Chapter 13 **Genetic Technology,** *continued*

Reinforcement and Study Guide

Section 13.2 Recombinant DNA Technology

In your textbook, read about gene engineering.

For each item in Column A, write the letter of the matching item in Column B.

Column A		Column B
_____	**1.** Bacterial proteins that have the ability to cut both strands of the DNA molecule at certain points	**a.** recombinant DNA
_____	**2.** Contain foreign DNA	**b.** vector
_____	**3.** Is made by connecting segments of DNA from different sources	**c.** restriction enzymes
_____	**4.** General term for a vehicle used to transfer a foreign DNA fragment into a host cell	**d.** plasmid
_____	**5.** A small ring of DNA found in a bacterial cell	**e.** transgenic organisms
_____	**6.** The procedure for cleaving DNA from an organism into small segments, and inserting the segments into another organism	**f.** genetic engineering or recombinant DNA technology

Complete the table by checking the correct column for each vector.

Vectors	Mechanical	Biological
7. Viruses		
8. Micropipette		
9. Metal bullets		
10. Plasmids		

Section 13.2 Recombinant DNA Technology, continued

In your textbook, read about applications of DNA technology.

Complete the table by checking the correct column for each statement.

Statement	Bacteria	Transgenic Plant(s)	Animal(s)
11. Employed in the production of growth hormone to treat dwarfism and insulin to treat diabetes			
12. Difficult to produce because of thick cell walls and few biological vectors			
13. Some can be made using a bacterium that normally causes tumor-like galls.			
14. Contain many genes common to humans			
15. Have been engineered to break down pollutants into harmless products			
16. The first patented organism			
17. Produced using mechanical vectors such as the gene gun			
18. Produce phenylalanine, an amino acid needed to make artificial sweeteners			
19. In the future, they will be more nutritious and be able to grow in unfavorable conditions.			
20. Helps scientists to learn about human diseases			
21. Produce insulin, a hormone used in treating diabetes			
22. Produced by using a micropipette to inject DNA into unfertilized eggs			
23. Contain foreign genes that slow down the process of spoilage			