

New Terms - Classical Genetics (by Mendel)

- diploid cells** - cells that have a double set of chromosomes, one from each parent
- haploid cells** - cells that have a single set of chromosomes
- gametes** - haploid cells or sex cells
- genes** - segments of DNA molecules that define a certain trait or characteristic in organisms.
- alleles** - different forms of the same gene. Remember that because of sexual reproduction, the offspring receives one gene for each trait from each parent.
- homozygous** - two identical alleles present for the same characteristic
- heterozygous** - two different alleles present for the same characteristic
- dominant** - when one allele is expressed (shown) over another; often expressed with a capital letter (A).
- recessive** - the overshadowed allele; often expressed by a small letter (a).
- genotype** - all the genes present in an organism
- phenotype** - the observable traits in an organism, also known as gene expression
- P** - parental generation
- F1** - first generation offspring
- F2** - second generation offspring
- homozygous dominant** - individual has a pair of dominant alleles (AA)
- heterozygous dominant** - individual has one dominant and one recessive allele (Aa)
- homozygous recessive** - individual has a pair of recessive alleles (aa)
- gene locus** - the location of a gene on the chromosome; the plural is loci
- law of dominance** - when organism has two different alleles for the same trait, one allele dominates.
- law of segregation** - diploid cells have pairs of genes, and during meiosis the two genes of each pair separate and end up in different gametes.
- law of independent assortment** - gene pairs of homologous chromosomes are sorted into one gamete or another independently of how gene pairs on other chromosomes are sorted.
- Punnett square** - a boxed figure used to determine the probability of genotypes and phenotypes in offspring.
- incomplete dominance** - when no single trait is dominant, but the allele combination blends.
- multiple alleles** - there are more than two alleles for a single trait; blood type is an example
- polygenic inheritance** - when a trait is determined by the interaction of genes on several chromosomes.
- gene linkage** - the transfer of a linkage group
- linkage group** - genes that are inherited together and are located on the same chromosome
- sex linkage** - traits that are linked to sex chromosomes

sex chromosomes - chromosomes that determine the sex of an individual; there are two types - the X chromosome and the Y chromosome. Females have two X chromosomes and males have an X and a Y chromosome.

autosomes - all of the other chromosomes besides the sex chromosomes. The other 22 pair in humans.