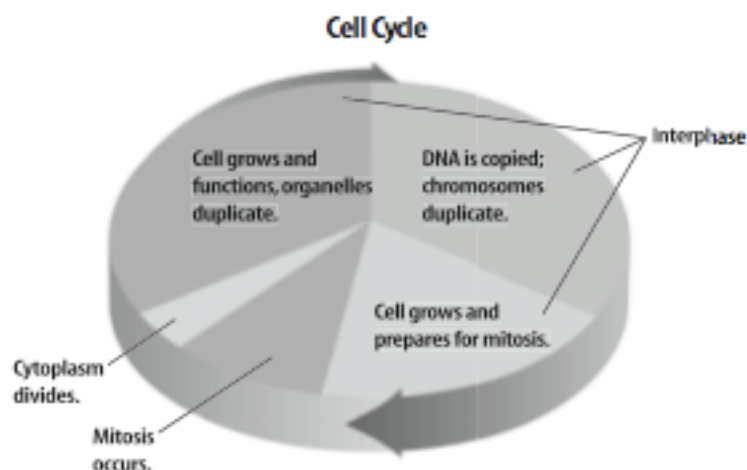


What Is the result of cell division?

After mitosis and cell division, the original cell—called the parent cell—no longer exists. However, the chromosomes of the daughter cells are identical to those of the parent cell. That means the daughter cells are genetically identical to each other and to the original parent cell. Because of mitosis and cytokinesis, all the cells in your body, except sperm and egg cells, have identical chromosomes. ✓



What have you learned about the cell cycle and cell division?

Cells have periods of growth and reproduction called cell cycles. The cell cycle is summarized in the figure above. Different cell types have different cell cycle lengths. A cell's nucleus divides in a process called mitosis. The DNA that makes up the duplicated chromosome is packaged in tight coils. The membrane around the nucleus breaks apart, which allows the chromosomes to move around in the cytoplasm. The duplicated chromosomes move to the center of the cell where the chromatids also line up. Sister chromatids separate and move to opposite sides of the cell. Mitosis produces two identical nuclei. Following cytokinesis, two new cells form that are genetically identical. The original cell no longer exists.

✓ Reading Check

7. Explain What happens to the parent cell of an organism after mitosis and cell division?

Picture This

8. Estimate Approximately how much of the cell cycle is interphase?
