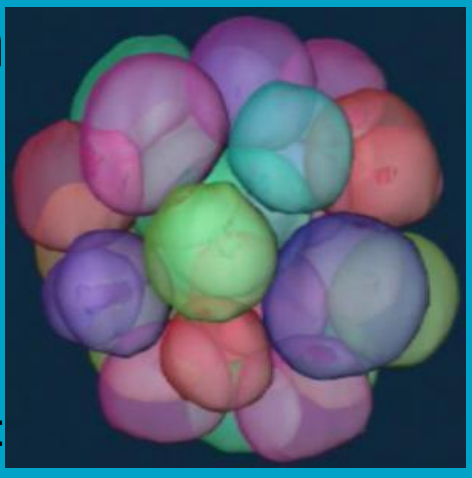
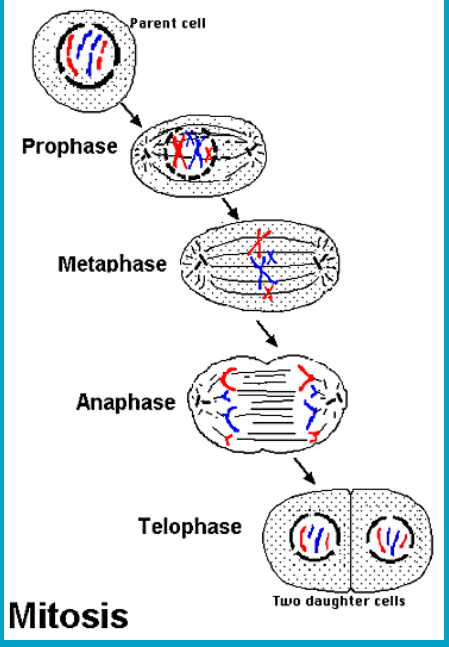
Cell Division



Also known as Mitosis

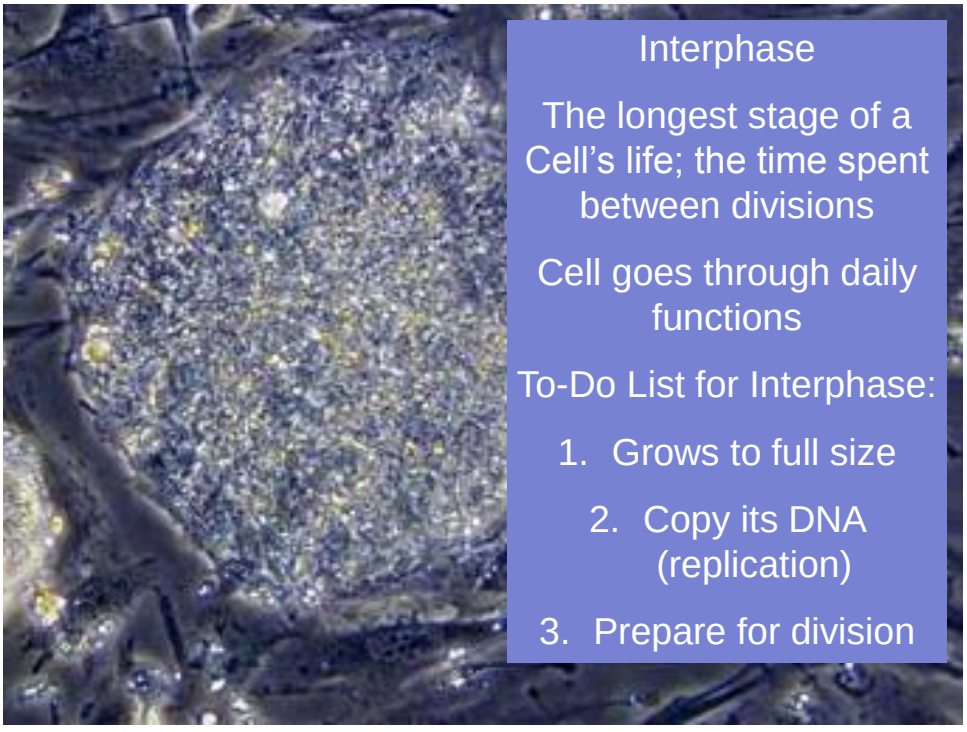
Takes place in Regular Body Cells

Reasons for Mitosis: growth, repair, reproduction



The Basic Phases of a Cell's Life:

