

Definitions:

- Allele - Alternative forms of a gene occupying a position on a chromosome.
- Heterozygous - has two different alleles (example Rr).
- Homozygous - has two alleles the same (example RR or rr).
- Genotype - The genetic constitution of an organism.
- Phenotype - the appearance determined by the genotype (example red)
- Dominant - out of the pair of alleles this is the one which takes effect or appearance and is usually represented by a capital letter (example R)
- Recessive - An allele that affects the phenotype of the organism only if a dominant allele is not present.

Mendels 1st Law - Law of Segregation

Characteristics of an organism are controlled by pairs of alleles that separate in equal numbers into different gametes as a result of meiosis.

Mendels 2nd Law - Law of Independent Assortment

Two or more pairs of alleles segregate independently of each other as a result of meiosis, provided the genes concerned are not linked by being on the same chromosome.

Monohybrid Inheritance

Crossing two pure bred
Phenotype - Tall x Short
Genotype - TT x tt
Gametes T T x t t

T	T
t	Tt Tt
t	Tt Tt

F1 - All tall heterozygous offspring

T	t
T	TT Tt
t	Tt tt

F2 - Three tall, One Short Offspring. 3:1 ratio

Dihybrid Inheritance

Below is a video I found truly unique in the ways it looks at dihybrid inheritance.