

Section 19-2 Viruses (pages 478-483)

Key Concepts

- What is the structure of a virus?
- How do viruses cause infection?

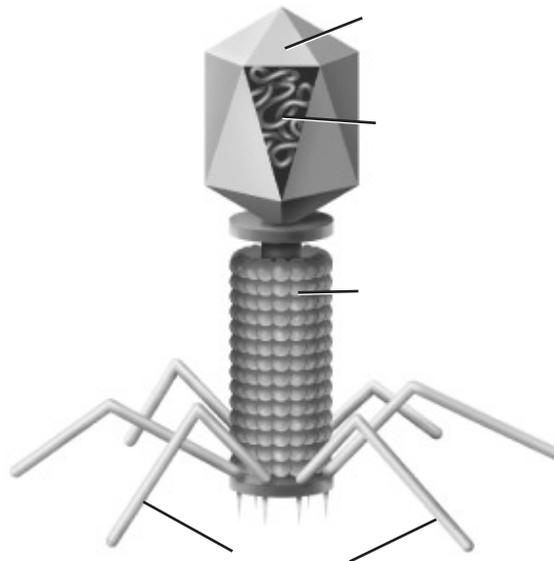
What Is a Virus? (pages 478-479)

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. Complete the illustration of a T4 bacteriophage by labeling the parts.



6. A virus's protein coat is called a(an) _____.
7. How does a typical virus get inside a cell? _____

8. What occurs when viruses get inside cells? _____

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

10. What are bacteriophages? _____

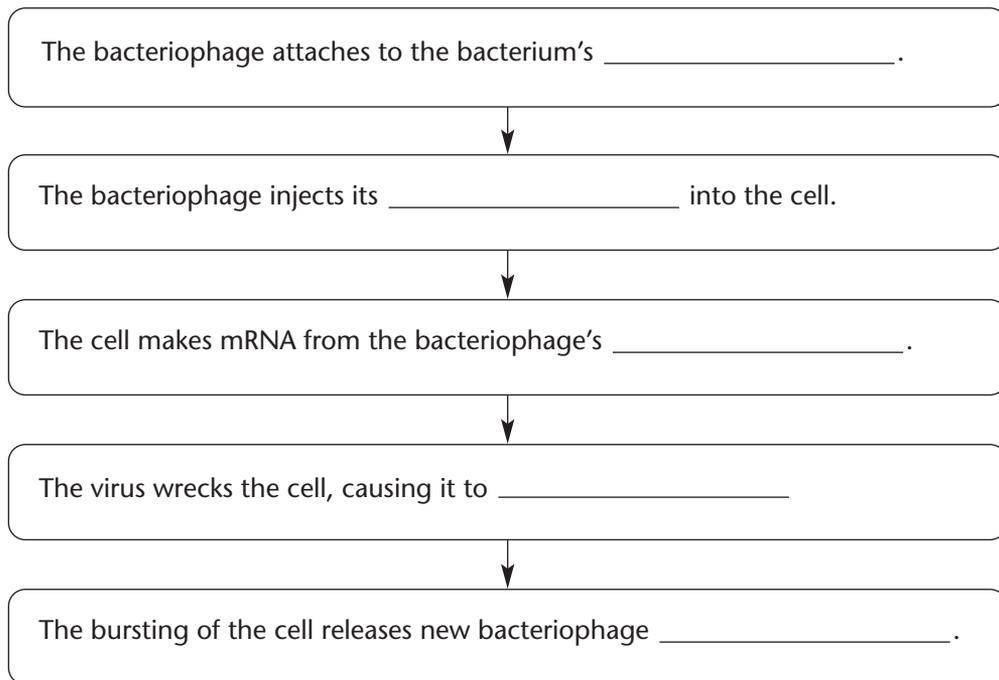
Viral Infection (pages 480–481)

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

12. 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.

13. Complete the flowchart about a lytic infection.



14. What is a prophage? _____

Retroviruses (page 482)

15. What are retroviruses? _____

16. What happens when retroviruses infect a cell? _____

Viruses and Living Cells (pages 482–483)

17. 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.
18. Complete the table comparing viruses and cells.

Virus and Cells

Characteristic	Virus	Cell
Structure	DNA or RNA core, capsid	Cell membrane, cytoplasm; eukaryotes also contain nucleus and organelles
Reproduction		Independent cell division either asexually or sexually
Genetic Code		DNA
Growth and Development	No	
Obtain and Use Energy		Yes
Response to the Environment	No	
Change Over Time		