

TABLE COMPARING MITOSIS AND MEIOSIS

	MITOSIS	MEIOSIS
Number of divisions	One	Two
Number of cells produced	2	4 (tetrad)
Chromosome sets (=n)	1n → 1n; 2n → 2n	2n → 1n
Purpose	Vegetative growth	Sexual reproduction; produce spores to start gametophyte generation, or produce sex cells (gametes) directly (most animals)
Site	In plants, apical and root meristems and vascular cambium	In plant, microsporangia and megasporangia
<u>Cell Division Phase</u>		
Prophase I	Chromosomes duplicate (chromatids); chromosomes do not pair	Chromosomes duplicate (chromatids); like chromosomes pair
Metaphase I	Chromosomes (paired chromatids) line up at equatorial plate	Paired Chromosomes (4 chromatids) line up at equatorial plate
Anaphase I	Chromatids separate	Chromosomes pairs separate; chromatids stay together
Telophase I	2 identical cells formed Voilà you're done!	2 nuclei or cells formed; each with one set of chromosomes as paired chromatids
Prophase II		Chromosomes, as paired chromatids condensed, distinct
Metaphase II		Paired chromatids at equatorial plate
Anaphase II		Separation of chromatids
Telophase II		Formation of 4 nuclei or cells; each haploid (1n)