

*Test Bank for Microbes and Society 5th
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CHAPTER 1—The Microbial World: An Introduction

1. Microbes have existed on planet Earth for approximately _____ years.

- A. 40 billion
- B. 4 billion
- C. 40 million
- D. 4 million

<Answer: B>

<A-head: 1.1 Microbiology and Society: A Connected World>

<Subject: Chapter 1>

<Complexity: Easy>

<Simplified Functional Taxonomy: Recall>

2. Which of the following is *not* part of the microbial menagerie?

- A. Mosses
- B. Bacteria
- C. Fungi
- D. Protists

<Answer: A>

<A-head: 1.1 Microbiology and Society: A Connected World>

<Subject: Chapter 1>

<Complexity: Easy>

<Simplified Functional Taxonomy: Analysis>

3. How do microbiology and society form a connected world?

<Answer: Answers will vary depending on what microbiome is mentioned.>

<A-head: 1.1 Microbiology and Society: A Connected World>

<Subject: Chapter 1>

<Complexity: Moderate>

<Simplified Functional Taxonomy: Application>

4. True or False? An ecosystem consists of a specific environment with a distinctive microbial community.

<Answer: False>

<A-head: 1.2 Microbiology and Society: Protecting the Planet>

<Subject: Chapter 1>

<Complexity: Moderate>

<Simplified Functional Taxonomy: Analysis>

5–8. Select the microbiome that correctly matches each statement:

Statement

5. Involved with raindrops and snowflakes.

6. Associated with cloud-forming aerosols.

7. Helps plants feed the world.

8. A mixture of organic matter, gases, liquids, and organisms.

Microbiome

A. Atmosphere

B. Earth's crust

C. Ocean

D. Soil

<Answer: 5. A, 6. C, 7. D, 8. D>

<A-head: 1.2 Microbiology and Society: Protecting the Planet>

<Subject: Chapter 1>

<Complexity: Moderate>

<Simplified Functional Taxonomy: Analysis>

9. True or False? Microbes have been found in molten lava.

<Answer: False>

<A-head: 1.2 Microbiology and Society: Protecting the Planet>

<Subject: Chapter 1>

<Complexity: Moderate>

<Simplified Functional Taxonomy: Analysis>

10. What are phytoplankton?

- A. The bacteria found in the oceans
- B. The microbes that break down dead animal matter
- C. The photosynthetic algae and fungi
- D. The photosynthetic bacteria and algae

<Answer: D>

<A-head: 1.2 Microbiology and Society: Protecting the Planet Subject>

<Subject: Chapter 1>

<Complexity: Easy>

<Simplified Functional Taxonomy: Analysis>

11. True or False? Animal and plant life would not remain possible for long in the absence of microbes.

<Answer: True>

<A-head: 1.2 Microbiology and Society: Helping Maintain Human Health>

<Subject: Chapter 1>

<Complexity: Easy>

<Simplified Functional Taxonomy: Recall>

12. List at least five ways that microbes help protect the planet.

<Answer: Answers will vary depending on what microbiomes are mentioned.>

<A-head: 1.2 Microbiology and Society: Protecting the Planet>

<Subject: Chapter 1>

<Complexity: Moderate>

<Simplified Functional Taxonomy: Application>

13. The human microbiome consists of _____ microbes.

- A. 56 trillion
- B. 37 trillion
- C. 30 million
- D. 5 million

<Answer: B>

<A-head: 1.3 Why Microbes Matter: Helping Maintain Human Health>

<Subject: Chapter 1>

<Complexity: Easy>

<Simplified Functional Taxonomy: Recall>

14. True or False? All humans do not share the same set of microbes.

<Answer: True>

<A-head: 1.3 Why Microbes Matter: Helping Maintain Human Health>

<Subject: Chapter 1>

<Complexity: Moderate>

<Simplified Functional Taxonomy: Recall>

15. A baby first becomes exposed to microbes:

A. during fetal development.

B. at conception.

C. during birth.

D. several weeks after birth.

<Answer: C>

<A-head: 1.3 Why Microbes Matter: Helping Maintain Human Health>

<Subject: Chapter 1>

<Complexity: Moderate>

<Simplified Functional Taxonomy: Recall>

16. The human microbiome is envisioned as a key component of all the following, *except*:

A. Earth's ecosystems.

B. personalized medicine.

C. good health.

D. development of certain medical conditions.

<Answer: A>

<A-head: 1.3 Why Microbes Matter: Helping Maintain Human Health>

<Subject: Chapter 1>

<Complexity: Moderate>

<Simplified Functional Taxonomy: Analysis>

17. Explain the role of microbes in the human body.

<Answer: Answers will vary.>

<A-head: 1.3 Microbiology and Society: Helping Maintain Human Health>

<Subject: Chapter 1>

<Complexity: Moderate>

<Simplified Functional Taxonomy: Application>

18. Why are microbes often seen as causing human disease?

<Answer: Some do cause illnesses; our everyday experiences; public news media; consumer advertising.>

