

Foundations of Genetics

Genetics · Answer Key · 8 Questions

1. Which molecule carries the genetic instructions for the development and function of living organisms?

- A) Protein
- B) DNA**
- C) Lipid
- D) Carbohydrate

2. In a cell, where is the majority of the genetic material located?

- A) Mitochondria
- B) Ribosome
- C) Nucleus**
- D) Cytoplasm

3. What is the term for a specific segment of DNA that codes for a particular trait or protein?

- A) Chromosome
- B) Gene**
- C) Allele
- D) Nucleotide

4. How many pairs of chromosomes does a typical human body cell contain?

- A) 23**
- B) 46
- C) 12
- D) 48

5. What is the process called when a cell divides to produce two genetically identical daughter cells?

- A) Meiosis
- B) Fertilization
- C) Mitosis**
- D) Mutation

6. Which of the following describes an organism that has two identical alleles for a particular trait?

- A) Heterozygous
- B) Homozygous**
- C) Dominant
- D) Recessive

7. In Mendelian genetics, what do we call an allele that masks the expression of a recessive allele?

A) Dominant

B) Codominant

C) Mutant

D) Linked

8. What is the name of the cell division process that produces gametes (sperm and egg cells)?

A) Binary fission

B) Mitosis

C) Meiosis

D) Cloning