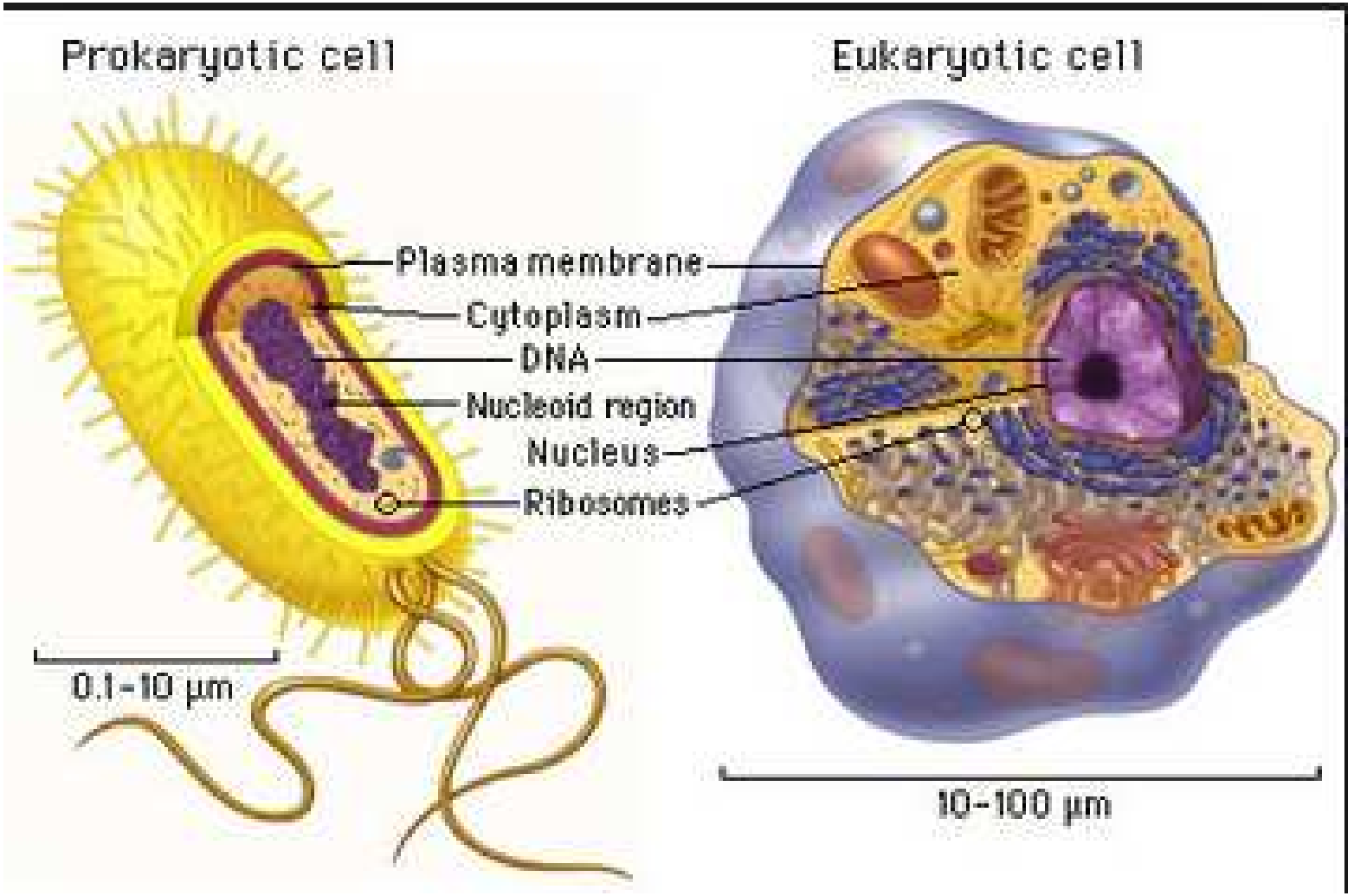
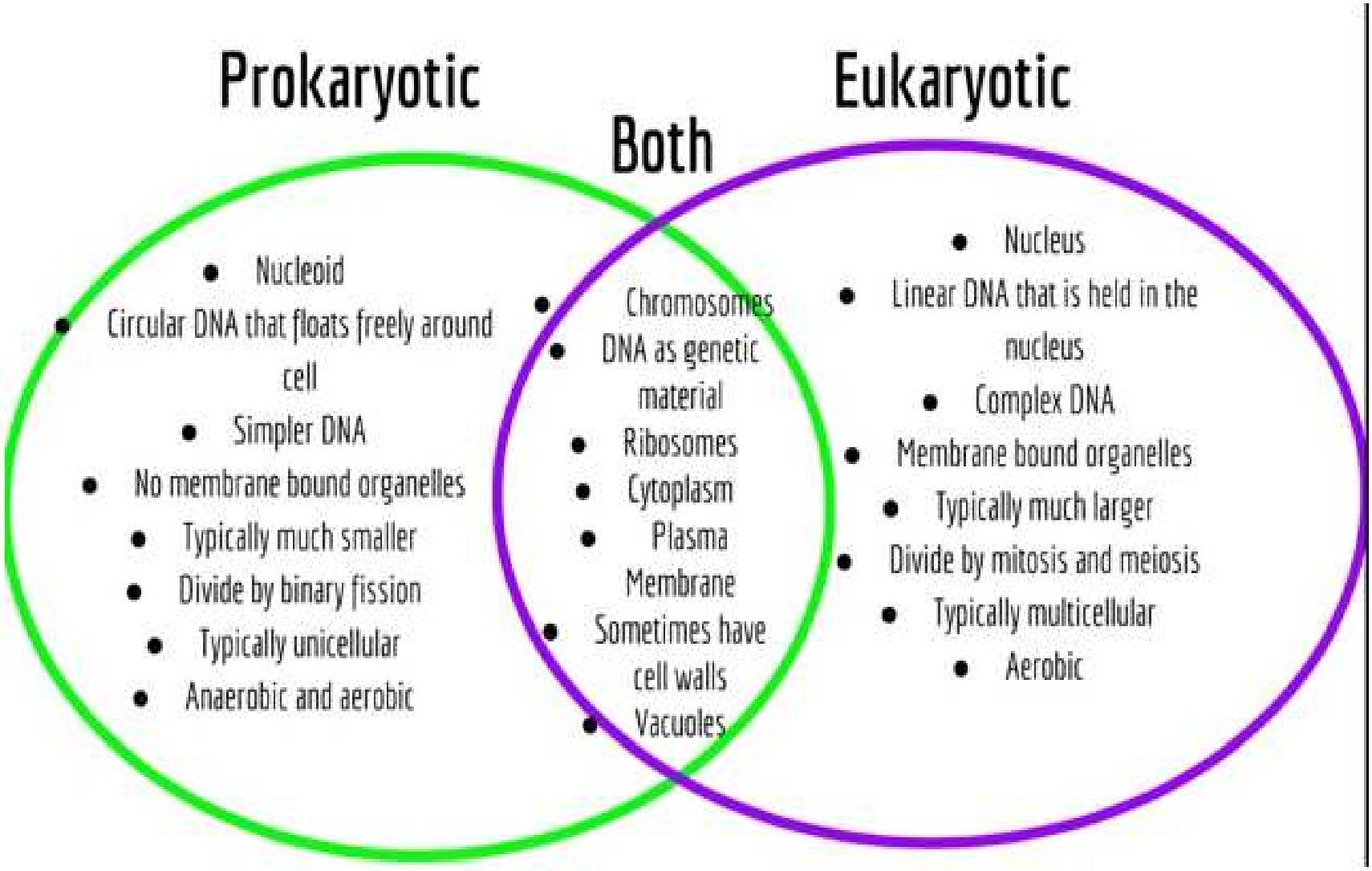
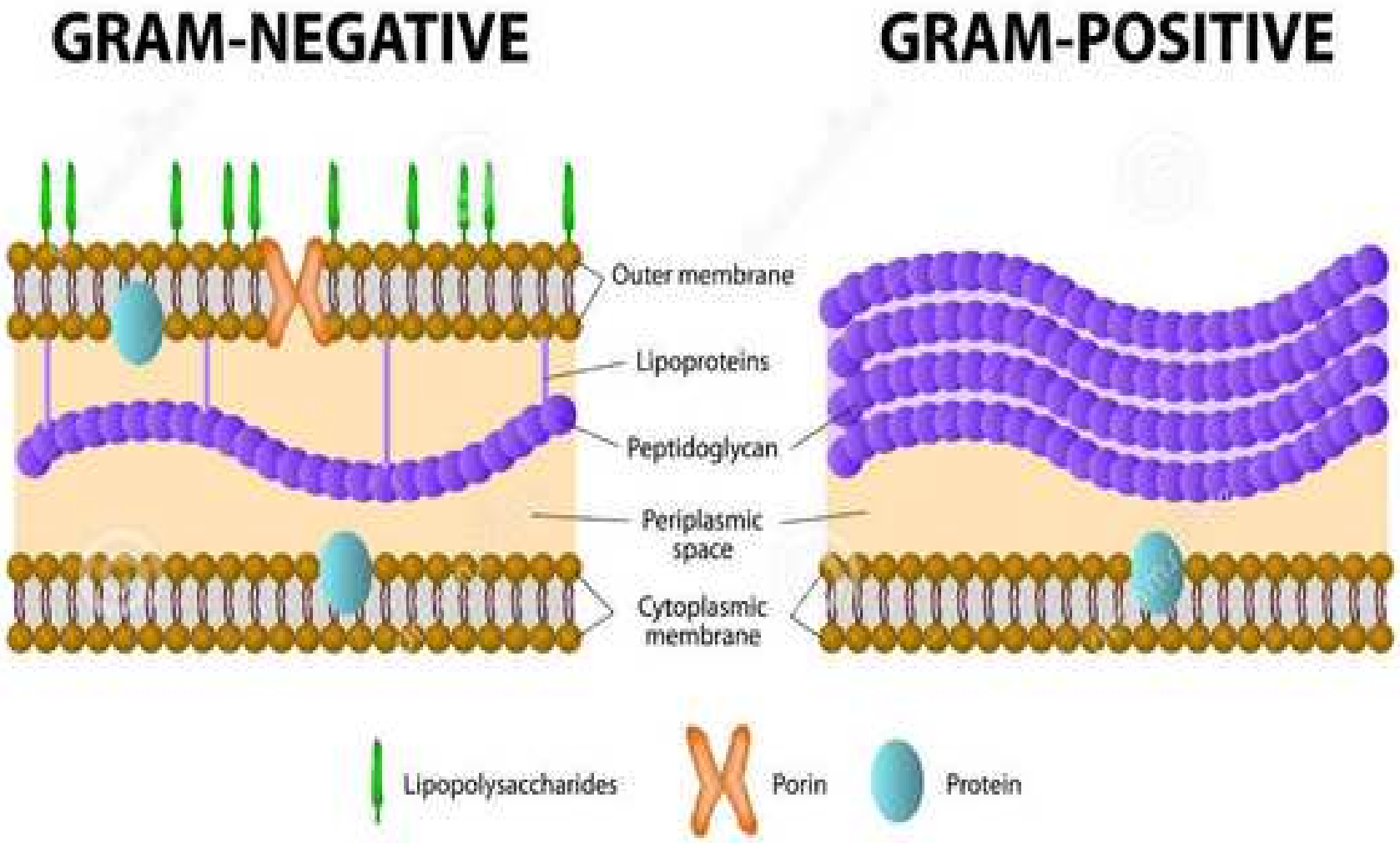
Biochemistry

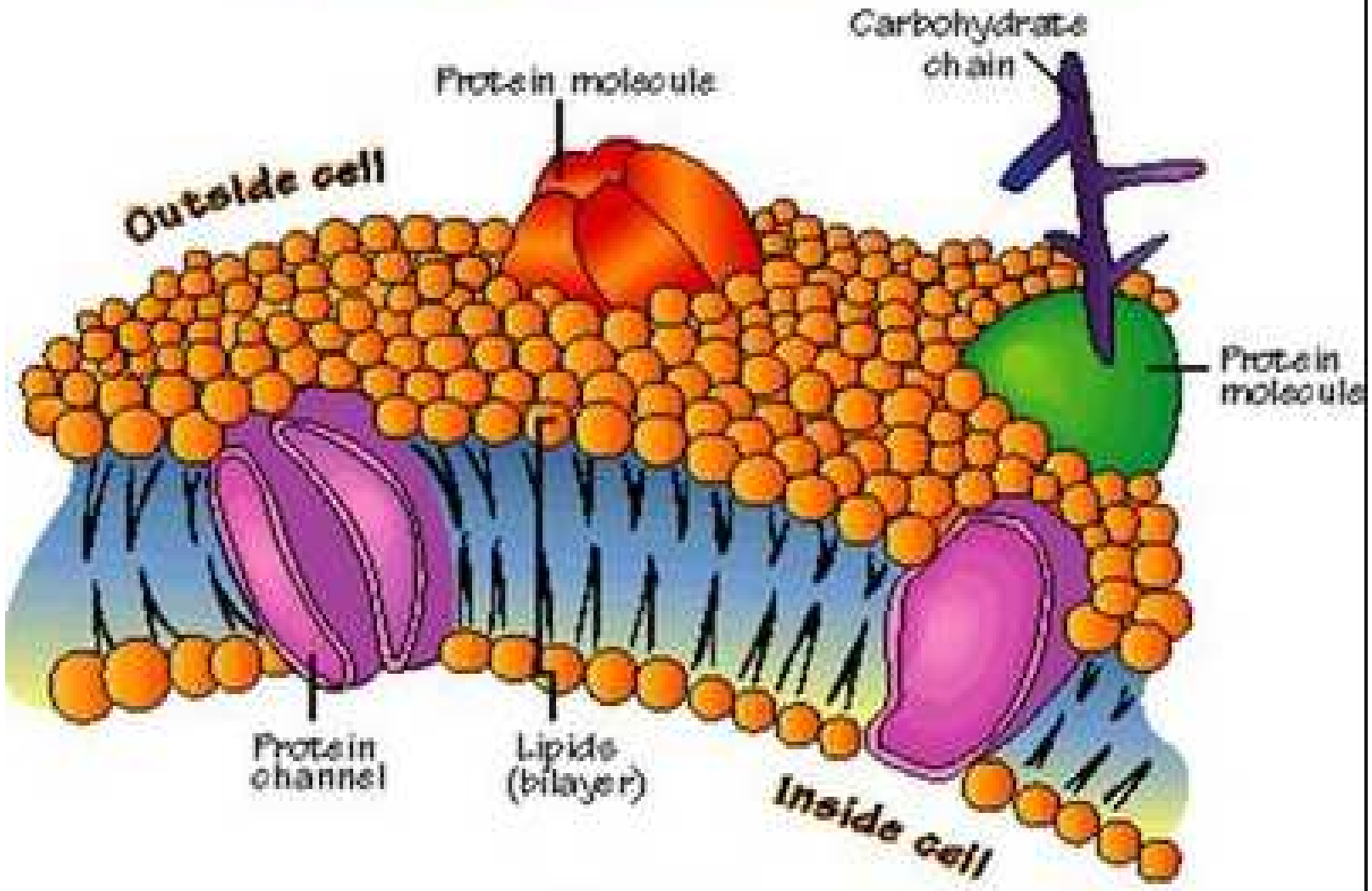
