

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.
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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 _____.
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