- Interphase
- Mitosis
  - Prophase
  - Metaphase
  - Anaphase
  - Telophase
- Cytokinesis



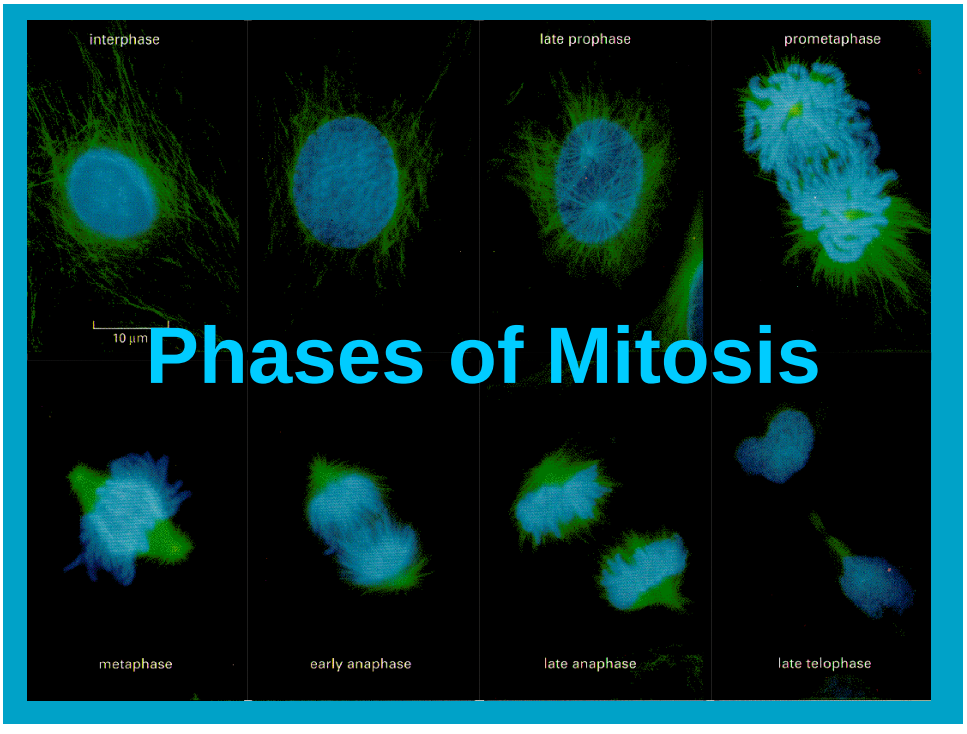
Interphase

The longest stage of a Cell's life; the time spent between divisions

Cell goes through daily functions

To-Do List for Interphase:

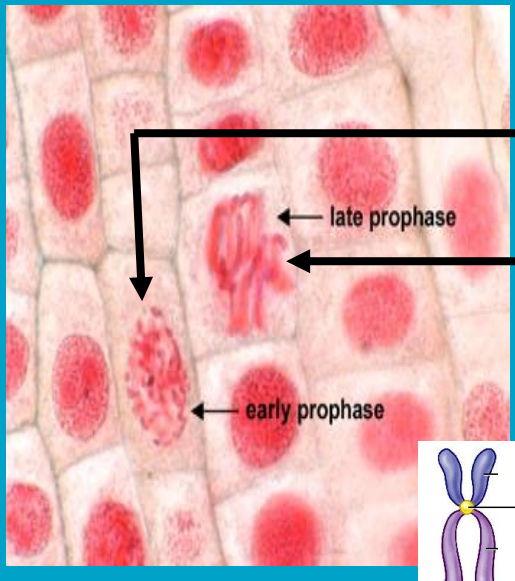
1. Grows to full size
2. Copy its DNA (replication)
3. Prepare for division