Structure and composition of the cell- part 1


Prokaryotic cell
Eukaryotic cell
Plasma membrane
Cytoplasm
DNA
Nucleoid region
Nucleus
Ribosomes
0.1–10 µm
10–100 µm

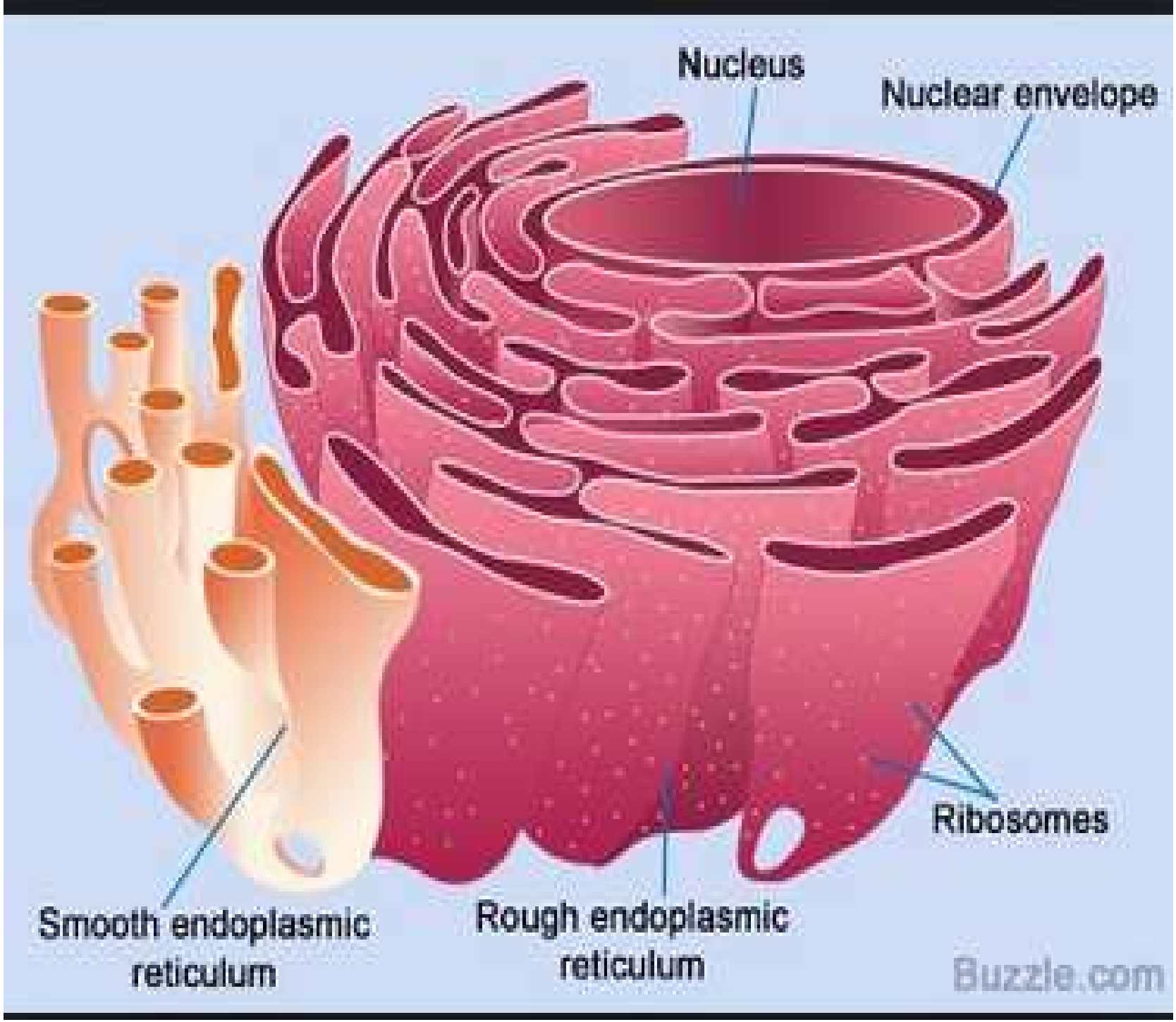

Prokaryotic
Nucleoid
Circular DNA that floats freely around cell
Simpler DNA
No membrane bound organelles
