

Mitosis Flashcards PDF

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What is mitosis?

A process of cell division that results in two genetically identical daughter cells.

What are the main stages of mitosis?

Prophase, Metaphase, Anaphase, and Telophase.

What happens during prophase?

Chromatin condenses into chromosomes, the nuclear envelope breaks down, and spindle fibers begin to form.

What occurs during metaphase?

Chromosomes align at the cell's equatorial plane, and spindle fibers attach to the centromeres.

What is the significance of anaphase?

Sister chromatids are pulled apart to opposite poles of the cell.

What happens in telophase?

Chromatids reach the poles, the nuclear envelope re-forms around each set of chromosomes, and chromosomes begin to de-condense.

What is cytokinesis?

The process that follows mitosis, where the cytoplasm divides, resulting in two separate cells.

How does mitosis differ from meiosis?

While mitosis results in two identical daughter cells, meiosis results in four genetically diverse gametes.

What role do spindle fibers play in mitosis?

They help separate the chromosomes during cell division.

What is the role of the centromeres during mitosis?

Centromeres hold sister chromatids together and are the attachment points for spindle fibers.