<A-head: 1.4 Why Microbes Matter: Causing Infections and Disease>

<Subject: Chapter 1>

<Complexity: Moderate>

<Simplified Functional Taxonomy: Application>

19. A germ refers to which of the following?

A. A bacterium

B. A pathogen

C. A virus

D. A microbe

<Answer: B>

<A-head: 1.4 Why Microbes Matter: Causing Infections and Disease>

<Subject: Chapter 1>

<Complexity: Easy>

<Simplified Functional Taxonomy: Recall>

20. Explain the difference between basic (pure) science and applied science.

<Answer: Basic: providing the information and knowledge to explain phenomena in the natural world; applied: uses the basic science knowledge to develop practical applications.>

<A-head: 1.5 Why Microbes Matter: Benefiting Society>

<Subject: Chapter 1>

<Complexity: Difficult>

<Simplified Functional Taxonomy: Application>

21. All the following are products of microbes, *except*:

- A. buttermilk.
- B. vinegar.
- C. pasta.
- D. sausages.

<Answer: C>

<A-head: 1.5 Why Microbes Matter: Benefiting Society>

<Subject: Chapter 1>

<Complexity: Easy>

<Simplified Functional Taxonomy: Analysis>

22. Many foods we eat contain components produced by microbes. Which of the following is *not* such a component?

- A. Flavor enhancers
- B. Citric acid
- C. Lactic acid
- D. Sucrose

<Answer: D>

<A-head: 1.5 Why Microbes Matter: Benefiting Society>

<Subject: Chapter 1>

<Complexity: Easy>

<Simplified Functional Taxonomy: Recall>

23. True or False? Scientists have been able to genetically engineer whole bacterial cells into crop plants.

<Answer: False>

<A-head: 1.5 Why Microbes Matter: Benefiting Society>

<Subject: Chapter 1>

<Complexity: Moderate>

<Simplified Functional Taxonomy: Analysis>

24. Which of the following best describes bioremediation?

- A. Using microbes to degrade toxic compounds in the environment
- B. Treating patients with antimicrobial drugs to cure infectious diseases
- C. Using chemicals to eliminate microbes in the soil
- D. Eliminating pathogens from commercial surfaces like a kitchen counter

<Answer: A>

<A-head: 1.5 Why Microbes Matter: Benefiting Society>

<Subject: Chapter 1>

<Complexity: moderate>

<Simplified Functional Taxonomy: Analysis>

25. Which of the following is *not* a product of microbial biotechnology?

- A. Human insulin
- B. Blood-clotting factors
- C. Human growth hormone
- D. Anti-transplant rejection drugs

<Answer: D>

<A-head: 1.5 Why Microbes Matter: Benefiting Society>

<Subject: Chapter 1>

<Complexity: Moderate>

<Simplified Functional Taxonomy: Recall>

26. What is an outbreak?

- A. The initial stage of an epidemic
- B. The beginning of a pandemic
- C. A more confined epidemic
- D. The first emergence of a viral infection

<Answer: C>

<A-head: 1.6 Microbiology Today: Challenges Remain>

<Subject: Chapter 1>

<Complexity: Moderate>

<Simplified Functional Taxonomy: Analysis>

27. What organization issues global health emergencies?

- A. The United Nations
- B. The World Health Organization (WHO)
- C. The United Nations Educational, Scientific, and Cultural Organization (UNESCO)
- D. The United States Centers for Disease Control and Prevention (CDC)

<Answer: B>

<A-head: 1.6 Microbiology Today: Challenges Remain>

<Subject: Chapter 1>

<Complexity: Moderate>

<Simplified Functional Taxonomy: Recall>

28. Explain how climate change could affect infectious diseases across the globe.

<Answer: Answers will vary.>

<A-head: 1.6 Microbiology Today: Challenges Remain>

<Subject: Chapter 1>

<Complexity: Moderate>

<Simplified Functional Taxonomy: Application>

29. Summarize the challenges facing microbiology today.

<Answer: Spread of disease by air travel; disease spread through urbanization and poverty; evolution of drug-resistant pathogens; potential disease outbreaks from climate change.>

<A-head: 1.6 Microbiology Today: Challenges Remain>

<Subject: Chapter 1>

<Complexity: Moderate>

<Simplified Functional Taxonomy: Application>

30. Select one of the challenges facing microbiology today and devise a creative way to respond to the challenge.

<Answer: Answers will vary.>

<A-head: 1.6 Microbiology Today: Challenges Remain>

<Subject: Chapter 1>

<Complexity: Moderate>

<Simplified Functional Taxonomy: Application>