

NAME _____

HR _____

Cell Reproduction – Mitosis and Meiosis Outline

Need For Reproduction

- _____ is the life process in which _____ things produce other _____ things of the same _____.
- _____ is not _____ for the life of one individual _____.
- It is _____ for the continued _____ of a particular group of _____.

Cell Division

- All _____ arise from other _____ by cell _____.
- When _____ grow to a certain _____ they must either _____ or _____.
- If a cell continued to _____ without _____, the surface _____ of the _____ would become too _____ to hold the cell's _____.

Cell Division

- Cell _____ is a complex series of _____ in the _____ of a cell that leads to the _____ of _____ new _____.
- The new _____ are called _____ cells.
- The _____ of the daughter cells are usually _____ to each other and to that of the _____ cell.
- The _____ cells _____ and increase in _____ until they _____ and produce _____ more _____ cells.

- This process _____, resulting in organism _____ and _____.

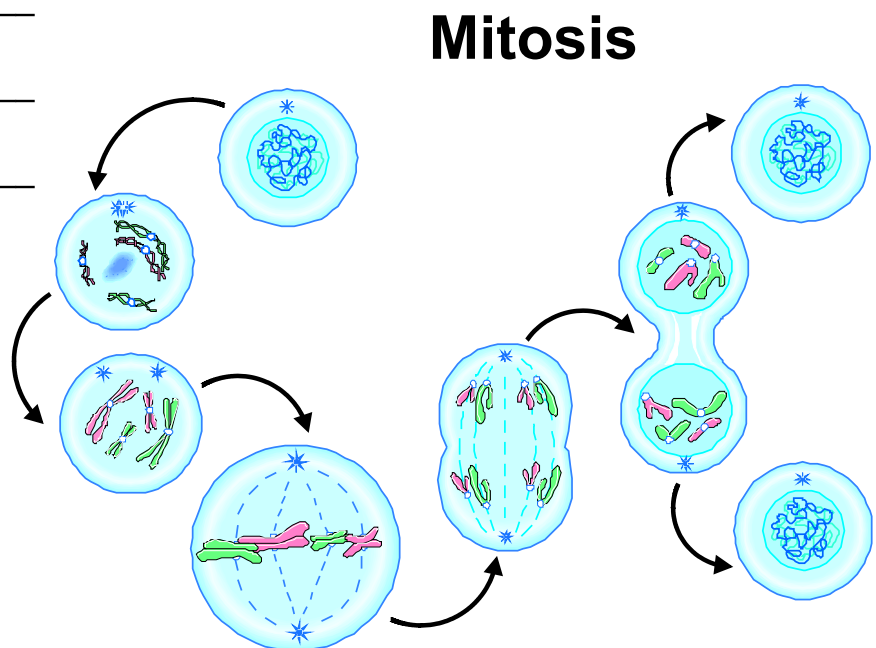
Mitosis

- All cells in the _____ (except _____ cells) are produced by the process of _____ cell division.
- _____ involves a complex series of _____ in the _____ of body cells that produce _____ (same) _____ cells.
 - They have the _____ number and _____ of _____ as the _____ cells.

The Cell Cycle – Stages of Mitosis

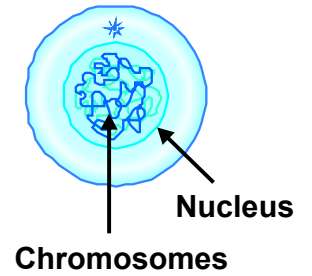
- Although the events of _____ are an ongoing process, they are generally described in terms of separate _____, or _____.