Typically much smaller
Divide by binary fission
Typically unicellular
Anaerobic and aerobic
Both
Chromosomes
DNA as genetic material
Ribosomes
Cytoplasm
Plasma Membrane
Sometimes have cell walls
Vacuoles
Eukaryotic
Nucleus
Linear DNA that is held in the nucleus
Complex DNA
Membrane bound organelles
Typically much larger
Divide by mitosis and meiosis
Typically multicellular
Aerobic

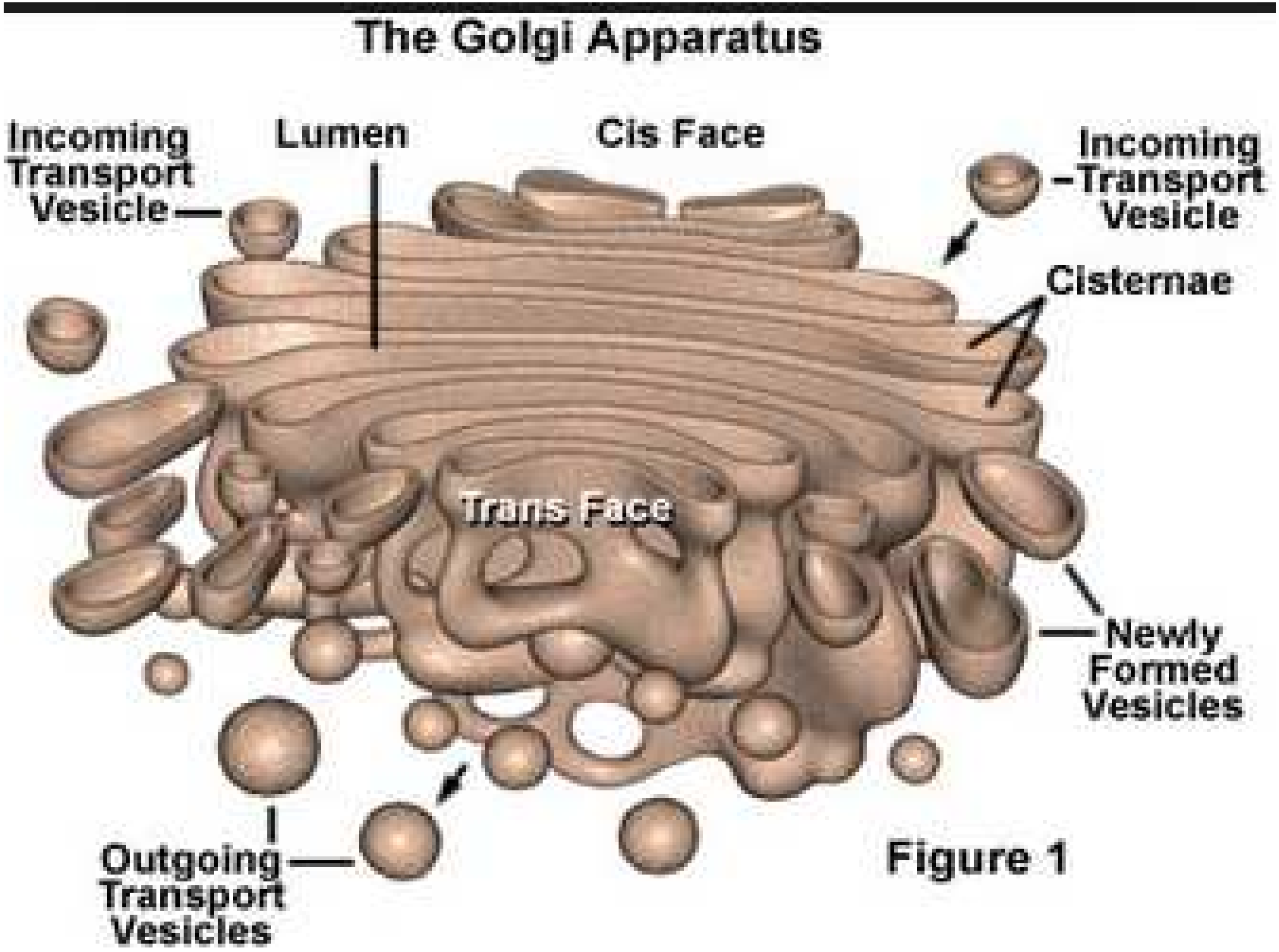

GRAM-NEGATIVE
GRAM-POSITIVE
Outer membrane
Lipoproteins
Peptidoglycan
