

Foundations of Genetic Genealogy

Genealogy And Genetics · Practice Test · 18 Questions

1. Which molecule carries the genetic instructions used in the growth and development of all living organisms?

- A) RNA
- B) DNA
- C) Protein
- D) Lipid

2. What are the rod-shaped structures in the nucleus of a cell that contain DNA?

- A) Chromosomes
- B) Ribosomes
- C) Mitochondria
- D) Lysosomes

3. How many pairs of chromosomes do most humans typically have in their cells?

- A) 12
- B) 23
- C) 46
- D) 50

4. Which type of DNA is passed down almost exclusively from mothers to their children?

- A) Nuclear DNA
- B) Mitochondrial DNA
- C) X-linked DNA
- D) Y-chromosomal DNA

5. Which sex chromosome is typically found in males but not in females?

- A) X chromosome
- B) Y chromosome
- C) Z chromosome
- D) W chromosome

6. What is the term for a specific segment of DNA that acts as a unit of heredity?

- A) Nucleotide
- B) Genome
- C) Gene
- D) Cell

7. Approximately what percentage of DNA do all humans share?

- A) 50%
- B) 75%
- C) 99.9%
- D) 25%

8. In genetic terms, what are the different versions of the same gene called?

- A) Alleles
- B) Proteins
- C) Traits
- D) Mutations

9. Which process involves the passing of genetic information from parents to offspring?

- A) Mutation
- B) Heredity
- C) Evolution
- D) Adaptation

10. What is the scientific name for the complete set of genetic material in an organism?

- A) Phenotype
- B) Genome
- C) Genotype
- D) Chromosome

11. Which substance forms the 'rungs' of the DNA double helix ladder?

- A) Sugars
- B) Nitrogenous bases
- C) Phosphates
- D) Proteins

12. What is the observable physical characteristic of an individual resulting from their genetic makeup?

- A) Genotype
- B) Phenotype
- C) Allele
- D) Mutation

13. Through which process do children receive half of their nuclear DNA from each biological parent?

- A) Mitosis
- B) Meiosis
- C) Cloning
- D) Fission

14. Which nitrogenous base always pairs with Adenine in a DNA molecule?

- A) Guanine
- B) Cytosine
- C) Thymine
- D) Uracil

15. What is the term for an alteration in the DNA sequence?

- A) Mutation
- B) Replication
- C) Expression
- D) Translation

16. What determines the unique order of nitrogenous bases in an individual's DNA?

- A) Environment
- B) Genetic code
- C) Diet
- D) Age

17. Which branch of science focuses specifically on the study of heredity and variation in organisms?

- A) Geology
- B) Genetics
- C) Physics
- D) Chemistry

18. What structure is famously described as a 'double helix'?

- A) Protein
- B) RNA
- C) DNA
- D) Carbohydrate