

Meiosis vs. Mitosis Cheat Sheet

Differences Between Mitosis and Meiosis		
Event	Mitosis	Meiosis
Where it Occurs	May occur in all body cells - Body cells Growth and repair of body tissues	Only in reproductive cells , Produces Gametes - Reproductive cells
# of Divisions	A single division resulting in 2 cells	A double division resulting in 4 cells
# Chromosomes in Daughter Cells	Same number of chromosomes (2n) - Diploid	Half the number of chromosomes (n) - Haploid
Genetic Variation in Daughter Cells	Daughter cells are genetically identical with each other and the parent cell	Daughter cells are genetically different from each other <i>and</i> the parent cell
Events in Prophase	Near the end of Interphase chromosomes condense, and spindle fibers form to prepare for division (Mitosis, Meiosis I, Meiosis II) Nuclear membrane breaks down. Homologous chromosomes do not pair up No crossing over occurs in Mitosis	Near the end of Interphase chromosomes condense, and spindle fibers form to prepare for division (Mitosis, Meiosis I, Meiosis II) Homologous chromosome , and their copies, pair up in Prophase I. Crossing over occurs. Nuclear membrane breaks down in Prophase I and II
Events in Metaphase	Individual chromosomes , and their copies (sister chromatids) arrange on the equator	Pairs of homologous chromosome , and their copies, arranged next to each other on equator (Metaphase I) Sister Chromatids line up on equator (Metaphase II)
Events in Anaphase	Centromere splits and chromatids separate	Chromatids stay joined together and the homologous chromosomes separate (Anaphase I) Sister Chromatids separate (Anaphase II)
Events in Telophase	Results in the formation of two new daughter nuclei, each having the same # of chromosomes as the parent cell (Diploid) Cytokinesis follows Telophase	2 new daughter nuclei with 23 chromosomes & their copies (Sister chromatids) (Haploid) (Telophase I) 4 new daughter nuclei, each having half the # of chromosomes (Haploid) as the parent cell (Telophase II) Cytokinesis follows Telophase I & II

Name: _____ Date _____

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