

Name: _____

Period: _____

Date: _____

Prokaryote Coloring

Prokaryotes cells are the **simplest** of all the cells. **Bacteria** are **prokaryotes**. Bacteria can be in two major categories: The Kingdom Eubacteria and the Kingdom Archaeobacteria. **Eubacteria** are common types that occur all around us, usually they are on surfaces and in the soil. You can only find **Archaeobacteria** in extreme environments, like hot sulfur springs. Archaeobacteria are thought to be some of the oldest life forms on earth. Most bacteria don't make their own food. That means they have to rely on other organisms to provide them with food. These bacteria have to break down, or **decompose**, other living things to obtain energy.

When most people hear the word bacteria, they think of something that is bad for you. In fact, very few bacteria cause illness. Some bacteria actually help you! Bacteria are used to make food, such as cheese and yogurt, and they can also help us break down harmful substances in the environment. Scientists created a type of bacteria that could gobble up oil from oil spills. Some bacteria live inside the guts of animals and help them to digest food.

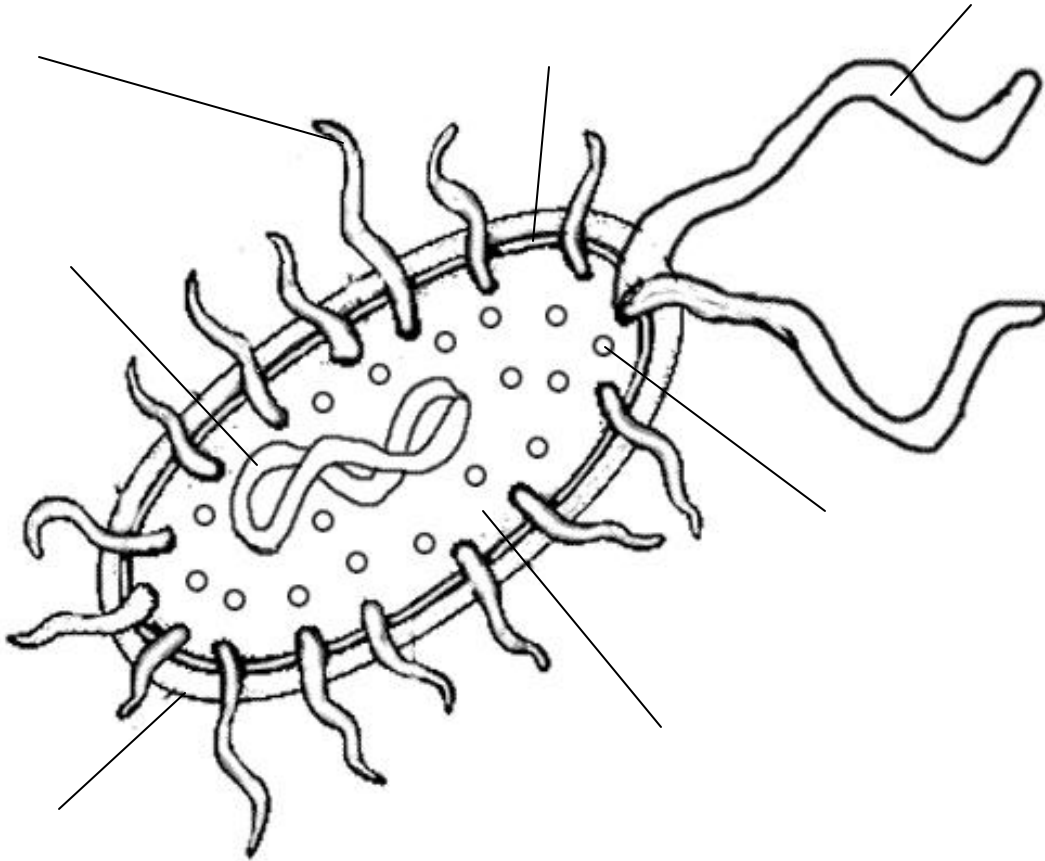
Unfortunately, there are many types of bacteria that can make us **ill**. **Salmonella** bacteria can cause food poisoning, and certain types of bacteria are responsible for other infections. You might have had some experience with **Streptococcus**, the bacteria that cause strep throat.

Bacteria have a very simple cell design. Most of them have a thick outer covering called the **cell wall** which protects the cell. Within the cell wall is the **cell membrane**, which lets things in and out of the cell. Along the surface of the bacteria cell, you might encounter structures called **pili**, whose job is to help the bacteria stick to surfaces. Bacteria might also need to move around in their environment, so they can have structures called **flagella**, which resemble tails. The watery interior of the cell is called **cytoplasm**, and it has the texture of Jell-o. Sprinkled throughout the cell are small roundish structures called **ribosomes**. Ribosomes make proteins for the cell. Every prokaryote cell has DNA floating within the cytoplasm, which usually looks like a twisted strand of spaghetti. **DNA** contains the instructions for the cell, basically it is the control center.

Questions:

1. What bacteria cause strep throat? _____
2. What are the **oldest** life forms on earth? _____
3. What type of bacteria causes food poisoning? _____
4. Which part of the bacteria cell helps it stick to surfaces? _____
5. Name two foods that bacteria help make: _____
6. What does "decompose" mean? _____
7. What area is the control center of the bacteria cell? _____
8. What part of the bacteria cell helps it move? _____
9. Where do Archaeobacteria live? _____
10. To what **kingdom** do common bacteria belong? _____
11. Which structure surrounds the cell and protects it? _____

Prokaryotic Cell (Bacteria)



Please **color** the diagram AND the corresponding key below:

- Cell Wall (yellow)
- Cell Membrane (red)
- Pili (orange)
- Flagella (green)
- Ribosome (black)
- Nucleoid region/DNA (purple)
- Cytoplasm (white)

Please **label** (write in) the above structures on the diagram next to the lines.