

## ① What are Bacteria?

### What You'll Learn:

Identify the characteristics of bacteria cells.

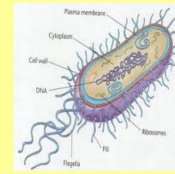
Compare and contrast aerobic and anaerobic organisms.

## Characteristics of Bacteria

\*Bacteria live almost everywhere.

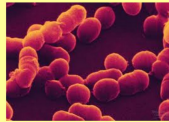
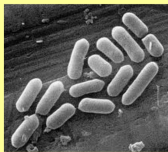


\*Single cell prokaryotic organism with cell membrane, cell wall, cytoplasm, and ribosomes.

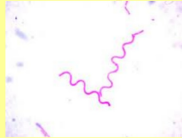


## Structure of Bacterial Cells

\*Cocci are sphere shaped.



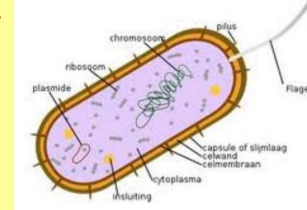
\*Bacilli are rod shaped.



\*Spirilla are spiral shaped.

## Special Features

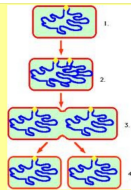
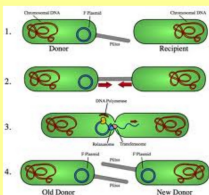
Some have a thick gelatin capsule surrounding the cell wall.



Some have a flagella, slime, or cilia.

## Reproduction

\*Usually by fission



\*Some exchange genetic material through a process similar to sexual reproduction.

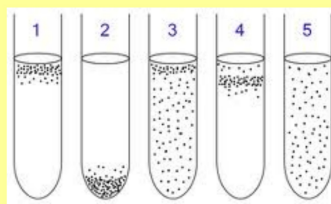
## How Bacteria Obtain Food and Energy

\*Some are producers that either use chlorophyll or energy from chemical reactions for food.

\*Most are consumers that break down dead organisms.

\*Some are parasites.

## Aerobic bacteria use O



Anaerobic bacteria do NOT use O

## Eubacteria

\*Grouped according to cell shape and structure, the way they obtain food, type of food, and waste.



## Producer Eubacteria

\*Cyanobacteria produce food using CO<sub>2</sub>, water, and the Sun. They produce O as a waste product.



Cyanobacteria 40 μm

## Importance of Cyanobacteria

\*The O they produce is used by many aquatic organisms.

\*If too many nutrients are present they will bloom and use the resources quickly and die.

\*Other aerobic bacteria consume the dead Cyanobacteria, and use up the O.

\*Result is reduced O in the water.



### Archaeobacteria

\*Are found in extreme conditions, and are divided into groups based on how they get energy.

