | L. nuclear membrane |
| M. mitochondria | N. cytoplasm    | O. endoplasmic reticulum |                     |

**PART C:** Use the words from the ‘Word Bank’ below to fill in the blanks:

**Word Bank:** chromatin, lysosomes, nuclear membrane, Golgi complex, vacuoles, ribosomes, centriole, mitochondria, nucleolus, cytoplasm

1. The \_\_\_\_\_ is the semi-fluid portion of the cell in which the cell parts are located.
2. Proteins are manufactured by the \_\_\_\_\_.
3. The \_\_\_\_\_ surrounds the nucleus and controls what enters and leaves it.
4. Storage chambers within the cell are called \_\_\_\_\_.
5. Found mostly in animal cells, the \_\_\_\_\_ plays a role in cell division.
6. Located within the nucleus, the \_\_\_\_\_ is involved in making ribosomes for the cell.
7. Another name for DNA material located within the nucleus of the cell is \_\_\_\_\_.
8. \_\_\_\_\_ are structures that contain digestive enzymes.
9. The cell structure that prepares and packages proteins either for use within the cell or for shipment out of the cell is the \_\_\_\_\_.
10. Nicknamed the ‘powerhouse of the cell’, the \_\_\_\_\_ are involved in energy production.