

Genes and Heredity

Read each question and circle the correct answer.

1. The passing of traits from parents to offspring is called

- A. heredity.
- B. deoxyribonucleic acid, or DNA.
- C. cloning.
- D. precipitation.

2. The traits of an organism are passed to its offspring on small coded strands of DNA material called

- A. meiosis.
- B. recessive traits.
- C. genes.
- D. heredity.

3. James Watson and Francis Crick are the scientists who discovered

- A. mutated cells.
- B. the double helix structure of DNA.
- C. that there are dominant and recessive genes.
- D. evolutionary traits in human beings.

4. During sexual reproduction, each parent contributes

- A. a double helix of chromosomes.
- B. one strand of chromosomes, or half of the new organism's DNA.
- C. a dominant gene and a recessive gene.
- D. multiple mutated cells.

5. If purple flowers are dominant in a plant and white flowers are recessive in that plant, then when purple-flowered plants with two dominant genes are mated with white-flowered plants with two recessive genes, the first generation of offspring should have

- A. 100% white flowers
- B. 75% purple flowers and 25% white flowers
- C. 50% purple flowers and 50% white flowers
- D. 100% purple flowers

6. A cell created by cloning is genetically

- A. identical to its parent.
- B. identical to its stem cell.
- C. unique because it is a mixture of DNA.
- D. half like its father and half like its mother.

7. In genetic engineering

- A. scientists add or change the genes on a chromosome.
- B. natural selection is used to determine which traits to keep or eliminate.
- C. dominant and recessive genes are mixed together randomly.
- D. mitosis divides a cell into two equal parts.

8. Every DNA molecule is made up of molecules called

- A. chromosome quads.
- B. mutational pairs.
- C. nucleotides.
- D. mitochondria.

9. How many pairs of chromosomes do human cells have?

- A. 100,000
- B. 23
- C. 14
- D. 46

10. What is the process that allows people to improve the chances that offspring will have a desired trait?

- A. meiosis
- B. incomplete dominance
- C. cloning
- D. selective breeding