

Vocabulary: Mouse Genetics (One Trait)



Vocabulary

- Allele – one of two or more forms that a gene could take.
- DNA – a molecule found in the cell nucleus that encodes genetic information.
 - DNA is short for *deoxyribonucleic acid*.
- Dominant allele – an allele that is always expressed when it is present.
 - Dominant alleles are usually represented by capital letters, such as *F*.
- Gene – a segment of DNA that determines or helps to determine a trait.
 - Most genes give instructions for building a particular protein.
 - Many familiar traits are determined by several genes.
- Genotype – the genetic makeup of an organism.
 - The alleles possessed by an organism are represented by symbols. For example, a mouse with white fur might have the genotype *ff*.
- Heterozygous – having two alleles that are different.
- Homozygous – having two alleles that are the same.
- Hybrid – the offspring of genetically different parents.
 - For example, the offspring of pure *FF* and *ff* parents is an *Ff* hybrid.
- Inheritance – the passage of genetic material from parents to offspring.
 - For each gene, an organism receives one allele from each parent.
- Phenotype – the physical appearance of an organism.
 - Organisms with different genotypes can have the same phenotype. For example, an *FF* mouse and an *Ff* mouse both have black fur.
- Punnett square – a diagram that shows the possible offspring of two parents.
 - Punnett squares allow you to determine the probability of each offspring genotype.
- Recessive allele – an allele that is not expressed when the dominant allele is present.
 - Recessive alleles are usually represented by lowercase letters, such as *f*.
- Trait – a characteristic of an organism.
 - Examples of traits include skin color, eye color, hair, allergies, and many others.