

Section 19–2 Viruses (pages 478–483)



TEKS FOCUS: 3F Contributions of scientists in biology; 4C Compare viruses to cells

This section describes the structure of a virus. It also explains how viruses cause infection.

What Is a Virus? (pages 478–479)

1. What are viruses? _____

2. What do all viruses have in common? _____

3. Is the following sentence true or false? Most viruses are so small that they can be seen only with the aid of a powerful electron microscope. _____
4. What is the structure of a typical virus? _____

5. Circle the letter of what a virus's protein coat is called.
a. capsid b. envelope c. head d. lysis
6. How does a typical virus get inside a cell? _____

7. What occurs when viruses get inside of cells? _____

8. Why are most viruses highly specific to the cells they infect? _____

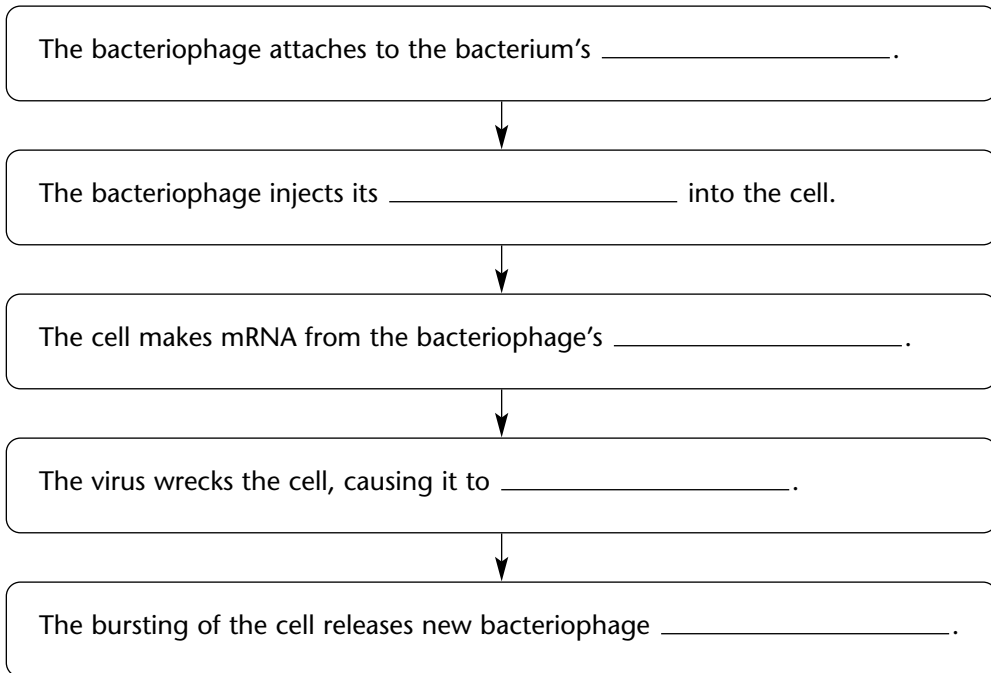
9. What are bacteriophages? _____

Viral Infection (pages 480–481)

10. Why is a lytic infection given that name? _____

11. Circle the letter of each sentence that is true about a lysogenic infection.
 - a. The virus lyses the host cell immediately.
 - b. The virus embeds its DNA into the host's DNA.
 - c. The virus's DNA is replicated along with the host cell's DNA.
 - d. A host cell makes copies of the virus indefinitely.

12. Complete the flowchart about a lytic infection.



13. What is a prophage? _____

Retroviruses (page 482)

14. What are retroviruses? _____

15. What happens when retroviruses infect a cell? _____

Viruses and Living Cells (pages 482–483)

16. Circle the letter of each reason why some biologists do not consider viruses to be alive.
- a. They can't infect living cells.
 - b. They can't evolve.
 - c. They can't regulate gene expression.
 - d. They can't reproduce independently.

Section 19-3 Diseases Caused by Bacteria and Viruses

(pages 485-490)



TEKS FOCUS: 4C Role of viruses in causing disease; 4D Role of bacteria in causing disease; 11D Role of microorganisms in maintaining equilibrium

This section describes bacterial and viral diseases.

Bacterial Disease in Humans (pages 485–486)

1. What are pathogens? _____
2. What are the two general ways that bacteria cause disease?
 - a. _____
 - b. _____
3. What kind of tissue do the bacteria that cause tuberculosis break down?

4. What are antibiotics? _____
5. What is one of the major reasons for the dramatic increase in life expectancy during the past two centuries? _____

Controlling Bacteria (pages 487–488)

6. What is sterilization? _____
7. A chemical solution that kills pathogenic bacteria is called a(an) _____.
8. Why will food stored at low temperatures keep longer? _____
9. How can food be preserved through canning? _____
10. What everyday chemicals can be used to inhibit the growth of bacteria in food?

Viral Disease in Humans (pages 488–489)

11. What are some human diseases that viruses cause? _____

Viral Disease in Animals (page 488)

12. Cancer-causing viruses are known as _____.

Viroids and Prions (page 490)

13. A disease-causing particle that contains only protein and not DNA or RNA is called a(an) _____.

WordWise

Answer the questions by writing the correct vocabulary terms in the blanks. Use the circled letter in each word to find the hidden word. Then, write a definition for the hidden word.

What is the viral DNA that is embedded in a host's DNA?

___ _ _ o _ _ _ _ _

What is a rod-shaped bacterium?

___ o _ _ _ _ _

What is a compound that blocks the growth and reproduction of bacteria?

___ _ _ _ _ o _ _ _

What is a virus that infects bacteria?

___ _ _ _ _ _ _ _ _ o _ _ _ _

What is a prokaryote that can capture sunlight for energy but also needs organic compounds for nutrition?

___ _ _ _ _ o _ _ _ _ _ _ _ _ _ _

What is the exchange of genetic information that occurs from one bacterium to another through a hollow bridge?

___ _ _ _ _ _ _ o _ _ _ _ _

What is a virus that contains RNA as its genetic information?

___ o _ _ _ _ _ _ _ _ _

What is the process in which nitrogen is converted into a form plants can use?

___ _ _ _ _ _ _ _ _ o _ _ _ _ _ _ _ _ _

Hidden Word: ___ _ _ _ _

Definition: _____