



Introduction to Basic Genetics: Historical Genetics

Genetics: The science of how traits are inherited through alleles from one generation to the next.

Heredity: Passing on of traits from parent to offspring.

Traits: Characteristics that an organism has. (ie: tall, short, blue eyes, 5 fingers)

Alleles: Different forms of a gene.

Gene: Piece of a chromosome (segment of DNA) that controls a trait; controls genetic information about a trait.

Dominant: Form of an allele that masks or hides another allele for the same trait. Symbolized by a capital letter (ie: T, G, B)

Recessive: Form of a trait that is masked or hidden by another more dominant allele for the same trait. Symbolized by the lowercase letter (ie: t,g,b)

Homozygous: organism having two identical genes for a particular trait (ie: HH, hh)

Heterozygous: organism having two different genes for a trait (ie: Hh)

Punnett Square: diagram that shows possible gene combinations that an offspring can inherit from its parents.

	G	g
G	GG	Gg
g	Gg	gg

Parent Genes: mother genes go on the top of a Punnett Square, father genes go down the left side of the Punnett Square

Offspring Genes: Combine the genes of the parents (to find this: think of a times table. remember those from math?)

	2	3
2	4	6
3	6	9

Genotype: the actual gene combination of the traits the organism has. (ie: Gg)

Phenotype: the trait you actually see in an organism. (ie: Green eyes, Big feet)