

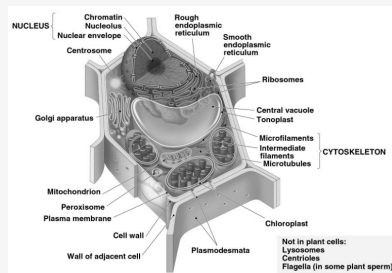
Prokaryotes vs Eukaryotes

Characteristics	Prokaryotics	Eukaryotics
Plasma Membrane	Yes	Yes
Ribosomes	Yes	Yes
Membrane-bound organelles in cytosol	No	Yes
Nucleus	No	Yes
Size	1-10 μm	10-100 μm

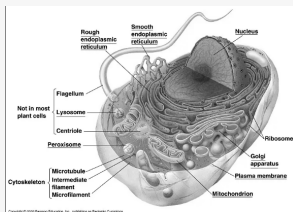
Cell Size

Surface area to volume ratio becomes less favorable as a cell increases in size

Plant Cell Diagram



Animal Cell Diagram



Prokaryotes vs Eukaryotes

Prokaryotes
Single circular chromosome is found in a region called the nucleoid, but there is no nuclear membrane and therefore no true nucleus

Eukaryotes
Membrane--enclosed nucleus contains cell's linear chromosomes

No membrane-bound organelles are found in the cytosol (there are ribosomes but they aren't membrane bound)

Many membrane-bound organelles are found in the cytoplasm

Prokaryotes are much smaller than eukaryotes

Generally, eukaryotes are much larger than prokaryotes.

Cell Wall

Functions: Protects plant, helps maintain shape, & provides barrier for some substances to enter plant cell

Found outside plasma membrane

Primary component: **Cellulose**

Perforated (pierced with a hole or holes) by **plasmodesmata** (channels that connect plant cells and allow communication and movement of material between cells)