Passage Reading Level: Lexile 1030

1. What is an ecosystem?
   A an experiment in which people were placed inside a room that was as free of microbes as possible
   B a species of bacteria that can help protect our skin against fungi and yeast but can also cause infections and life-threatening diseases
   C a community of living things that interact with each other and with the non-living things in their environment
   D a group of scientists studying how microorganisms work in our bodies, and learning about the balance among different bacterial communities

2. To organize this text, the author divides it into sections with subheadings. What is described in the section with the subheading “You Are an Ecosystem”?
   A microbes in and on the human body
   B plants and animals living in the ocean
   C an experiment in which scientists measured bacterial “clouds”
   D the effects of antibiotic drugs on our microbiomes

3. Humans and microbes have “complex relationships.”
What information in the article best supports this statement?
   A Scientists call bacteria that are harmless to humans “commensal.”
   B Antibacterial hand sanitizers can wipe out all bacteria on a patch of skin.
   C Microbes are the oldest form of life on Earth, having first appeared over 3.5 billion years ago.
   D Some microbes benefit humans, while other microbes harm humans.

4. What effect do antibiotic drugs have on bacteria?
   A Antibiotic drugs kill bacteria outside the human body but not inside the human body.
   B Antibiotic drugs kill harmful bacteria but not helpful bacteria.
   C Antibiotic drugs kill helpful bacteria but not harmful bacteria.
   D Antibiotic drugs kill helpful bacteria and harmful bacteria.

5. What is the main idea of this text?
   A No two human microbiomes are the same.
   B The human body is a diverse ecosystem made up of microbes.
   C Some bacteria cause infections and even life-threatening diseases.
   D Some scientists think that infants who lack exposure to microorganisms develop a higher rate of allergies.
6. Read these sentences from the text.

“Scientists repeated the experiment many times, and could always tell which room had been occupied. They could measure bacterial ‘clouds’ in the room—bacteria that had come off the person’s body. Because every person’s microbiome is unique, they could also identify different people from their bacterial ‘clouds.’”

Why might the author have placed the word “clouds” in quotation marks?

A to indicate that the word is being used in a different way than usual
B to quote the scientists who were doing the experiment
C to express surprise that clouds appeared inside a room
D to suggest that the measurements recorded by the scientists may not have been accurate

7. Read these sentences from the text.

“Scientists are just beginning to understand what roles these organisms play in human health. Some species benefit us, like gut bacteria that help digest food.”

What word or phrase could replace “like” in the second sentence without changing the sentence’s meaning?

A instead
B such as
C except
D later on

8. What effect has “increasing antibiotic use in the United States” had on people’s microbiomes?

Suggested answer: The increasing antibiotic use in the United States has reduced the diversity of people’s microbiomes.

9. Why is having a diverse and balanced microbiome important?

Suggested answer: Having a diverse and balanced microbiome is necessary for a strong immune system.

10. What can people do to maintain a diverse and balanced microbiome? Support your answer with evidence from the text.

Suggested answer: Answers may vary but should be supported by the text. People can limit their antibiotic use to maintain a diverse and balanced microbiome. Antibiotic drugs and products like antibacterial hand sanitizers destroy both helpful and harmful bacteria. These drugs and products should not be abandoned, but people should exercise good judgment when using them. Reducing the destruction of bacteria will result in more diverse and balanced microbiomes.