

Microbiology Essentials for Young Scientists

Microbiology · Answer Key · 12 Questions

1. Which organelle is found in plant cells and algae that allows them to produce their own food through photosynthesis?

- A) Mitochondria
- B) Chloroplast**
- C) Nucleus
- D) Ribosome

2. What is the primary substance that makes up the cell wall of fungi, distinguishing them from plant cells?

- A) Cellulose
- B) Chitin**
- C) Starch
- D) Glycogen

3. Which term describes a symbiotic relationship where one organism benefits while the other is neither helped nor harmed?

- A) Mutualism
- B) Parasitism
- C) Commensalism**
- D) Competition

4. What is the scientific term for bacteria that are shaped like small spheres or balls?

- A) Bacilli
- B) Spirilla
- C) Cocci**
- D) Vibrio

5. Which process do yeasts use to convert sugars into energy, releasing carbon dioxide as a byproduct?

- A) Fermentation**
- B) Respiration
- C) Transpiration
- D) Photosynthesis

6. Which of these is a microscopic organism that lacks a nucleus and is classified as a prokaryote?

- A) Amoeba
- B) Paramecium
- C) E. coli**
- D) Yeast

7. What is the protective outer layer of a virus, made primarily of protein, called?

- A) Capsid**
- B) Membrane
- C) Cell wall
- D) Cytoplasm

8. Which type of microorganism is responsible for breaking down dead organic matter into nutrients for the soil?

- A) Decomposers**
- B) Producers
- C) Herbivores
- D) Carnivores

9. Which kingdom do single-celled organisms with a nucleus that are not plants, animals, or fungi belong to?

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

10. What structure do many bacteria use for movement, acting like a tiny tail?

- A) Cilia
- B) Flagella**
- C) Pseudopods
- D) Pili

11. Which instrument is required to observe the internal structures of a virus?

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

12. What is the primary purpose of a vaccine in relation to the human immune system?

A) To kill all bacteria

B) To introduce a weakened pathogen to build immunity

C) To provide instant energy

D) To clear the skin of oils