**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.