

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Reading: Bacteria

What do a pinch of dirt, a spoonful of pond water, and a square inch of your skin have in common? They are all home to millions of bacteria! In fact, if we could travel to nearly anywhere on Earth and look with a microscope, we'd find bacteria. If we compare bacteria from all around our planet, they have some similarities. Bacteria are all microscopic, one-celled, or unicellular organisms. However, bacteria come in different shapes. Some are round like balls, others are long, and some are twisted like a corkscrew. Some have parts that look like tails and act like a motor to help them move. Unlike the cells in our body, bacteria do not have a nucleus.



### Are Bacteria helpful or harmful?

When we think of bacteria, we often worry about living creatures entering our body and making us sick. Though some bacteria cause disease and are harmful to humans, most don't affect us at all. Actually, there are bacteria that help us! For example, our intestines contain some bacteria that help us digest certain foods and other bacteria that kill germs in the food we eat. That helps us avoid getting sick! People in many cultures worldwide eat foods prepared with the help of bacteria, such as yogurt, cheese, or kimchi.



### What do bacteria need to survive?

We are lucky to have some bacteria living inside us that help keep us healthy. But these bacteria are also lucky because our bodies give them a safe home with lots of food. Just like our own cells, bacteria need food to make energy to live and grow. However, many bacteria do not live inside humans or other living organisms. How do they get the food they need? Some bacteria, like those in soil, eat animals or plants that die and fall to the ground. Others don't need to find food at all because they can just use light and other substances in their environment like water, oxygen, carbon dioxide, ammonia, or sulfur to help them make more cells. Once bacteria have the proper nutrients available, they can grow and make copies of themselves very quickly. In fact, some bacteria can make new cells in as little as 20 minutes,

which means that in just 12 hours, a single bacteria cell can form a group of nearly 70 billion cells. The average bacterium cell can live about an average of 12 hours. It's no wonder we find bacteria everywhere!

**Think about the following questions as you complete this reading:**

- What do you notice about this organism that's similar to or different from the other organisms and cells we've seen?
- How do this organism's structure and function relate to where it lives? Why do you think it lives where it does?
- Do they relate to our healing story? If so, how?

**Sources:**

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