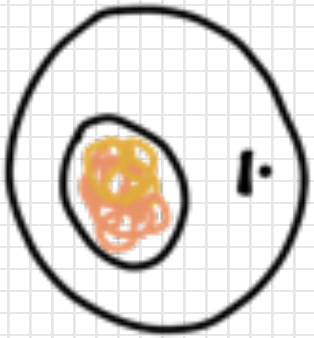
Mitosis

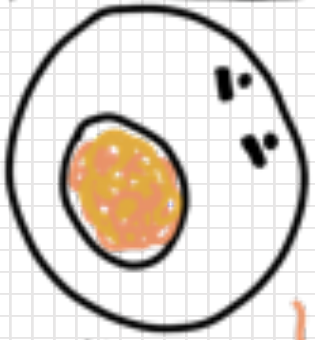
Starts

Parent cell



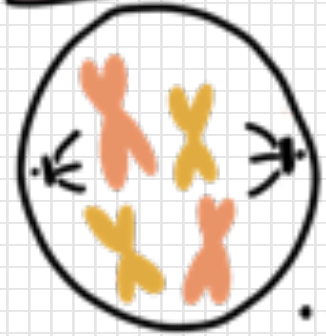
2n = 4

Interphase



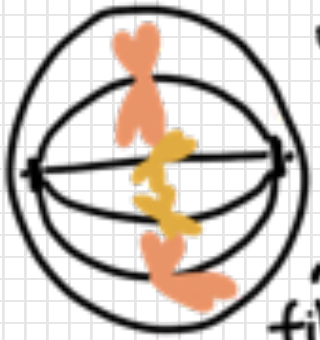
- DNA replication
- centrioles replicate

Prophase



- Loss of nuclear envelope, nucleolus
- condensation of chromatin threads into chromosomes
- mitotic spindle forms
- centrioles move to opposite ends of cell

Metaphase



- centromeres of chromosomes are attached on spindle fibres
- chromosomes move along spindle fibres until they line up along the equator

Anaphase

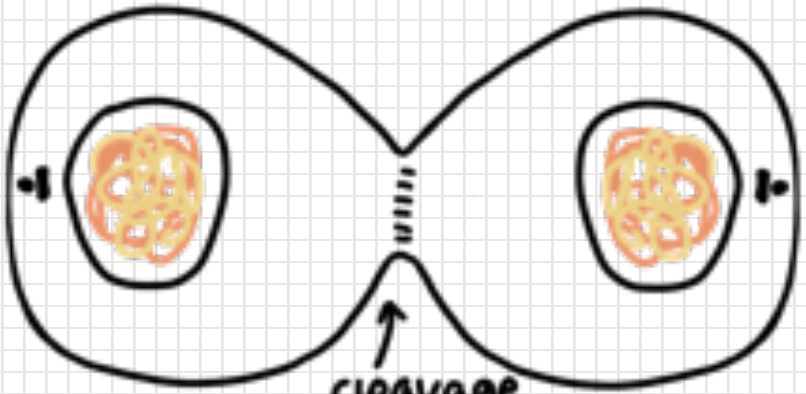
- centromeres split, spindle fibres shorten
- sister chromatids separate → now called daughter chromosomes
- daughter chromosomes move to opposite poles of cell

Telophase

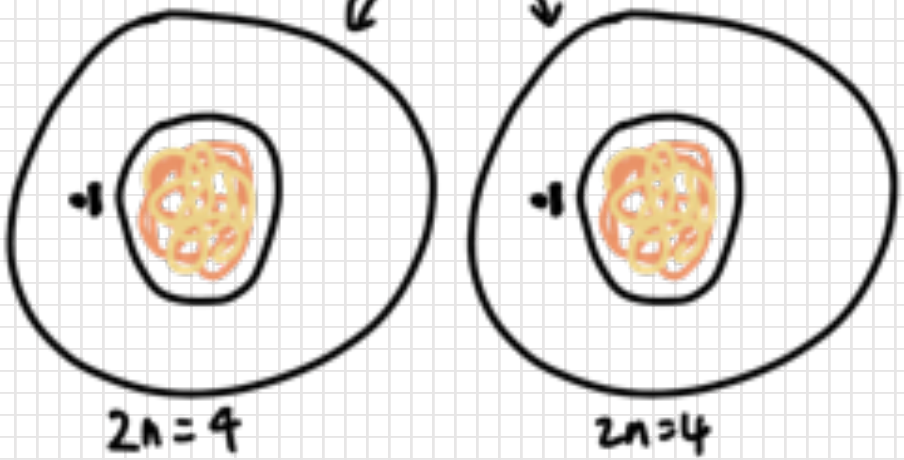
- Nuclear envelopes reappear around the chromosomes at each pole
- chromosomes uncoil to form chromatin threads
- Nucleoli reappear
- mitotic spindle breaks down

Cytokinesis

Animal cells



Cleavage furrow forms to divide the cytoplasm of the cell into two identical daughter cells



Plant cells

- Formation of cell plate
  - Formed by vesicles from GA
  - Cellulose deposits on cell plate → cellulose cell wall

Importance of mitosis

- For growth
- For repair of worn-out parts
- For asexual reproduction