

Genes and Alleles

Genes are segments of DNA that code for a trait, like hair color, without coding for the specific characteristic, like the actual kind of hair color. Alleles are forms of genes that code for the specific characteristic. If the gene codes for hair color, one of the alleles for that gene could code for brown hair or blonde hair. Each child has two alleles for any gene. One allele comes from the father, and one allele comes from the mother. This is because one copy of genetic information was from the sperm, and one from the egg.



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A gene is a fragment of DNA that codes for a trait (hair color)

[Gene-Genie coming from Fragment of DNA with selection of Hair Colors](#)

A gene is a section of DNA that codes for a trait without coding for a specific characteristic. That means it codes for hair color, but not the kind of hair color.

An allele is a form of a gene that codes for a specific characteristic (brown hair)

[A-Eel Coding for Brown Hair Color](#)

An allele is a form of a gene that codes for the actual characteristic. If a gene codes for hair color, an allele for that gene can code for blonde hair or brown hair.

Half of a child's genes and alleles come from each parent

[Gene-Genie and A-Eel coming from each Parent](#)

A child receives half of his genes from his father and half from his mother. This is because half of the genes come from the sperm and half come from the egg. Once they fuse, the full set of genes comes together. Thus, children also have one allele from the father and one from the mother.