

Stages of a Cell Cycle

Matching

Match the statements in column A, with the five phases of mitosis in column B. Write the letter of the response in the blank on the left. If you need help, refer to the illustrations in *SCIENCEPOWER*TM 9, pages 18-19.

A

- _____ 1. Nucleolus appears within each new nucleus.
- _____ 2. Centromeres divide.
- _____ 3. Chromosomes become visible.
- _____ 4. Spindle fibres begin to form.
- _____ 5. DNA replicates.
- _____ 6. Replicated strands move toward opposite poles.
- _____ 7. Chromosomes form a line across the middle of the cell.
- _____ 8. Nuclear membrane forms around each set of chromosomes.
- _____ 9. Cell grows.

B

- a prophase
- b metaphase
- c anaphase
- d telophase
- e interphase

Short Answer

10. Describe the end result of mitosis. (How many cells, how do they compare genetically?)
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Fill in the Blanks

Write the name of the stage of the cell cycle that corresponds to each event described below.

1. Centromeres divide. _____
2. Centrioles move to opposite ends of the cell. _____
3. Nuclear membrane forms around each mass of chromosomes. _____
4. Chromosome strands separate toward opposite ends of the cell. _____
5. A copy of each chromosome is made. _____
6. Cell membrane pinches together and the cytoplasm of the cell divides. _____
7. The nuclear membrane disappears. _____
8. Daughter cells form. _____
9. Double-stranded chromosomes line up in the centre of the cell. _____
10. It makes up most of a cell's life. _____

Short Answer

11. (a) In mitosis, how many cells form from the original cell?

(b) Name them.

12. (a) Describe how the cell prepares for mitosis.

(b) Draw and label a diagram showing this process. Title the diagram with the name of the process.