

Quiz: Mendel and Heredity

Read each question. Circle the letter of the correct answer.

1. Chromosomes determine all inherited traits because they are made up of _____.
A. ATP
B. DNA
C. centromeres
D. phospholipids
2. Children tend to resemble their parents due to _____.
A. heredity
B. metabolism
C. homeostasis
D. responsiveness
3. A distinguishing characteristic that can be inherited is a(n) _____.
A. gene
B. cross
C. allele
D. trait
4. Which type of inheritance concerns traits that are located on the X chromosome?
A. polygenic
B. sex-linked
C. codominance
D. incomplete dominance
5. If an individual possesses two recessive alleles for the same trait, the individual is said to be _____.
A. mutated
B. haploid for the trait
C. homozygous for the trait
D. heterozygous for the trait
6. The law of segregation deals with which of the following?
A. the separation of alleles during meiosis
B. the separation of daughter cells during mitosis
C. the separation of homologous chromosomes during mitosis
D. the separation of homologous chromosomes during meiosis
7. Mendel began his experiments with purebred pea plants. This approach enabled him to determine that variations among offspring were the result of _____.
A. his crossings
B. self-pollination
C. random mutations
D. genetic uniformity
8. When Mendel crossed plants that were purebred purple-flowered with plants that were purebred white-flowered, the resulting offspring all had purple flowers. When allowed to self-pollinate, this F₁ generation gave rise to white-flowered plants as well as purple. As a result, Mendel determined that individual traits are _____.
A. diluted in offspring
B. inherited as discrete units
C. lost in the pollination process
D. merged with successive generations

Name: _____

Date: _____

Unit 7 Lesson 2

Lesson Quiz

9. Which of these was a key factor in the success of Mendel's experiments?
- A. He started with several different types of plants.
 - B. He started with plants that were native to the area.
 - C. He started with cross-pollinating, flowering plants.
 - D. He started with self-pollinating, purebred plants.
10. Mendel's second law of genetics, the law of independent assortment, is one explanation of the _____.
A. final stages of gametogenesis
B. random fertilization of gametes
C. genetic variation within species
D. greater strength of dominant alleles

Read each statement. Write your answer on the lines.

11. How are incomplete dominance and codominance different from each other?

12. How are the law of independent assortment and the law of segregation different?

13. What is a gene and what does it do?

14. What characteristic of garden-pea flowers makes it easy to control their mating?

15. Which allele is expressed in a heterozygous individual?
