

Bacteria

Prokaryotes

- Microscopic
- Unicellular
- Circular DNA
- Some have a capsule
 - Helps protect cell
 - Prevents drying out
 - Helps attach to other cells
- Some have *pili* (hair)

Identification

Shape

Cocci

- round
- spherical

Bacilli

- rod-shaped

Spirilli

- Spiral-shaped

Movement

Flagellum

- Use a whip shaped tail to move around
- Tend to want to move towards light and oxygen
 - or amino acids and sugar

Stationary

- cant move

Metabolism

Food Production

Photoautotrophs

Chemoautotrophs

- Exercise photosynthesis
- Use sunlight as main source of energy
- Make energy by breaking down organic compounds
- Cant use sunlight
- Energy is from oxidation

Oxygen

Aerobes

- Respirates aerobically
- More effecient
- Uses Oxygen

Anaerobes

- Respirates anaerobically
- Less effecient
- Does not require Oxygen

Reproduction

Binary Fission

Binary Fission

Binary Fission: Division by getting larger then separating into two identical cells.

- Similar to cell division
- Can happen as fast as in 20 minutes

Conjugation

Conjugation

Conjugation: Two cells attach and exchange genetic information

- increases genetic diversity

Functionality

Environment

- Helps decompose harmful organic materials
- Nitrogen fixation

Human impact

- Compete with harmful fungi
- Help humans produce Vitamin K

Industrial Uses

- Food
 - Milk
 - Yogurt
 - Buttermilk
 - Pickles
 - Chocolate
- Production of Vitamin B12
- Production of Riboflavin
- Medical uses to fight disease

Diseases

- Cholera
- Typhoid
- Pneumonia
- etc.