- _____
- _____
- _____
- _____
- _____



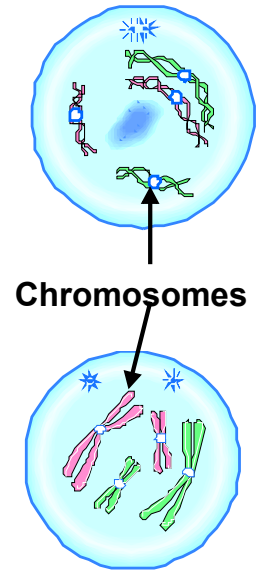
Interphase

- _____ is the period _____ cell _____.
- During _____, the single-stranded _____ replicate (make an extra _____).
- The _____ cannot be seen during _____.



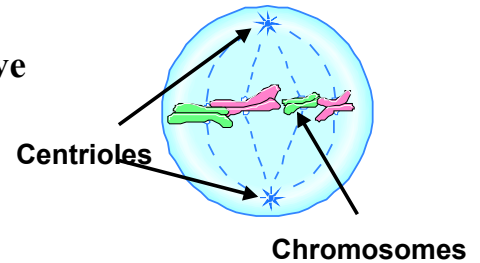
Prophase

- In _____, the double-stranded chromosomes become _____, and the _____ membrane _____.
- A _____ apparatus, consisting of _____, forms between opposite _____ of the cell.



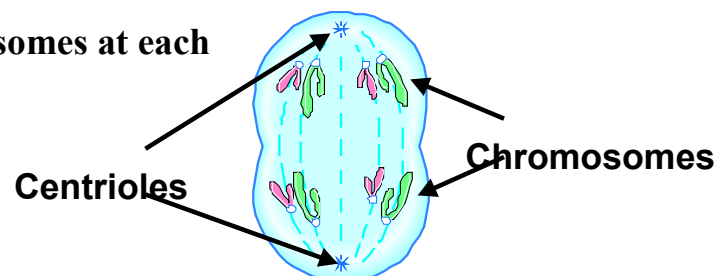
Metaphase

- During _____, the _____ move toward the _____ of the cell and _____ up at the cell _____ (midline).



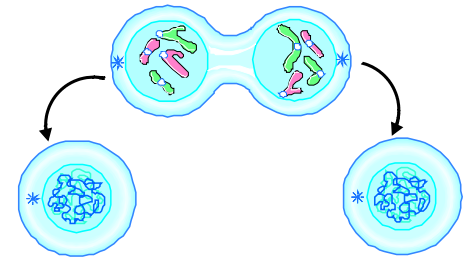
Anaphase

- During _____, the double-stranded chromosome _____ and move to _____ poles of the cell.
- There is a complete _____ of chromosomes at each _____ of the cell.

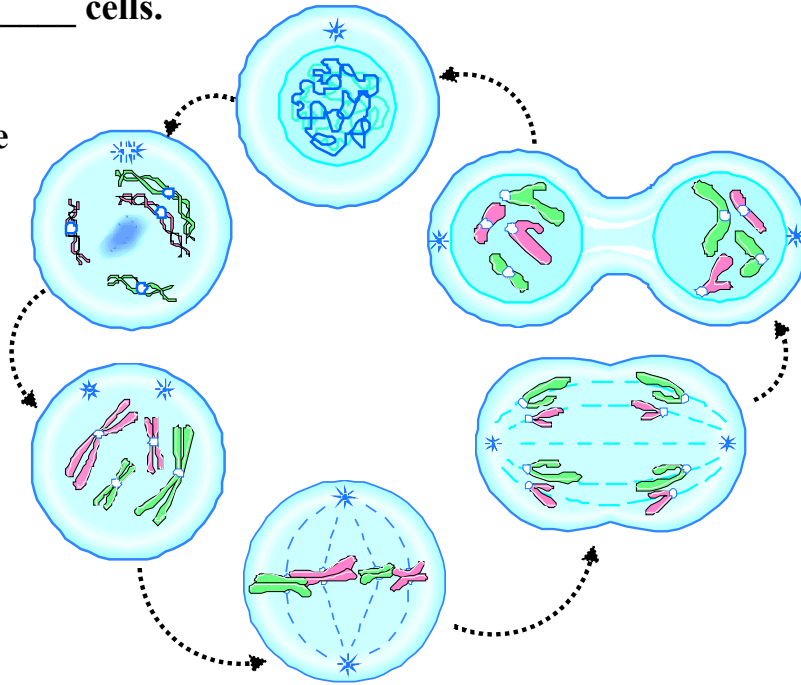


Telophase and Cytoplasmic Division

- The last stage of mitosis is _____.
- In telophase, a _____ membrane forms around each set of _____, forming two identical _____. At the end of mitosis, the _____ divides, forming _____ new identical _____ cells.



