

Biology for Kids

Bacteria



What are bacteria?

Bacteria are tiny little organisms that are everywhere around us. We can't see them without a microscope because they are so small, but they are in the air, on our skin, in our bodies, in the ground, and all throughout nature.

Bacteria are single-celled microorganisms. Their cell structure is unique in that they don't have a nucleus and most bacteria have cell walls similar to plant cells. They come in all sorts of shapes including rods, spirals, and spheres. Some bacteria can "swim" around using long tails called flagella. Others just hang out or glide along.

Are bacteria dangerous?

Most bacteria aren't dangerous, but some are and can make us sick. These bacteria are called pathogens. Pathogens can cause diseases in animals and plants. Some examples of pathogens are leprosy, food poisoning, pneumonia, tetanus, and typhoid fever.

Fortunately, we have antibiotics we can take which help to fight off the bad pathogens. We also have antiseptics to help us keep wounds clean of bacteria and antibiotic soap we use to wash to help keep off bad pathogens. Remember to wash your hands!

Are bacteria all bad?

Not at all. Actually most bacteria are very helpful to us. They play an important role in the planet's ecosystem as well as in human survival.

Bacteria in the soil

Bacteria work hard in the [soil](#) for us. One type of bacteria, called decomposers, break down material from dead plants and animals. This might sound kind of gross, but it's an important function that helps to create soil and get rid of dead tissue. Another type of bacteria in the soil is Rhizobium bacteria. Rhizobium bacteria helps to fertilize the soil with [nitrogen](#) for plants to use when growing.

Bacteria in food

Yep, there's bacteria in our food. Yuck! Well, they aren't really that bad and bacteria is used when making foods like yogurt, cheese, pickles, and soy sauce.

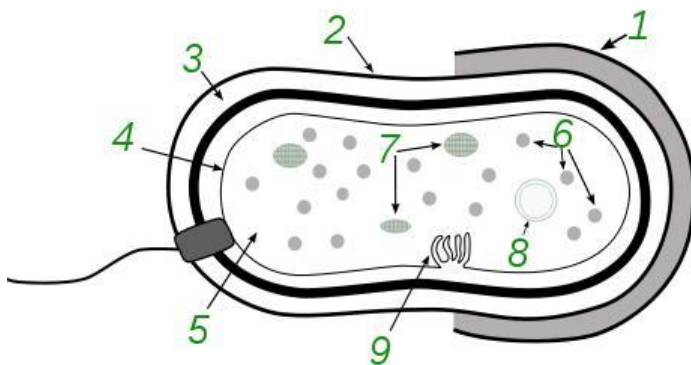
Bacteria in our bodies

There are many good bacteria in our bodies. A primary use of bacteria is to help us digest and breakdown our food. Some bacteria can also help assist our immune system in protecting us from certain organisms that can make us sick.

Parts of the Bacteria Cell (see picture)

The scientific name for bacteria cells is prokaryotes. Prokaryotes are fairly simple cells in that they do not have a cell nucleus or other specialized organelles.

1. Capsula
2. Outer membrane
3. Periplasm and Cell wall
4. Cytoplasmic (inner) membrane
5. Cytoplasm
6. Ribosome
7. Reserve food supplies
8. Chromosome
9. Mesosome



Interesting Facts about Bacteria

- There are around 40 million bacteria in a gram of soil.
- Bacteria can survive in very harsh conditions including deep areas of the Earth's crust and in radioactive waste.
- There are around as many bacteria cells in a human body as there are human cells.
- Bacteria are used to help the environment by treating sewage and breaking down oil from oil spills.
- Some bacteria have chemicals that can generate light. This is called bioluminescence.