

# Cell division

mitosis - process of dividing the nucleus into two different daughter nuclei

Cytokinesis - process of separating the

organelles and the cytoplasm

Cell Cycle

~~Cell Cycle~~  
Cell division

# Stages of mitosis

## ① Prophase:

Spindle: network of microtubules that form and moves chromatids to the poles.

\* made of spindle fibers

**centrosome**- an organelle that contains the centrioles and is the center of dynamic activity in mitosis. \* duplicates itself before mitosis. \* centrosomes move to opposite poles of the cell during this phase.

## 2- metaphase

- \* condensed chromosomes line up along the equator. Spindle fibers link chromatids of each chromosome to opposite poles.

### Anaphase-

- \* spindle fibers shorten
- \* chromatids are pulled toward opposite poles of the cell.

### Telophase-

- \* new nuclear envelope forms at each pole.
- \* spindle dissolves, chromosomes uncoil.
- \* cytokinesis begins.

## Cytokinesis-

\*When mitosis(nuclear division) ends, cytokinesis begins.

\*during cytokinesis, the cell membrane grows into 2 daughter cells of equal size.

\*each daughtercell has about 1/2 of the parent's cytoplasm and organelles.

\*the end result of mitosis + cytokinesis is two genetically identical cells in place of the original cell.

After cytokinesis is complete, each cell enters the G1 stage of interphase.

assignment: Pg. 239-2,3,5,6,8,9,12,13,14,15,  
19,20,24-26      Pg. 241- 1-7