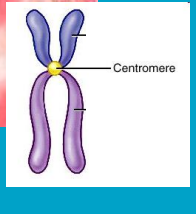


Prophase

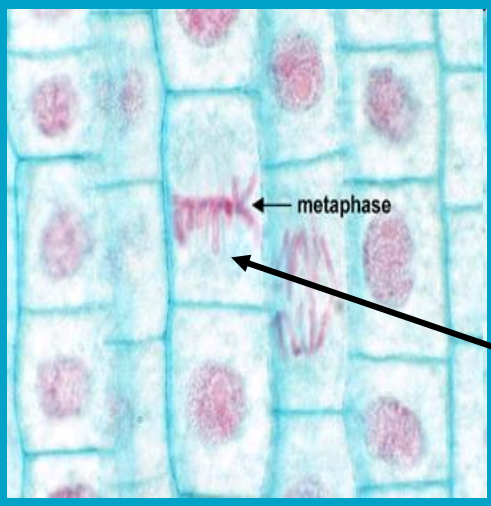
The Cell begins the division process

1. DNA condenses into chromosomes,
2. The nuclear membrane breaks apart





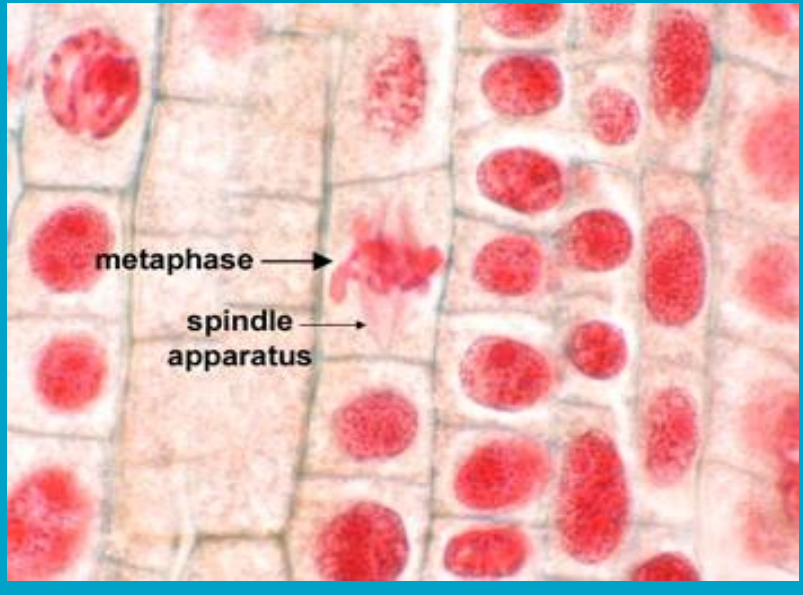
3. The chromosomes become visible
4. The spindle fibers form, attach to the centromeres of the chromosomes

