Microbiology Essentials for Middle School

Microbiology · Answer Key · 18 Questions

1. Which organelle is notably absent in prokaryotic cells like bacteria?

A) Ribosome
B) Nucleus
C) Cell membrane
D) Cytoplasm

2. What is the primary function of decomposers like bacteria and fungi in an ecosystem?

A) To produce oxygen
B) To break down organic matter
C) To hunt small insects
D) To build plant cell walls

3. Which of the following microorganisms is considered non-living because it requires a host cell to replicate?

A) Virus
B) Bacteria
C) Yeast
D) Protozoa

4. What shape describes cocci bacteria?

A) Spiral
B) Rod-shaped
C) Spherical
D) Comma-shaped

5. In the human body, what is the primary role of white blood cells regarding microorganisms?

A) To digest food
B) To defend against pathogens
C) To transport oxygen
D) To filter blood

6. Which instrument is most commonly used in a school laboratory to view individual bacteria cells?

A) Telescope
B) Hand lens
C) Compound light microscope
D) X-ray machine

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7. What process do yeast perform to produce carbon dioxide, causing bread dough to rise?

A) Photosynthesis
B) Fermentation
C) Evaporation
D) Condensation

8. Which type of microorganism is responsible for the production of penicillin?

A) Virus
B) Algae
C) Fungus
D) Archaea

9. What is the main role of nitrogen-fixing bacteria found in the root nodules of legumes?

A) To convert nitrogen gas into a usable form for plants
B) To kill harmful weeds
C) To produce sugar for the soil
D) To consume excess water

10. Which structure do some bacteria use for movement?

A) Cilia
B) Flagella
C) Pseudopods
D) Stomata

11. Which of the following is a beneficial use of bacteria in the food industry?

A) Making vinegar
B) Producing yogurt
C) Creating plastics
D) Filtering water

12. What do we call a substance used to prevent viral infections by stimulating the immune system?

A) Antibiotic
B) Vaccine
C) Antiseptic
D) Disinfectant

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13. Which group of organisms includes kelp and microscopic phytoplankton?

A) Bacteria
B) Fungi
C) Algae
D) Viruses

14. Where is the genetic material (DNA) of a bacterium typically located?

A) Inside a nucleus
B) Floating freely in the cytoplasm
C) Inside a mitochondria
D) Within the cell wall

15. Which term describes a disease-causing microorganism?

A) Pathogen
B) Probiotic
C) Antibiotic
D) Antibody

16. What is the primary method of reproduction in bacteria?

A) Sexual reproduction
B) Binary fission
C) Budding
D) Spore formation

17. Which of these is a microscopic, single-celled eukaryote often found in pond water?

A) Amoeba
B) Virus
C) Bacterium
D) Mushroom

18. What is the purpose of pasteurization in milk production?

A) To add vitamins
B) To increase fat content
C) To reduce the number of harmful microorganisms
D) To change the color of the milk

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