

TwoOldGuys™ Study Guides

BI114 Biological Concepts for Teachers

Chapter 3. Inheritance and Evolution

Vocabulary of Genetics

Based on Indiana's Academic Standards, Science, as adopted by the Indiana State Board of Education, Nov 2000.

Numbers refer to the age-appropriate grade-level for the content.

The 'language' of Genetics includes a relatively large number of terms which tend to be used less precisely than we established much earlier is necessary for both the writer and the reader to understand what is being described. The following are the definitions indicating how I intend to use the word in the later text (sections 3.1 through 3.5).

Vocabulary of Genetics

characteristic

= any recognizable feature of an animal or plant

trait

= any inheritable characteristic

"interesting" trait

= any trait under discussion (such as eye color in humans)

expression

= description of the trait as expressed in a particular animal or plant
(such as eye color = blue)

gene

= the genetic information for a trait, physically stored on the chromosome as a sequence of nucleotide bases

allele

= the specific genetic information stored on a particular chromosome at the locus for that gene

locus

= the physical location on the chromosome where the information for a gene can be found

chromosome

= physical structure where genetic information is stored

- located in cell nucleus
- consists of DNA and associated chromatin (protein)
- allele is sequence of nucleotide bases

phenotype

= list of the expressions of all 'interesting' traits

genotype

= list of alleles (usually symbolized as letters) for all 'interesting' traits

homozygous

= having two identical alleles for an interesting trait

heterozygous

= having two different alleles for an interesting trait

pure-bred

= animal/plant breeders term for "homozygous"

hybrid

= animal/plant breeders term for "heterozygous"

dominance

= condition in which heterozygote resembles the phenotype of one of the homozygotes

dominant

= the phenotype of the heterozygote and one homozygote, or the shared allele

recessive

= the non-dominant allele or associated homozygous phenotype

analogous chromosomes

= any two chromosomes with the same genes at the same loci