

Skills Worksheet

Directed Reading**Section: Mitosis**

Complete each statement by writing the correct term in the space provided.

1. The cell cycle is a repeating sequence of growth and _____ during the life of a cell.
2. The first three phases of the cell cycle are collectively called _____.

In the space provided, write the letter of the description that best matches each term.

- | | |
|-------------------------------------|---|
| _____ 3. first gap (G_1) phase | a. nucleus divides into two nuclei |
| _____ 4. synthesis (S) phase | b. cytoplasm divides and daughter cells become physically separated |
| _____ 5. second gap (G_2) phase | c. preparations are made for the cell to divide, such as the organization of microtubules |
| _____ 6. mitosis | d. DNA is copied |
| _____ 7. cytokinesis | e. cell carries out its routine functions |

Read each question, and write your answer in the space provided.

8. What function do spindles perform during mitosis?

9. What function do centrosomes perform during mitosis?

In the space provided, write the letter of the description that best matches each term.

- | | |
|---------------------|--|
| _____ 10. prophase | a. Chromosomes move to the cell center, lining up there. Spindle fibers link the centromeres to the poles. |
| _____ 11. telophase | b. A nuclear envelope forms around the chromatids at each pole. The spindle dissolves. |
| _____ 12. metaphase | c. Chromosomes begin to condense, and the nuclear membrane begins to dissolve. |
| _____ 13. anaphase | d. Sister chromatids move toward opposite poles as the spindle fibers attached to them shorten. |

Directed Reading *continued*

Study the following steps of mitosis. Determine the order in which the steps take place. Write the number of each step in the space provided.

_____ 14. prophase

_____ 15. telophase

_____ 16. metaphase

_____ 17. anaphase

Complete each statement by underlining the correct term or phrase in the brackets.

18. Cytokinesis begins [before / after] mitosis.

19. During cytokinesis in animal cells, the cell is pinched in half by
[a cell wall / a belt of proteins].

20. In plant cells, a new cell wall is formed by [vesicles / cell plates] holding cell
wall materials. These fuse to form a membrane-bound cell wall.

21. After cytokinesis, the new daughter cells enter the [G_1 / G_2] phase of
[prophase / interphase].

22. Each daughter cell is about [twice / half] the size of the original cell.