

Microorganisms

Microorganisms and Their Types

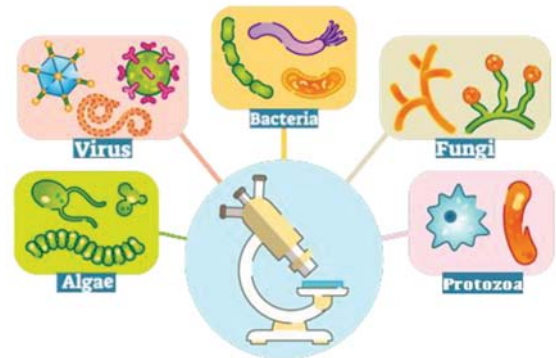
What are Microorganisms?

Microorganisms are tiny living organisms that are too small to be seen with the naked eye. They can be seen only through a microscope.

They are also called microbes.

Types of Microorganisms:

- i. Algae
- ii. Virus
- iii. Bacteria
- iv. Fungi
- v. Protozoa



i. Bacteria

- Single-celled organisms
- Found everywhere: air, water, soil, and inside our body
- Some are useful, others can cause diseases

Types of Bacteria (Based on Shape):

Shape	Name	Example (if any)
Round	Coccus	Streptococcus (sore throat)
Rod-shaped	Bacillus	Lactobacillus (curd bacteria)
Spiral	Spirillum	Spirillum
Comma-shaped	Vibrio	Vibrio cholerae (cholera)

ii. Fungi

- Can be unicellular (yeast) or multicellular (moulds)
- Grow on stale food, bread, damp clothes

Example: Yeast, Mushroom, Bread mould



iii. Protozoa

- Single-celled animals
- Live in water or inside the body of animals
- Cause diseases like malaria

Example: Amoeba, Paramecium, Plasmodium (causes malaria)

iv. Algae

- Mostly found in water
- Green in color due to chlorophyll
- Some are used as food

Example: Chlorella, Spirogyra

v. Viruses

- Smaller than all other microbes
- Can reproduce only inside a living cell
- Cause diseases like flu, COVID-19, AIDS

Example: Coronavirus, HIV, Influenza virus

✳ Summary Table:

Microorganism	Cell Type	Example	Special Note
Bacteria	Unicellular	Lactobacillus, Vibrio	Can be useful or harmful
Fungi	Uni or multicellular	Yeast, Bread mould	Some used in food, some cause rot
Protozoa	Unicellular	Amoeba, Plasmodium	Animal-like microbes
Algae	Unicellular or simple multicellular	Spirogyra, Chlorella	Plant-like, lives in water
Viruses	Neither (non-living outside host)	Coronavirus, HIV	Reproduce only inside living cells



Where Do Microorganisms Live?

Microorganisms are found everywhere — even in extreme places!

Place	Examples of Microbes
Air	Bacteria, viruses
Water (ponds, rivers, seas)	Algae, protozoa
Soil	Fungi, bacteria
Inside human/animal body	Bacteria in the gut, disease-causing viruses
On food	Fungi (bread mould), bacteria (curd)
Hot springs	Heat-loving bacteria (thermophiles)
Ice and snow	Cold-loving microbes
Dead and decaying matter	Decomposers like bacteria and fungi
Salty water (like the Dead Sea)	Salt-loving microbes (halophiles)