

# Test: Genetic Engineering

---

## Part I: True or False

Directions: Write T or F

- \_\_\_ 1. Genetic engineering involves changing an organism's DNA.
  - \_\_\_ 2. DNA contains the instructions for an organism's traits.
  - \_\_\_ 3. Scientists can use genetic engineering to produce medicines such as insulin.
  - \_\_\_ 4. Genetic engineering and selective breeding are exactly the same process.
  - \_\_\_ 5. A genetically modified organism (GMO) has had its DNA altered.
  - \_\_\_ 6. Genetic engineering can only be used on plants.
  - \_\_\_ 7. Genes are segments of DNA that contain instructions for specific traits.
  - \_\_\_ 8. Genetic engineering can help make crops more resistant to pests.
  - \_\_\_ 9. All scientists agree on every ethical issue related to genetic engineering.
  - \_\_\_ 10. Biotechnology often uses genetic engineering techniques.
- 

## Part II: Multiple Choice

Directions: Circle the best answer.

- 1. What is the main goal of genetic engineering?
  - A. To study fossils
  - B. To change an organism's DNA
  - C. To measure population size
  - D. To classify organisms
- 2. What does GMO stand for?
  - A. Genetically Modified Organism
  - B. General Molecular Organism
  - C. Genetic Mutation Operation
  - D. Gene Mapping Objective
- 3. Which molecule is modified during genetic engineering?
  - A. Water
  - B. Protein
  - C. DNA
  - D. Oxygen

4. Which of the following is an example of genetic engineering?
  - A. Crossing two dogs through breeding
  - B. Inserting a gene into a plant to resist insects
  - C. Observing animals in the wild
  - D. Recording weather patterns
  
5. Which product is commonly made using genetically engineered bacteria?
  - A. Plastic
  - B. Insulin
  - C. Salt
  - D. Sand
  
6. Which field involves using living organisms and biological processes to create products?
  - A. Astronomy
  - B. Geology
  - C. Biotechnology
  - D. Meteorology
  
7. Why might scientists genetically modify crops?
  - A. To make them more resistant to pests
  - B. To decrease growth
  - C. To remove all nutrients
  - D. To prevent reproduction
  
8. A gene is:
  - A. A type of cell
  - B. A segment of DNA that codes for a trait
  - C. A type of protein
  - D. A body organ
  
9. Which of the following is a possible benefit of genetic engineering?
  - A. Improved crop production
  - B. Increased disease treatment options
  - C. Production of medicines
  - D. All of the above
  
10. Genetic engineering raises questions about:
  - A. Ethics
  - B. Safety
  - C. Environmental impact
  - D. All of the above

### Part III: Fill-in-the-Blank

Directions: Use the words from the word bank to complete each sentence.

#### Word Bank

DNA      gene      biotechnology      insulin      GMO      modified  
genetic engineering      traits      crops      bacteria

1. \_\_\_\_\_ is the process of altering an organism's DNA.
  2. A \_\_\_\_\_ is a segment of DNA that contains instructions for a trait.
  3. A genetically \_\_\_\_\_ organism has had its DNA changed.
  4. A \_\_\_\_\_ is an organism whose genetic material has been altered.
  5. Scientists often use genetically engineered \_\_\_\_\_ to produce medicines.
  6. The molecule that carries genetic information is \_\_\_\_\_.
  7. Genetic engineering can be used to improve agricultural \_\_\_\_\_.
  8. Human \_\_\_\_\_ can be produced using genetically engineered bacteria.
  9. The characteristics of an organism are called \_\_\_\_\_.
  10. The use of living organisms to develop useful products is called \_\_\_\_\_.
-