

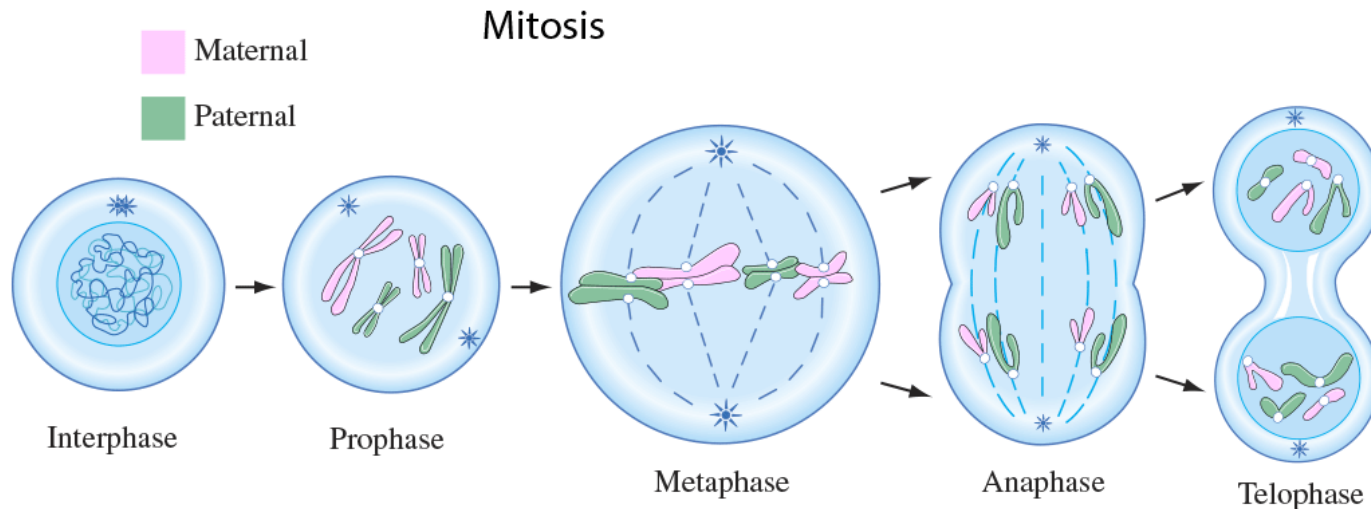
Mitosis

Division of the Nucleus

4 Phases of Mitosis

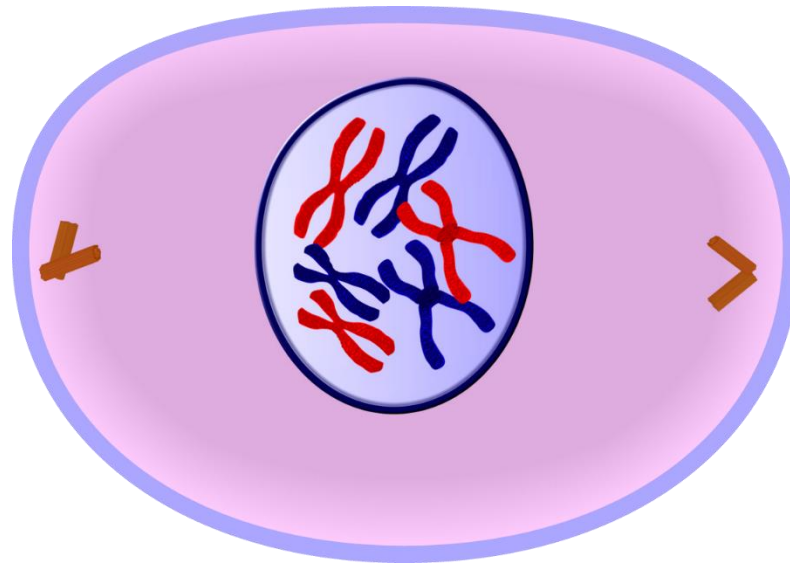
1. Prophase
2. Metaphase
3. Anaphase
4. Telophase

