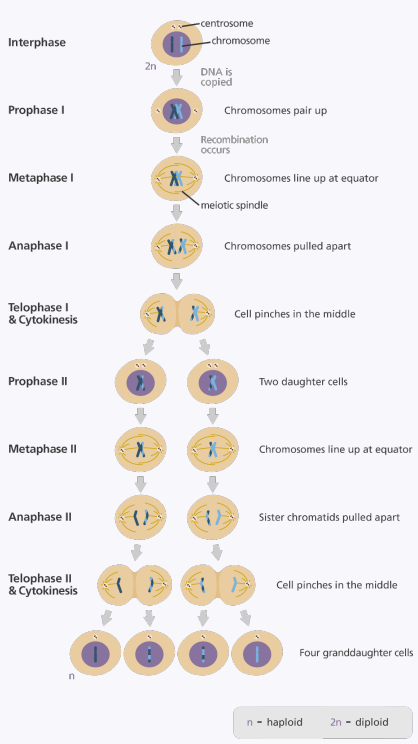
AP Biology Unit 7: Genetics Cheat Sheet

by hlewsey via cheatography.com/36676/cs/11720/

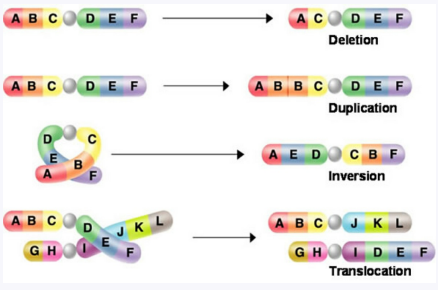
Meiosis



Mutations

mutation	genetic or chromosomal (deletion, inversion, translocation, polyploidy) abnormality
karyotype	diagram that shows size, #, & shape of chromosomes
nondisjunction	failed separation of homologous chromosomes➞aneuploidy(trisomy, polyploidy

Chromosome Mutations



Mendelian Laws

Law of Dominance

> offspring of 2 organisms that are homozygous for 2 opposing traits will be hybrid but will only exhibit the dominant trait and not the recessive trait

Law of Segregation

> during formation of gametes, the 2 traits carried by each parent will separate

Law of Independent Assortment

> alleles of a gene for one trait segregate independently from alleles of a gene for another trait (applies w/dihybrid cross)

Genes

linked	genes on the same chromosome
sex-linked	traits carried on X chromosome
linkage mapping	↑ distance between genes on chromosome= ↑ chance of separation by crossing over
recombination frequency	=total recombinants/total # offspring x100
pedigree	used to determine how traits are inherited
Barr body	inactivated X chromosome in each female mammal's somatic cell➞genetic mosaic

Types of Crosses

monohybrid cross	Tt x Tt; phenotype ratio=3:1; genotype ratio=1:2:1
testcross	B/__ x b/b to determine B/__'s genotype
dihybrid cross	TtYy x TtYy; can produce 4 types of gametes & phenotype ratio=9:3:3:1

Dihybrid 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*

Types of Inheritance

incomplete dominance	hybrids show blending of traits
codominance	hybrids show both traits
multiple alleles	more than 2 allelic forms
pleiotropy	1 gene affects an organism in several/many ways
epistasis	2 genes, 1 trait; 1 masks expression of the other
polygenic	blending of several genes that vary along a continuum

By **hlewsey**
cheatography.com/hlewsey/

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