Periplasmic space
Cytoplasmic membrane
Lipopolysaccharides
Porin
Protein

CELL MEMBRANE

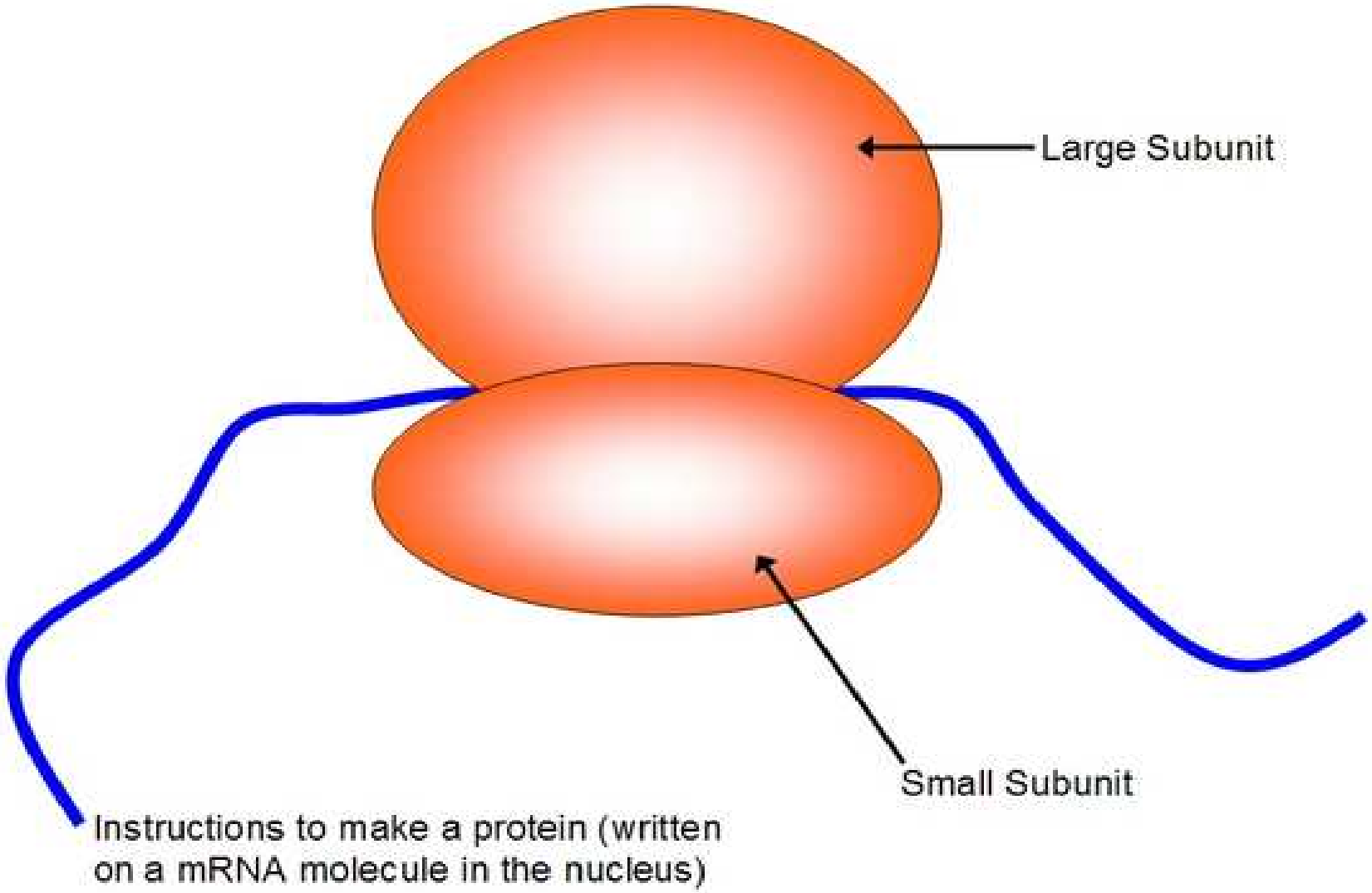


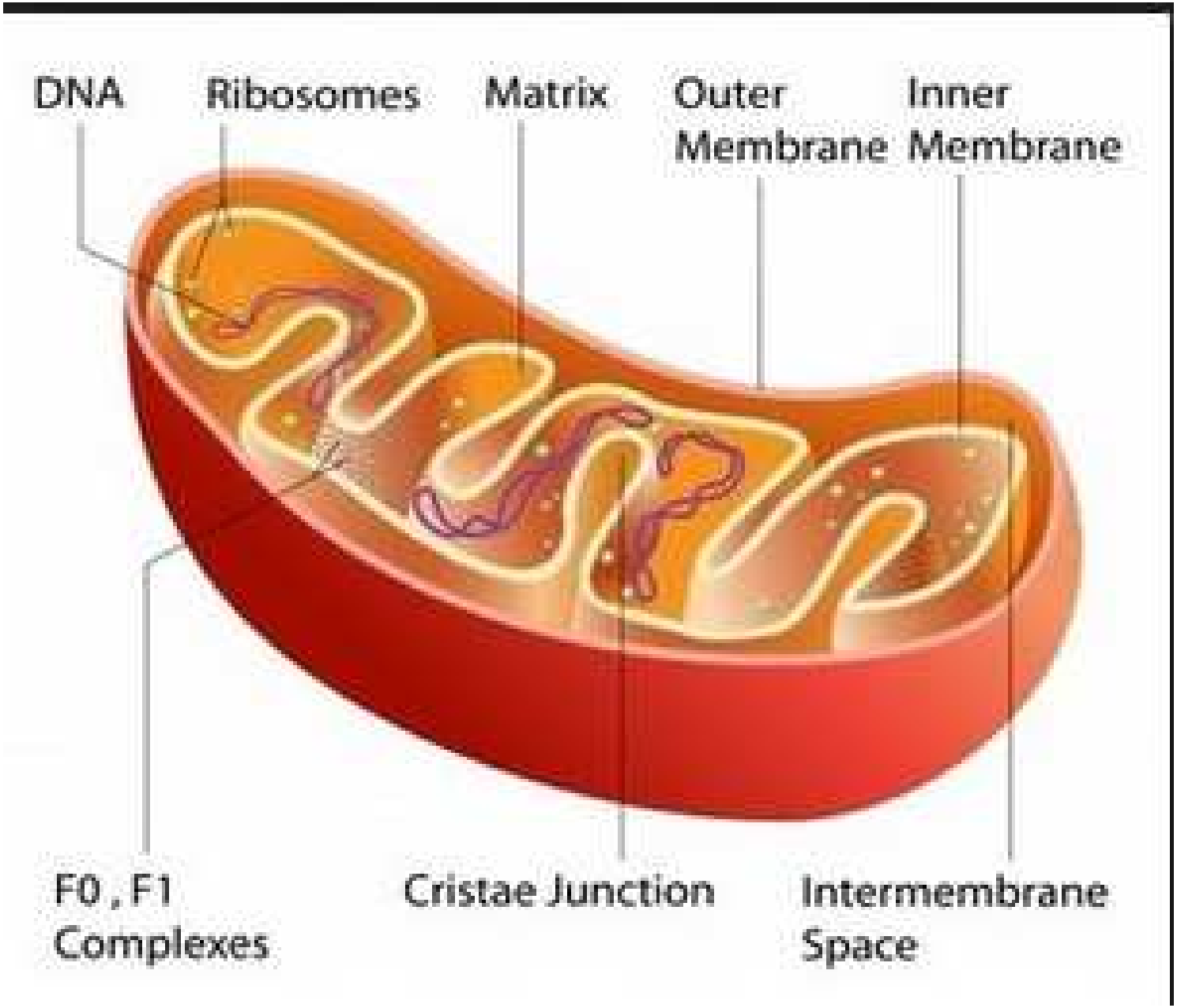
