Body Buddies: The Microbes that Live In and On Us

This article is provided courtesy of the American Museum of Natural History.

Try to count all the living things you can see. You might spot people, trees, a squirrel, grass, birds, or insects. But did you know that most of the life around you can’t be seen? That’s because most living things are microbes: tiny organisms that are invisible without a microscope.

Microbes live everywhere. They’re in the water you drink, the food you eat, and the air you breathe. Right now, there are trillions of microbes in your belly and on your skin! These microbes live, feed, and reproduce in and on your body. But don’t worry! Most of these microbes aren’t “germs.” They don’t make you sick. Some of them actually help keep you healthy.

Many Homes for Many Microbes

Many kinds of microbes live in your body: there are fungi and viruses, but most are bacteria. And different types live on different parts of your body. Take your skin as an example. You can think of your skin as a landscape with mountains, valleys, cracks, and forests. Some
parts are cool and dry, and others are warm and moist. Other parts might be smooth or rough, oily, or covered with hair.

In every part, different types of microbes find the shelter, moisture, and other nutrients they need to grow. This is happening all over your body: a unique group of microbes lives in each part of your gut, your mouth, and even your brain.

**Body Buddies**

When you shake someone’s hand or grab a doorknob, harmful microbes, called pathogens, might grab onto you. Fortunately, the helpful bacteria that live on your hands can usually fight them off. But using hand sanitizer can wipe out enough of the helpful bacteria that the harmful have a better chance of taking over. So it’s better to wash your hands with soap and water, which will sweep away most pathogens. Some of your helpful bacteria will be swept away too, but will soon grow back where they belong in the palm of your hand.

Microbes are hard at work in other parts of your body too. They help protect you from pathogens, and also help you digest food, make vitamins, and even help your brain work! That’s why we need to be careful when we use antibiotics. Antibiotics are important medicines because they can kill dangerous pathogens. But they can also kill the helpful microbes in our bodies.

*Bacillus subtilis* is a type of bacteria typically found on skin. These bacteria don’t harm us, and they may protect us from harmful pathogens.

Photo Credit: AMNH

Your skin has lots of environments. Some are oily, others are warm and moist or cool and dry.

Photo Credit: AMNH
You are an Ecosystem!

You’ve probably heard of ecosystems like forests and prairies. An ecosystem is a community of living things (such as plants and animals) that interact with one another as well as with non-living things (such as air and water) in their environment. Ecosystems don’t have to be large. In fact, together, your body and your microbiome make up an amazing ecosystem. Your body provides the environment for the trillions of microbes living inside you. And in return, they keep your body’s systems working like they should.

Now you have a new way to think of yourself: You’re more than an individual, you’re a “superorganism,” a community of trillions of microbes plus one human! You might feel funny about all those microbes living on you and inside of you. But remember, they’re an important part of our bodies and our health.
1. What is a microbe?

   A  a scientist who studies things that are too small to be seen by the human eye
   B  a tool used to see living things that are too small to be seen by the human eye
   C  a type of medicine you can use to kill bacteria in your body
   D  a tiny organism that is invisible without a microscope

2. What does the author describe in the section with the heading "Many Homes for Many Microbes"?

   A  the different kinds of environments on Earth where people and microbes can live
   B  the different kinds of microbes that live in and on people’s bodies
   C  the ways that different kinds of microbes help different parts of your body
   D  different environments in and on your body where different kinds of microbes live

3. Read these sentences from the text.

   “[A] unique group of microbes lives in each part of your gut, your mouth, and even your brain. [...] [Microbes] help protect you from pathogens, and also help you digest food, make vitamins, and even help your brain work!”

   What conclusion can you draw about microbes in your body, based on this evidence?

   A  Different types of microbes help your body in different ways.
   B  Only one type of microbe helps your body in a lot of different ways.
   C  Microbes that live in your gut are more helpful than microbes that live in your mouth.
   D  The microbes in each part of your body are very similar to each other.

4. Based on the text, how could the relationship between your body and the microbes in it be described?

   A  Microbes are usually bad for your body’s health, and they grow best when your body is not healthy.
   B  Your body and the microbes in your body do not affect each other in any way.
   C  Microbes in your body are important to your health, and your body is important to those microbes.
   D  While your body’s health is important to microbes living in it, most microbes are bad for your health.
5. What is the main idea of this text?

A Many different kinds of microbes live in the water you drink, the food you eat, and the air you breathe.
B Many different kinds of microbes live on and in our bodies, and many of them are helpful.
C Helpful bacteria that live on our hands can usually fight off harmful microbes without the help of hand sanitizer.
D An ecosystem is a community of living things that interact with one another and with non-living things in their environment.

6. Why might the author have used the phrase “Body Buddies” to describe microbes in the title and in one of the headings in this text?

A to suggest that microbes are better friends than people
B to show that microbes work with other microbes on and in your body
C to suggest that microbes are good for your body
D to show that microbes are friendly organisms

7. Choose the answer that best completes the sentence below.

Microbes keep your body’s systems working like they should, _____ your body provides the environment for the microbes living inside you.

A while
B although
C then
D for example

8. What can the helpful bacteria that live on our hands help fight off?

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______________________________________________________________________
______________________________________________________________________
9. Describe how your body and your microbes work together. Support your answer with evidence from the text.

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10. The author of this text claims that microbes are “an important part of our bodies and our health.” What are three pieces of evidence from the text that support this claim?

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