Test Bank for Microbes and Society 5th Pommerville

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>