

Meiosis: process of producing gametes or sex cells that may be fertilized that could form a baby. It is fertilization that causes a baby to start not meiosis. After fertilization, baby grows through mitosis.

- Two types of reproduction:
 - sexual: chromosomes from two parents are passed on to the offspring
 - Asexual: chromosomes from a single parent (amoeba)
- **Meiosis**: divides a single cell into four cells. Each daughter cell (four) will have half the number of chromosomes we started with.
- **Homologous chromosomes**: chromosomes arranged in pairs, same genes in the same sequence and have the same structure.
- Two main steps in Meiosis
 - 1st phase in which we divide the number of chromosomes in half
 - 2nd phase: we split the remaining chromosomes (mitosis)

Meiosis

- **Meiosis is the type of cell division that produces cells for sexual reproduction.**
- **When an egg and sperm form they make a diploid cell called a **zygote****
- In body cells, chromosomes are found in pairs that have the same structures and size.
- **Homologous Chromosomes:** have the same genes in the same sequence.
- Sex cells are called **gametes**, are haploid cells and contain homologous chromosomes.
- During Meiosis, one diploid cell undergoes two cycles of division to produce four haploid cells.
- **During Meiosis I**, chromosomes condense and pairs line up, then separate randomly and are distributed to one of the two new nuclei. The two new cells each have one of the duplicated homologous chromosomes from each pair.
- **During Meiosis II**, duplicated chromosomes separate resulting in 4 haploid cells.
- After sex cells join, they have full complement of chromosomes. They are no longer sex cells but rather body cells.

Mitosis VS Meiosis

- **Mitosis:**

- produces 2 cells that are genetically identical to the parent cell.
- Used for growth, repair, or asexual reproduction

Meiosis:

produces haploid cells

produces sex cells for sexual reproduction