

Name _____

Basic Facts of Bacteria and Viruses Answer Key

1. Some bacteria, known as photosynthetic bacteria, can carry out photosynthesis to convert light energy into chemical energy.
2. No, viruses do not have a cellular structure. They consist of genetic material (DNA or RNA) surrounded by a protein coat called a capsid.
3. Yes, certain bacteria have the ability to form spores, which are highly resistant structures that allow them to survive in unfavorable conditions.
4. Viruses enter host cells by attaching to specific receptors on the surface of the host cell, then injecting their genetic material into the cell.
5. No, bacteria do not have cilia. Some bacteria can move using flagella, which are long, whip-like appendages.
6. No, viruses cannot infect other viruses. They can only infect cells of living organisms.
7. Bacteria do not undergo sexual reproduction like eukaryotic organisms. They reproduce asexually through processes such as binary fission.
8. No, antibiotics are ineffective against viral infections. They only target bacterial infections.
9. Yes, some bacteria can produce toxins that can cause diseases in humans, such as botulism toxin produced by *Clostridium botulinum*.
10. Yes, viruses can have different shapes, including helical, icosahedral, and complex structures, depending on the type of virus.