

## What is Bacteria?

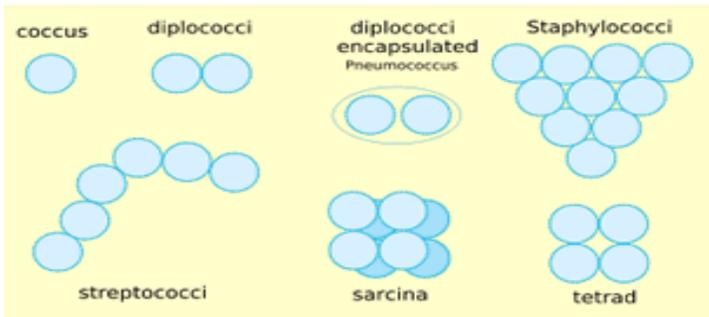
These are the organisms which belong to kingdom monera have cell wall made of peptidoglycan, cannot be seen with naked eye and lack membrane bound organelles. **They were discovered by Leeuwenhoek.** Their features resemble to the organisms of kingdom monera. Bacteria are present everywhere. The size of bacteria is not static. It is different for every species. Their size ranges from **0.1 micrometer to 750 micrometer.** Bacterial cells vary in shape and they have no definite structure. **They can be coccus, bacilli, spirillum, stalked in shape.** Cocci bacteria are further subdivided into spherical or ovoid shape. They can occur as single, double, chain form, grape form or 3d form. Bacilli are rod shape bacteria with flat ends. Spirillum bacteria are coil shape bacteria which resemble cork-screw. Vibrio is a comma shape bacterium which causes cholera.

## Bacteria come in three main shapes:

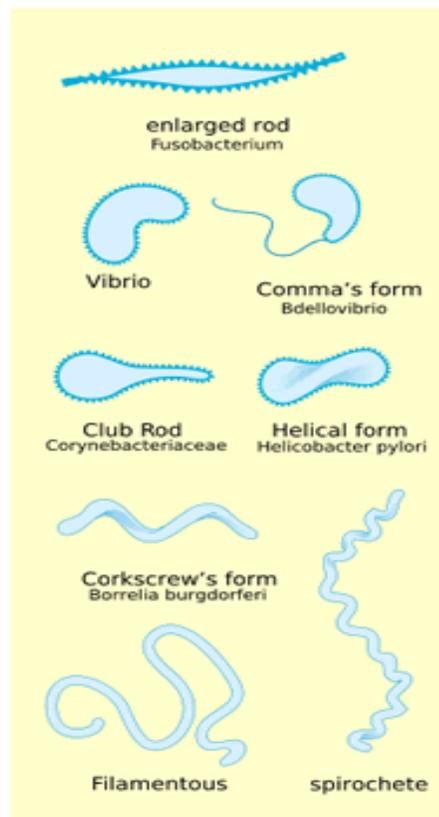
- **Spherical (like a ball)**  
These are usually the simplest ones. Bacteria shaped like this are called *cocci* (singular *coccus*).
- **Rod shaped**  
These are known as *bacilli* (singular *bacillus*).  
Some of the rod-shaped bacteria are curved; these are known as *vibrio*.
- **Spiral**  
These known are as *spirilla* (singular *spirillus*).  
If their coil is very tight they are known as *spirochetes*.

## There are many variations within each shape group.

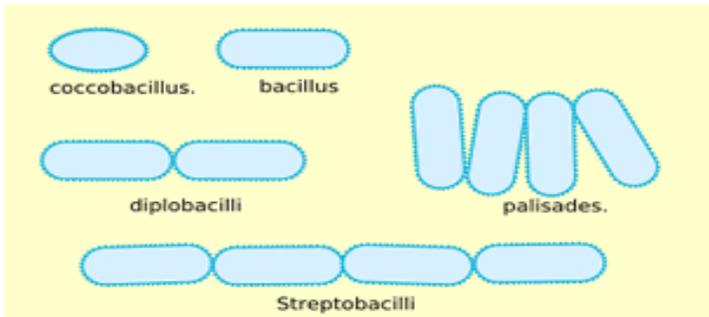
### Cocci



### Others



### Bacilli



### Budding and appendaged bacteria



## Bacteria are found everywhere

Bacteria can be found in:

- Soil
- Radioactive waste
- Water
- Plants
- Animals
- Deep in the earth's crust
- Organic material
- Arctic ice
- Glaciers
- Hot springs

- The stratosphere (between 6 to 30 miles up in the atmosphere)
- Ocean depths - they have been found deep in ocean canyons and trenches over 32,800 feet (10,000 meters) deep. They live in total darkness by thermal vents at incredible pressure. They make their own food by oxidizing sulfur that oozes from deep inside the earth.