

# Mitosis vs. Meiosis

Mitosis	Meiosis
Produces body cells ( <i>Somatic cells</i> )	Produces sex cells ( <i>Gametes</i> )
Daughter cells are <i>diploid</i> (2N)	Daughter cells are <i>haploid</i> (N)
Two daughter cells are produced	Four daughter cells are produced
In metaphase, chromosomes line up singly	In metaphase I, chromosomes line up as <i>homologous pairs</i> ( <i>synapsis</i> ) The two double chromosomes are called a <i>tetrad</i> when they are lined up side-by-side. <i>Crossing over</i> occurs during the formation of the tetrad
One nuclear division	Two nuclear divisions
Produces cells for growth and repair	Produces cells for sexual reproduction
Daughter cells have two full sets of chromosomes	Daughter cells have only one full set of chromosomes (one member of each pair of homologues)
Ensures that all daughter cells are genetically identical	Generates genetic diversity through crossing over and random separation of homologous pairs of chromosomes

*Key terms that you should know are in italics.*