

Microorganisms

Characteristic	Prokaryotes (Bacteria and Archaea)	Eukaryotes	Viruses
Internal cell membranes	None	Yes -- endoplasmic reticulum, Golgi Apparatus, lysosomes, mitochondria, chloroplasts	None, protein shell called capsid
Type of genetic material	DNA plasmid	DNA divided into chromosomes, more than one	Piece of DNA or RNA, single or double-strand
Nucleus	No	Yes	No
Type of organism	Usually unicellular	Usually multicellular	Acellular organism (not consisting of, dividing into, or containing cells)

Characteristic	Prokaryotes (Bacteria and Archaea)	Eukaryotes	Viruses
Cell Wall	Chemically complex	Only in plant cells or fungi, simple	No
Size	1-10 um	10-100 um	100 times smaller than prokaryotes
Cell Division	Asexual Reproduction -- usually binary fission	Mitosis	No
Reproduction	Conjugation -- transfer of DNA fragments	Involves meiosis	Require host cell to reproduce
Examples	Bacteria, archaea	Fungi, protists, plants, animals	Polio, influenza, herpes, chicken pox, Ebola,