**MITOSIS STARTS WITH A
DIPLOID CELL!**



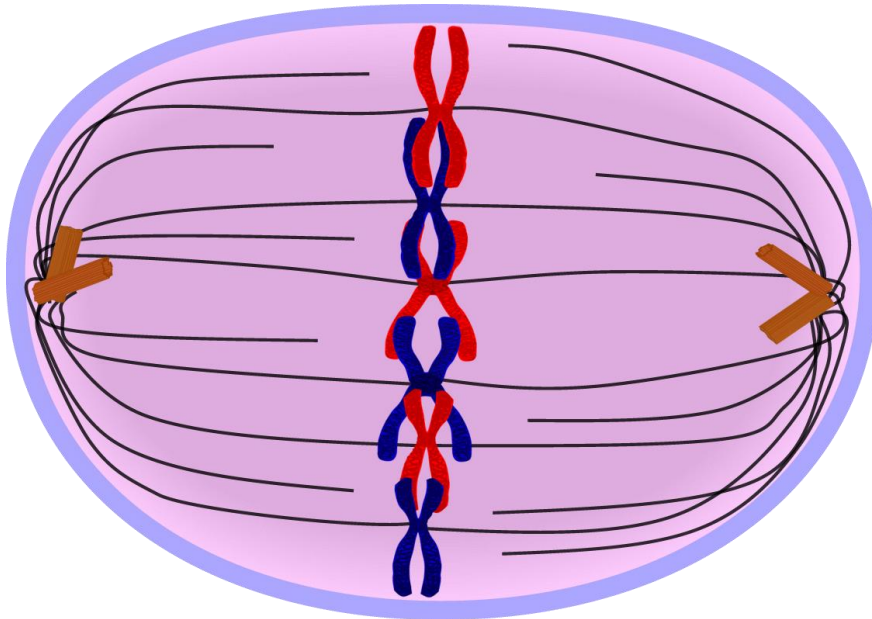
Mitosis - Prophase

- What happens during this phase?
 - Chromatin condenses into chromosomes
 - Centrioles separate
 - Spindle begins to form
 - Nuclear envelope breaks down



