

Microbiology Basics for High School

Microbiology · Answer Key · 18 Questions

1. Which of the following is the basic structural and functional unit of all known living organisms?

- A) Atom
- B) Molecule
- C) Cell**
- D) Organelle

2. Which type of microorganism is characterized by lacking a true nucleus and membrane-bound organelles?

- A) Eukaryote
- B) Prokaryote**
- C) Virus
- D) Fungus

3. What is the term for a disease-causing microorganism?

- A) Symbiont
- B) Commensal
- C) Pathogen**
- D) Mutualist

4. Which common laboratory technique is used to grow and observe microorganisms on a solid medium?

- A) Centrifugation
- B) Filtration
- C) Culturing**
- D) Distillation

5. What are the small, non-living infectious agents that can only replicate inside the cells of other organisms?

- A) Bacteria
- B) Protozoa
- C) Viruses**
- D) Algae

6. Which of these is an example of a prokaryotic cell?

- A) Human skin cell
- B) Yeast cell
- C) Bacterial cell**
- D) Plant cell

7. The cell wall of bacteria is primarily composed of what substance?

- A) Cellulose
- B) Chitin
- C) Peptidoglycan**
- D) Lignin

8. Which of the following is a type of fungus that consists of a single cell and reproduces by budding?

- A) Mold
- B) Mushroom
- C) Yeast**
- D) Toxin

9. What is the process by which bacteria reproduce asexually by dividing into two identical daughter cells?

- A) Meiosis
- B) Mitosis
- C) Binary fission**
- D) Budding

10. Which microscopic tool is essential for viewing most bacteria and viruses?

- A) Magnifying glass
- B) Dissecting microscope
- C) Light microscope**
- D) Telescope

11. What are microscopic, single-celled organisms that often have flagella for movement and are found in water?

- A) Viruses
- B) Bacteria
- C) Protozoa**
- D) Fungi

12. What is the scientific study of microorganisms called?

- A) Zoology
- B) Botany
- C) Geology
- D) Microbiology**

13. Which of the following is NOT a characteristic of viruses?

- A) They contain genetic material (DNA or RNA).
- B) They can reproduce independently.**
- C) They require a host cell to replicate.
- D) They are much smaller than bacteria.

14. What is the primary role of antibiotics in treating bacterial infections?

- A) To kill viruses
- B) To kill bacteria or inhibit their growth**
- C) To boost the immune system
- D) To prevent allergic reactions

15. Which type of microorganism is responsible for making bread rise through fermentation?

- A) Escherichia coli
- B) Saccharomyces cerevisiae (yeast)**
- C) Penicillium mold
- D) Streptococcus bacteria

16. What is the name given to microorganisms that live in and on our bodies without causing harm, and can even be beneficial?

- A) Pathogens
- B) Antibiotics
- C) Normal flora (microbiota)**
- D) Mutagens

17. Which domain of life includes bacteria?

- A) Eukarya
- B) Archaea
- C) Bacteria**
- D) Protista

18. What is the process called where heat is used to kill harmful microorganisms in food or liquids?

- A) Refrigeration
- B) Fermentation
- C) Pasteurization**
- D) Freezing