

Chromosomes and Meiosis

What is meiosis?

Meiosis is a process that cells (cell division) go through to create gametes in humans and spores in plants for sexual reproduction.

This occurs in both the egg of the mothers and sperm of the father. The number of chromosomes is reduced from two sets to one in each of the daughter cells (it's halved).

The gametes/spores are referred to as haploid because they only contain one set of chromosomes—one chromosome from each homologous pair.

Where does meiosis take place?

Meiosis happens in the reproductive organs in mammals

- The process by which sperm cells develop in the testes is known as spermatogenesis.
- The process by which egg cells, or ova, originate in the ovaries is known as oogenesis.

Meiosis also occurs in plants when spores are formed in sporangia. Plants that produce seeds:

- Microsporangia are the name for the pollen sacs found in male anthers.
- Megasporangia are the name for the ovules seen in the ovaries of females.

Why is meiosis important?

Meiosis produces gametes by randomly assembling chromosomes along the equator of the cell, ensuring a constant number of chromosomes throughout the cell's life cycle. While this happens genetic variation is achieved through cross over.

