

# Meiosis

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# Video animations - MEIOSIS

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<https://www.youtube.com/watch?v=kQu6Yfrr6j0&t=296s>

# Key words from the first video

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- **Meiosis:** Cell division producing gametes (sex cells).
- **Gametes:** Haploid cells (sperm in males, eggs in females).
- **Meiosis I and Meiosis II:** Two stages of cell division in meiosis.
- **Phases of Meiosis I:** Prophase I, Metaphase I, Anaphase I, Telophase I.
- **Phases of Meiosis II:** Prophase II, Metaphase II, Anaphase II, Telophase II.
- **Tetrad:** Group of four sister chromatids in paired homologous chromosomes.
- **Synapsis:** Pairing of homologous chromosomes during prophase I.
- **Crossing Over:** Exchange of segments of alleles between homologous chromosomes.
- **Genetic Diversity:** Result of crossing over, contributing to different gene combinations.
- **Cytokinesis:** Separation of cytoplasm, forming haploid daughter cells.
- **Haploid Daughter Cells:** Result of meiosis I, containing paired sister chromatids.
- **Prophase II:** Beginning of meiosis II, nuclear membrane disappears, spindle fibers form.
- **Metaphase II:** Chromosomes line up at the equator, attach to spindle fibers.
- **Anaphase II:** Sister chromatids separate, move to opposite poles.
- **Telophase II:** Spindle fibers disappear, nuclear membranes reform, cytokinesis occurs.

# Key words from the video

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- **Key Points about Meiosis:** Diploid cell start, production of genetically different haploid gametes.
- **Alleles:** Different versions of the same gene on homologous chromosomes.
- **Genetic Variety:** Result of crossing over, explains differences in offspring.
- **Homologous Chromosomes:** Chromosomes with similar but not necessarily identical genes.
- **Independent Assortment:** Random alignment of homologous chromosomes, adding to genetic diversity.
- **DNA Replication:** Occurs before meiosis I, not before meiosis II.
- **Unique Gametes:** Result of the combination of independent assortment, crossing over, and random pairing of gametes during sexual reproduction.