Cheatography

Chromosomal Basis of Heredity Cheat Sheet by pokemonsz via cheatography.com/44231/cs/13104/

Meiosis I Prophase I Chromosomes condense, 2N homologous pairs align, synapsis (precise alignment, ensires 1 copy of each gene in a daughter cell). Synapsed set called a tetrad (4 chromatids). Then, crossing-over occurs (exchange of chromosome segments between pairs of homologous chromosomes, or nonsister chromatids). Chiasma forms, visible structure from crossover. X and Y chromosomes pair and synapse thru terminal ends (PARs). Metaphase Nucleoli and envelope 2N broken down, centroiles w/ spinde enternuclear area, kinetechore microtubules attach to sister kinetochores, tetrads align at metaphase plate. Anaphase Chromosomes of tetrad 2Nseparate (now dyads). Ν Sister chromatids remain attached at centromeres. DNA content is halved. Telophase Spindles dissasemble, Ν cytokinesis forms two haploid cells.

	Figure 12.9 The stages of meiosis in an animal cell.		
	Early prophase I Circomocrose, already duplicated, become visible. Controlled pains begin apparation and a spindle forms believes them.	Middle prophase I e Hondrogous chromosomes shorten and thicken. The chromosomes synapse and crossing-over occurs.	Late prophase I Prometaphase I Results of crissing-over brooms visible as oriestants. Naciate arrestings the treats down Marcia guide enters the terms affact to the chromosome. Metaphase I Kristochove
12 0	Telophase II		microtubules align each chromosome pi (the tetrads) on the
Chapter 12 Chromosomal Basis of Inheritance	- COECO	4 gametes	metaphasa plata.
s of Inheritance	6669	Q Q-	Anaphase I Chromosomes in each fetrad
-	Anaphase II		separate and begin migrating toward opposite poles.
-			
			Telophase I Chromosomes (each with two sister chromatids) complete migration to the poles and new nuclear envelopes
	Metaphase II		may form. (Other sorting patterns are possible.)
		Prophase II	
			Cytokinesis In most species, cytokinesis occurs to produce two cells. Chromosomes do not regiscate before miscais III.

Meiosis II			
Prophase II	Chromosomes condense and spindles form, kinetochores attach to tubules		
Metaphase II	Alignment on metaphase plate.		
Anaphase II	Centromeres separate, daughter chromosomes (still haploid) pulled to opposite sides.		
Telophase II	Chromosomes decondense, nuclear envelope forms, cytokinesis. Four haploid cells produced, each with one chromosome from each		

homologous pair.

Meiosis Results

- ♥ Generates haploid nuclei with half the number of chromosomes found in diploid cell.
 (2N -> N) Diploid number restored in fertilization.
- ♥ Independent assortment of genes paternal and maternal chromosomes have an equal chance of aligning on one side of metaphase plate.
- ♥ Number of chromosome arrangements is 2ⁿ⁻¹, n= # chromosomes pairs (haploid number).
- ♥ Number of chromosome combinations resulting from *independent assortment* is 2ⁿ (number of different *gametes*).
- ♥ Number of kinds of genotypes is 3ⁿ.

Ploidy				
Haploid	ONE copy of each chromosome. (N)			
Diploid	TWO copies (homologues) of each chromosome. (2N)			
Homologous pairs	Same gene loci, structure, and pair during meiosis.			
Genes				

Allele Alternative forms of a single gene on the same locus that determine the same trait, but can produce different



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