

Mitosis Explored

Part 1: Mitosis and the Cell Cycle

Mitosis is part of the cell cycle. During mitosis, cells divide into two genetically equivalent daughter cells.

- What is Mitosis?
- Phases of the Cell Cycle
- What Happens During Mitosis?
- Chromosomes are Coiled DNA
- Chromosomes and the Cell Cycle
- The Order of Events Matters!
- Mitosis in Plants, Fungi, and Algae
- Test Yourself
- Summary of Part 1

Part 2: Stages of Mitosis

Events during mitosis are divided into five distinct stages: prophase, prometaphase, metaphase, anaphase, and telophase/cytokinesis.

- A Sea Urchin Grows
- The Spindle Moves Chromosomes
- Prophase
- Prometaphase
- Metaphase
- Anaphase
- Telophase and Cytokinesis
- The Mitosis Puzzle
- Test Yourself
- Summary of Part 2

Part 3: Mechanics of Mitosis

Mitosis is a mechanical process wherein the spindle attaches to and moves chromosomes. Mitotic errors can result in aneuploid daughter cells. Cancer is a problem of mitosis.

- How Does the Spindle Work?
- Chromosome Anatomy
- Spindle Anatomy
- Spindle Forces
- Aneuploidy
- The Spindle Assembly Checkpoint
- Cancer
- Test Yourself
- Summary of Part 3

Part 4: Broaden Your Knowledge

Mitosis varies in different organisms, at different times, and in different contexts. Serious problems can arise with mitotic mistakes.

- Mitosis, Development, and Disease
- Budding Yeast
- Endoreplication
- Embryonic Development
- Roberts Syndrome
- Test Yourself
- Summary of Part 4

Part 5: Optional Review and Practice

A collection of review materials for studying mitosis.

- To Help You Learn
- Mitosis Order of Events
- Chromosome Anatomy
- Prophase
- Prometaphase
- Metaphase
- Anaphase
- Telophase and Cytokinesis
- The Mitosis Puzzle
- Spindle Anatomy
- Spindle Behavior

Part 6: Quiz Questions

Quiz Questions

- Quiz Questions