

Modern Genetics ▪ *Guided Reading and Study*

Advances in Genetics

This section describes some of the research in genetic technology and how it can be used.

Use Target Reading Skills

Before you read, preview the red headings. In the graphic organizer below, ask a question for each heading. As you read, write answers to your questions.

Advances in Genetics

Question	Answer
What is selective breeding?	Selective breeding is . . .

Selective Breeding

- List the three methods that people have used to develop organisms with desirable traits.
 - _____
 - _____
 - _____
- The process of selecting a few organisms with the desired traits to serve as parents of the next generation is called _____.
- What is inbreeding? _____

- Is the following sentence true or false? In hybridization, breeders cross two individuals that are genetically identical. _____

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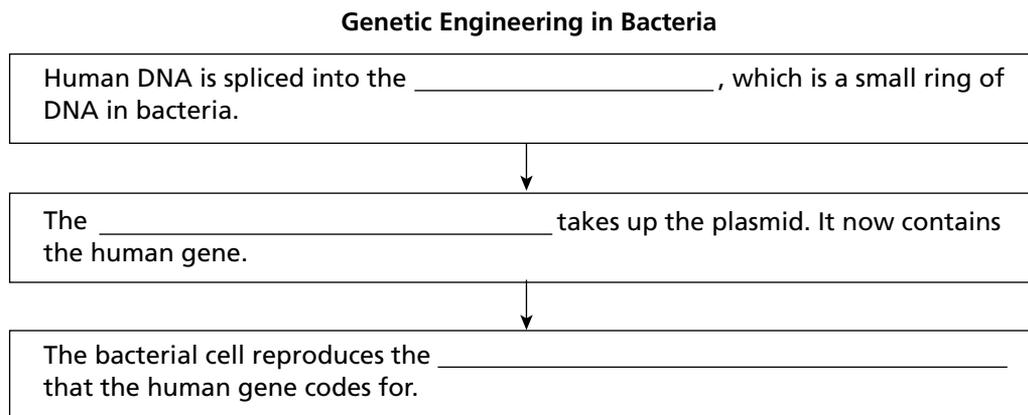
5. Crossing corn that produces many kernels with corn that is resistant to disease is an example of what? _____

Cloning

6. Circle the letter of each sentence that is true about cloning.
- a. A clone has exactly the same genes as the organism from which it was produced.
 - b. A cutting is one way to make a clone of an animal.
 - c. It's easier to clone an animal than it is to clone a plant.
7. Is the following sentence true or false? Cloning can be done only in animals. _____

Genetic Engineering

8. In genetic engineering, genes from one organism are transferred into the _____ of another organism.
9. Complete this flowchart about genetic engineering in bacteria.



10. What is gene therapy?

Learning About Human Genetics

11. All the DNA in one cell of an organism is a(n) _____.
12. What has been the goal of the Human Genome Project?

13. How is a DNA fingerprint produced?