The Cell Cycle

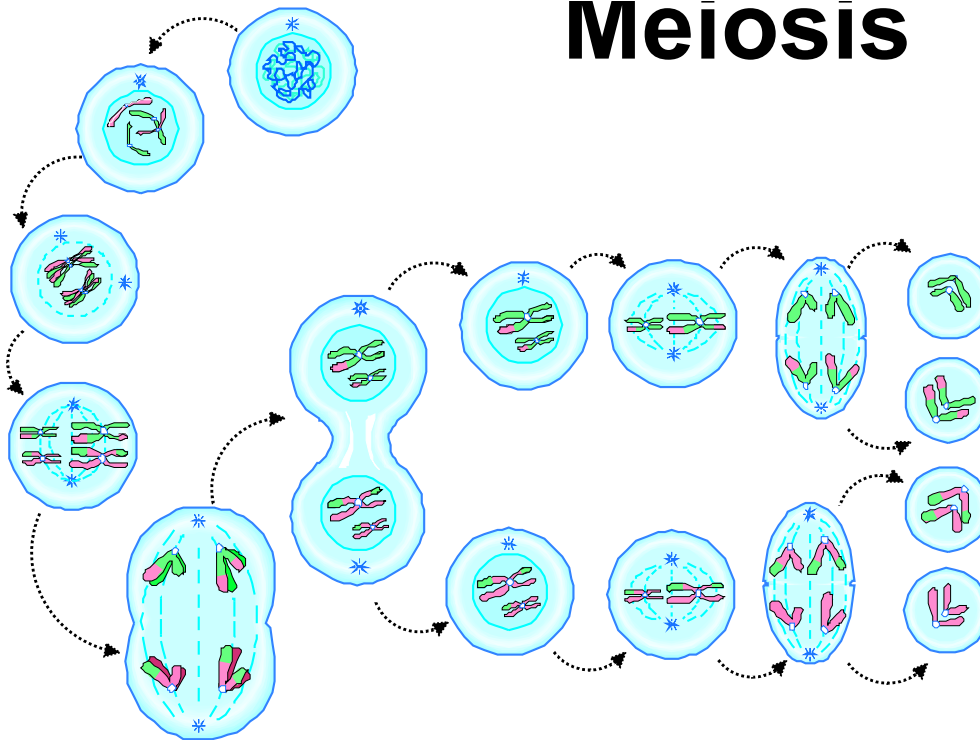


Meiosis

- The process of _____ involves _____ cell divisions and produces cells that are _____ from the _____ cell.
 - _____ produces cells that have _____ the number of _____ as the _____ cells.
 - If _____ did not take place, the _____ egg would have _____ the amount of _____ it needs.

- Meiosis takes place during _____ reproduction when _____ cells, called the _____ and _____, are produced in _____ organs.

Meiosis



Meiosis

- One-half the number of _____ is called the _____, (or n) number.
 - In humans, the _____ number (n) is _____.
- When the _____ and _____ unite during _____, the species normal chromosome number called the _____ or ($2n$) number is restored (brought back).
 - The _____ number in humans is _____.
 - _____ (sperm) + _____ (egg) = _____

Comparison of Mitosis and Meiosis

<u>Characteristic</u>	<u>Mitosis</u>	<u>Meiosis</u>
Number of daughter cells		
Number of cell division		
Daughter cells are diploid or haploid		
Daughter cells are identical or different		
Parent cell is diploid or haploid		