# Cheatography

#### Meiosis Interphase DNA is Prophase Metaphase X ne up at equate X Anaphase I nes pulled apart Telophase I & Cytokinesis X X Cell ninches in the middle Prophase II Two daughter cells X Metaphase I Chro es line up at equato Anaphase II ()() omatids pulled apar Telophase II & Cytokines E H, Cell ninches in the m 2n - diploid

# Genetic Diversity

#### Meiosis I:

-Separation of the homologous chromosomes allows each gamete to receive haploid (1n) set of chromosomes (both maternal and paternal chromosomes) -Homologous chromatids exchange genetic material via "crossing over" (recombination) a. Increases genetic diversity among the resultant gametes Increase Variation:

-Sexual reproduction

 a. Crossing over, random assortment of chromosomes during meiosis, and subsequent fertilization of gametes



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## Non-Mendelian Genetics

Phenotypic ratios differ from predicted ratios			
Linked genes	Genes on the same chromosome		
Recomb- ination frequency	(# of recombinants/total # in population) x 100 = () LMU		
Multiple alleles	More than 2 alleles present in a population (I <sup>A</sup> , I <sup>B</sup> , i)		
Incomplete dominance	Traits "blended"; neither dominant		
Co-dom- inance	Both traits displayed (spots, strippes etc.)		
Sex- Linked	X or Y linked traits		
Barr Body	Inactivated X chromosome in each female mammal's somatic cell		
Non-nu- clear	Chloroplasts and mitoch- ondria are randomly assorted to gametes and daughter cells (both maternally inherited in plants and animals)		

### **Di-Hybrid Cross**

	AB	Ab	aB	ab
AB	AABB	AABb	AaBB	AaBb
Ab	AABb	AAbb	AaBb	Aabb
aB	AaBB	AaBb	aaBB	aaBb
ab	AaBb	Aabb	aaBb	aabb

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#### Laws of Mendelian Genetics

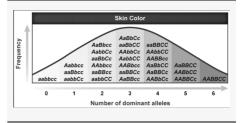
Law of Dominance: when inherited heterozygous, the allele expressed is dominant and the allele not expressed in recessive

Law of Segregation: (1) The two alleles for each trait segregate, during the formation of gametes (2) During formation of new zygotes, the alleles will combine at random with other alleles

Law of Independent Assortment: different genes and their alleles are inherited independently

Types of Crosses		
Monohybrid	LI x LI; phenotype ratio=3:1; genotype ratio=1:2:1	
Dihybrid	LIPp x LIPp; 4 types of gametes; phenotype ratio =- 9:3:3:1	
Test Cross	T_x tt to determine unknown genotype	

# **Polygenetic Traits**



Blending of multiple genes, identified by bell curve distribution

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# AP Bio Unit 5: Heredity Cheat Sheet by PrincessB3ll3 via cheatography.com/122525/cs/22786/