

Name: _____ Date: _____

1. What is the human microbiome?

- A. all of the communities of microbes in and on the human body
- B. a drug that destroys helpful bacteria along with harmful bacteria
- C. a species of bacteria that helps protect humans against asthma
- D. a group of people in developed countries who are infected with *Helicobacter pylori*

2. To organize this text, the author divides it into sections with subheadings. What contrast does the author make in the section with the subheading "Look, Ma, No Cavities!"?

- A. The author contrasts the harmful effects of *Helicobacter pylori* with the positive role it may play in human health.
- B. The author contrasts the number of bacteria on our skin with the number of bacteria in our colon.
- C. The author contrasts harmful species of *Streptococcus* with a species of *Streptococcus* that can be helpful.
- D. The author contrasts the effects of *Bacteroides* inside the colon with the effects of *Bacteroides* outside the colon.

3. Some species of bacteria benefit humans.

What information in the text supports this statement?

- A. *S. mutans* is a bacterium that causes cavities, and *S. pneumoniae* is a bacterium that causes pneumonia.
- B. Fungi evolved the ability to produce anti-bacterial chemicals as they competed with bacteria over millions of years.
- C. The bacterium *Streptococcus pyogenes* causes strep throat and rheumatic heart disease.
- D. Species of bacteria belonging to the genus *Bacteroides* help the human body digest food.

4. Bacteria that are helpful in one place may be harmful in another.

What information in the text supports this statement?

A. *Helicobacter pylori* is a bacterium that causes gastritis (irritation or inflammation of the stomach lining) and peptic ulcers, diseases which were once thought to be caused by too much acid.

B. *Streptococcus salivarius* appears to help prevent tooth decay in the mouth but can be dangerous to people with weakened immune systems if it gets outside the mouth.

C. *Bacillus subtilis* releases toxic chemicals to kill fungus, possibly including *Trichophyton interdigitale* and other species that cause athlete's foot.

D. Skin, which is our interface with the world, supports a large number of the human body's most diverse populations of bacteria, including *Bacillus subtilis*.

5. What is the main idea of this text?

A. Microbes first appeared over 3.5 billion years ago and have coevolved with humans over the past six million years.

B. Studies suggest that rapidly increasing antibiotic use in the United States has reduced the diversity of our microbiomes.

C. *Bacteroides* are the most numerous bacteria in the human body and help it digest food.

D. The human body is an ecosystem made up of microbes that play a variety of roles in human health.

6. Read these sentences from the text.

"Perhaps not surprisingly, skin-our interface with the world-supports a large number of the body's most **diverse** populations of bacteria. There are at least 1,000 different species of skin bacteria, along with dozens of fungi and other microbes. Most aren't harmful, and many protect us."

Based on this information, what does the word "**diverse**" probably mean?

- A. having a lot of variety
- B. being harmful to others
- C. being helpful to others
- D. moving from one place to another

7. Read this sentence from the text.

"In fact, the microbiome is so important that it is like an additional organ-a part of the body that serves a vital function, like the skin or kidneys."

What word or phrase could replace the second "like" in this sentence without changing the sentence's meaning?

- A. instead
- B. such as
- C. except
- D. later on

8. What is a species of bacteria that causes disease?

9. What is a species of bacteria in your body that helps protect you? Support your answer with evidence from the text.

10. Describe the different roles that bacteria play in human health. Support your answer with evidence from the text.

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Suggested answer: Answers may vary as long as they reflect the text. For example, students may name *Streptococcus pyogenes*.

9. What is a species of bacteria in your body that helps protect you? Support your answer with evidence from the text.

Suggested answer: Answers may vary as long as they reflect the text. For example, students may identify *Helicobacter pylori* as a species of bacteria that helps protect people. Studies suggest that it helps prevent "asthma, allergies, gastroesophageal reflux disease, and esophageal cancer."

10. Describe the different roles that bacteria play in human health. Support your answer with evidence from the text.

Suggested answer: Answers may vary, but students should recognize that bacteria plays positive and negative roles. Students may point out that some bacteria, such as *Helicobacter pylori* and *Streptococcus salivarius*, play helpful roles by protecting people from various diseases. Other bacteria play harmful roles. One example is *Streptococcus pyogenes*, which causes strep throat and rheumatic heart disease.