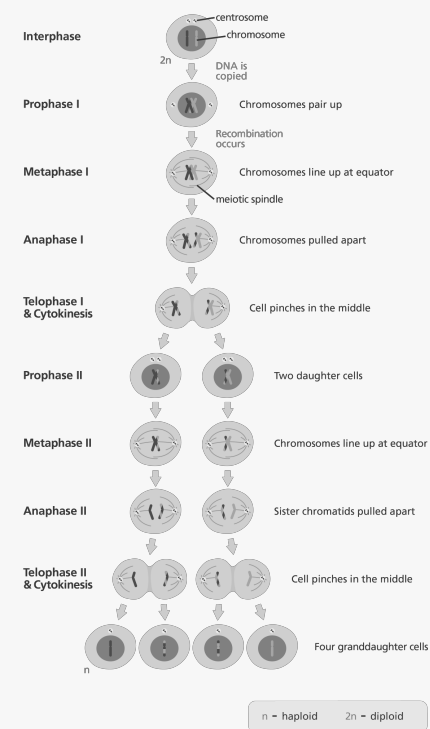


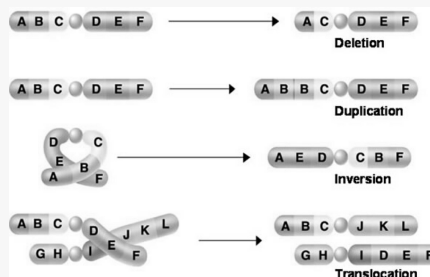
Meiosis



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 x 100
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