

**Organism** - an individual living thing

**Offspring** - the progeny or descendants of an organism

**Gene** - a hereditary unit consisting of a sequence of DNA that occupies a specific location on a chromosome and determines a particular characteristic or trait in an organism

**Allele** - one member of a pair of genes that are located on a specific spot on a chromosome that controls the same trait and can be passed down from parent to offspring

**Trait** - a genetically determined characteristic or condition. Traits may be physical, such as hair color, eye color or leaf shape, or they may be behavioral, such as nesting in birds and burrowing in rodents. Traits typically result from the combined action of several genes, though some traits are expressed by a single gene

**Phenotype** - the observable characteristics of an organism that are determined by genes and the environment (how an organism looks, an organism's physical appearance)

**Genotype** - the genetic makeup of an organism often represented by paired letters like HH, Hh or hh

**Recessive gene** - a gene that is only expressed physically when there are two copies of the gene present, represented by lowercase letters

**Dominant gene** - a gene that is expressed physically when at least one copy is present. If a dominant gene and a recessive gene are both present, the dominant gene will be represented by a capital letter(s)

**Homozygous** - when an organism has 2 copies of a gene that are both recessive, or both dominant (homozygous dominant: HH, CC, DD; homozygous recessive: cc, hh, dd)

**Heterozygous** - when an organism has 2 copies of a gene and one is recessive and one is dominant (Hh, Ch, Dd)

**Gregor Mendel** - a scientist who lived in the 1800s and worked with pea plants to complete some of the first experiments dealing with heredity and determining how traits are passed on from parent to offspring

**Punnett Square** - a diagram tool that helps show all possible combinations of genes in a cross of two parents with known genotypes in order to predict the probability of their offspring possessing certain sets of alleles