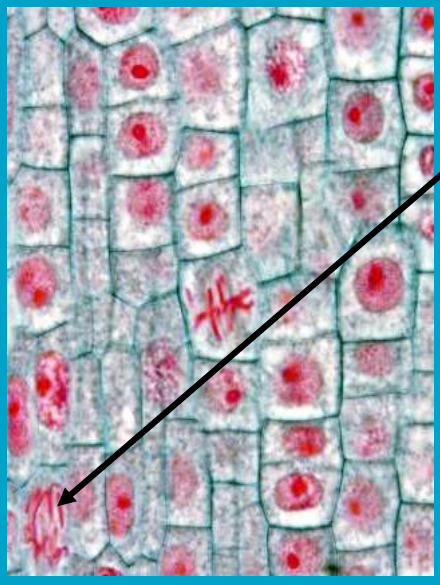


Metaphase

The Second Phase of Mitosis

1. The Nuclear Membrane is completely gone
2. The duplicated chromosomes line up along the MIDDLE of the cell.



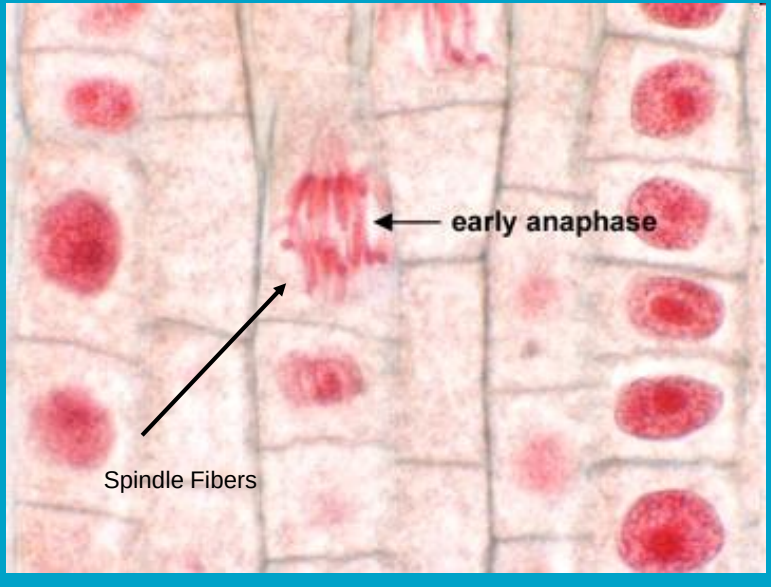


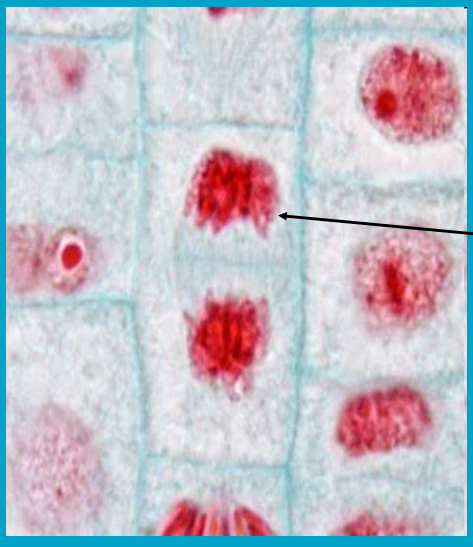
Anaphase

The third phase of Mitosis

The chromosomes (2 strands) are being pulled apart into chromatids (1 strand).

They are pushed and pulled toward opposite poles of the cell





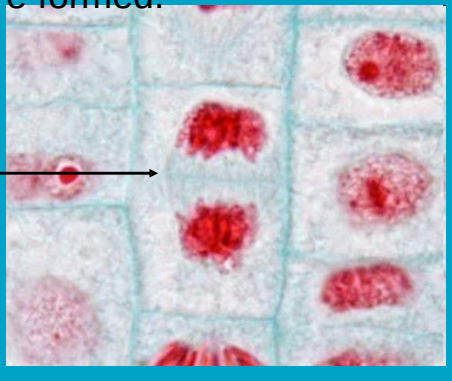
Telophase

The nuclear membrane reforms and 2 nuclei form in each new daughter cell

Cytokinesis – The final stage of the Cell Cycle

The cytoplasm, organelles, and nuclear material are evenly split and two new cells are formed.

Cell Plate (only in plant cells)



The two new cells – each exactly like the other – are called Daughter Cells

Click HERE to see a real cell in Mitosis