

SECTION QUIZ 6.4: Traits, Genes and Alleles

Choose the letter of the best answer.

- _____ 1. Which phrase best describes the term *genome*?
- the genetic makeup of a chromosome
 - the genes that make up an organism
 - the location of a specific set of genes
 - the sum of an organism's physical traits
- _____ 2. Hair color and eye color are examples of a person's
- recessive traits.
 - dominant alleles.
 - genotype.
 - phenotype.
- _____ 3. When an organism has two alleles at a particular locus that are different, the organism is called
- purebred.
 - dominant.
 - heterozygous.
 - recessive.
- _____ 4. If a pea plant were homozygous recessive for height, how would its alleles be represented?
- Tt
 - TT
 - tt
 - tT
- _____ 5. An allele is dominant in a heterozygote when it is
- expressed and the other allele is not.
 - a very common allele in a population.
 - the stronger of the two alleles.
 - more desirable than the other allele

Reviewing Main Ideas 6.4: Traits, Genes and Alleles

1. How are the terms gene, locus, and allele related?
2. Explain why an organism's genotype may be homozygous dominant, homozygous recessive, or heterozygous, but never heterozygous recessive.

Critical Thinking 6.4: Traits, Genes and Alleles

3. Suppose you are studying a fruit fly's DNA and you discover a gene for antenna length on chromosome 2. What word describes its location, and where would it be found in other fruit flies' DNA?
4. If a recessive allele helps an organism reproduce, but the dominant allele hinders reproduction, which will be more common in a population?
5. Cystic fibrosis is a recessive disease that causes the production of abnormally thick, life-threatening mucus secretions. What is the genotype of a person with cystic fibrosis: **CC**, **Cc**, or **cc**? Explain.