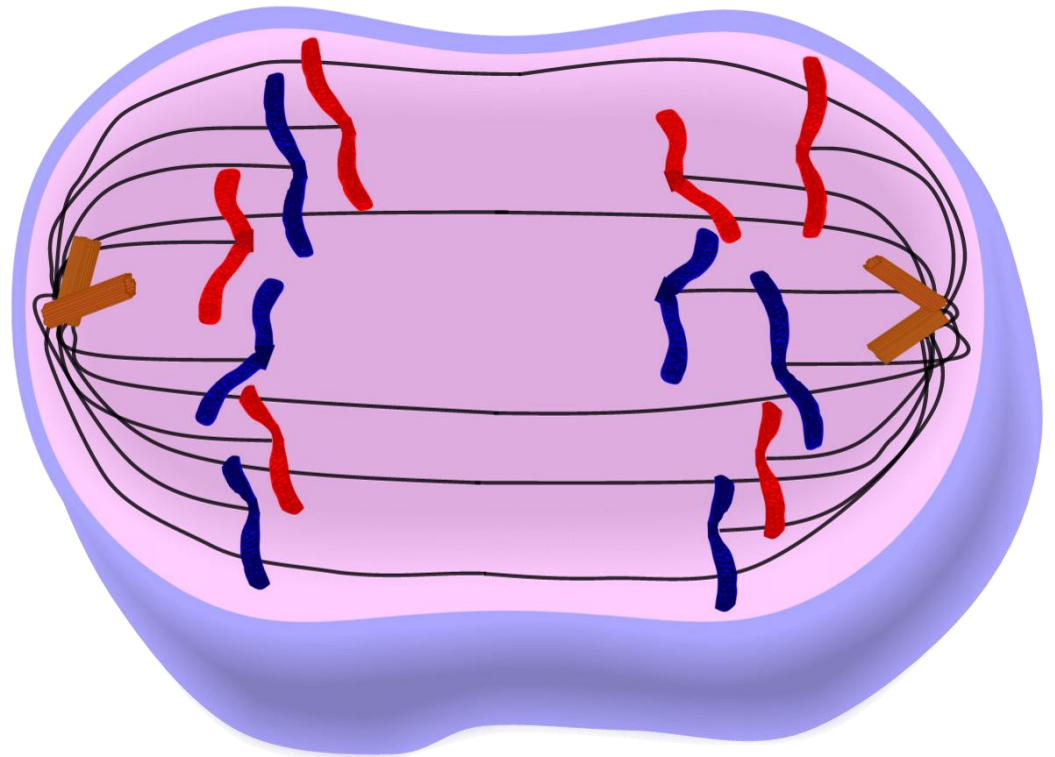
Mitosis - Metaphase

- Generally lasts only a few minutes
- What happens during Metaphase?
 - Sister Chromatids line up across the center of the cell
 - Each chromosome is connected to a spindle fiber at its centromere



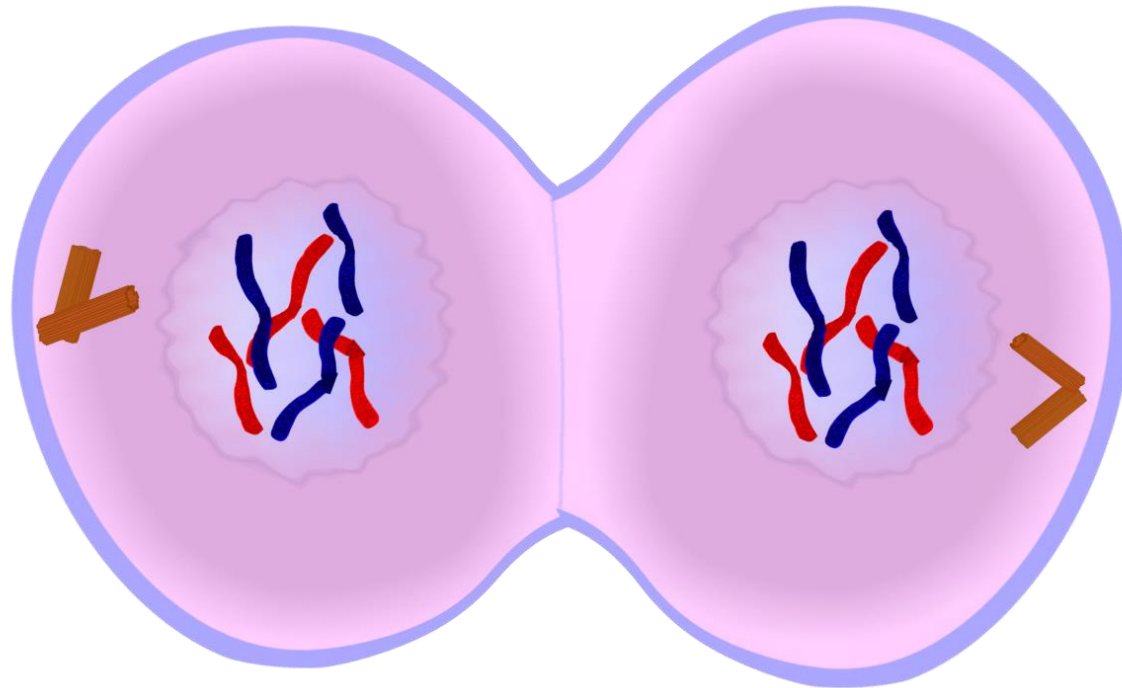
Mitosis - Anaphase

- What happens during Anaphase?
 - Sister chromatids separate into individual chromatids and move apart



Mitosis - Telophase

- What happens during Telophase?
 - Chromosomes gather at opposite ends of the cell and lose their distinct shapes
 - Two new nuclear envelopes form



Results of Mitosis:

- 2 Diploid daughter cells

Cytokinesis – dividing the cytoplasm

- Usually occurs at the same time as Telophase
- Animal cells – flexible cell membrane is drawn inward until the cytoplasm is pinched into two parts
 - Develop cleavage furrow
- Plant cells – cell plate forms midway between divided nuclei

