

DIFFERENCES IN CELL DIVISION

MITOSIS	MEIOSIS
One division	Two divisions
No synapsis	Synapsis of homologous chromosomes
No crossing over	Crossing over
No independent assortment	Independent assortment
Occurs in all parts of body	Occurs ONLY in gonads
New cells IDENTICAL to parent cell (NO VARIATION)	New cells DIFFERENT from parent cell (VARIATION)
Two cells	Four cells
New cells: same number of chromosomes as parent cell ($2n \rightarrow 2n$)	New cells: half the number of chromosomes as parent cell ($2n \rightarrow 1n$)
Somatic cells	Sex cells
ASEXUAL	SEXUAL

KEY WORDS

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| <ul style="list-style-type: none"> • binary fission • chromatin • chromosomes • chromatid (sister) • centromere • kinetochores • centrioles • asters • spindle fibers • karyokinesis • karyotype • interphase (G_1, S, G_2) • prophase • metaphase • anaphase • telophase • cytokinesis • cleavage furrow • cell plate • growth factors • density dependent inhibition • restriction points | <ul style="list-style-type: none"> • Cell size • Regulatory proteins <ul style="list-style-type: none"> • MPF • cyclin • CdK or cdc2 • locus • homologous chromosomes • tetrad (or bivalent) • chiasmata (chiasma) • synapsis • crossing over • metaphase plate • independent assortment • variation • sex chromosomes • autosomes • polar bodies • gametes • haploid • diploid • syngamy • zygote |
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