Cell Membrane Structure

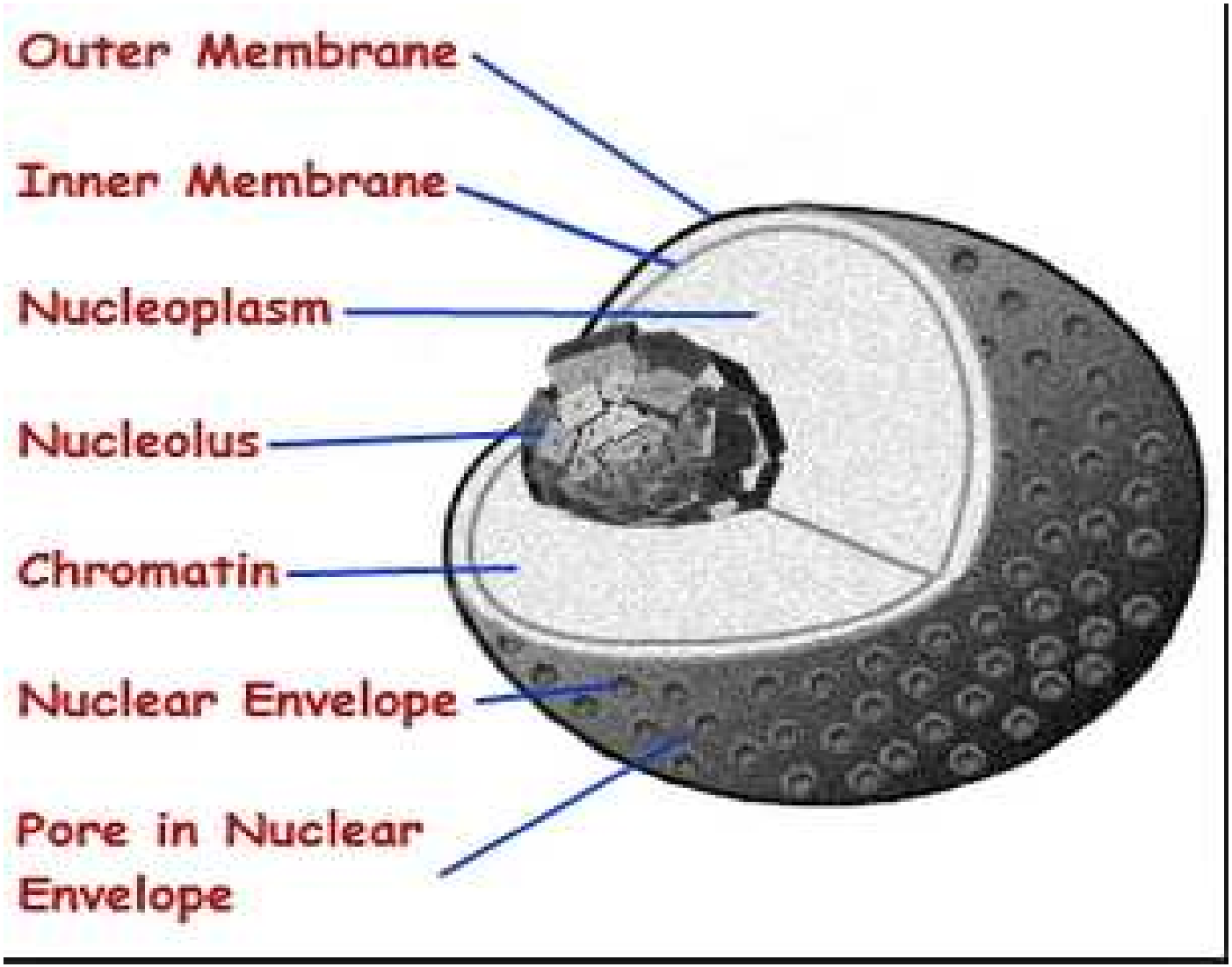

Nucleus
Nuclear envelope
Ribosomes
Smooth endoplasmic reticulum
Rough endoplasmic reticulum
Buzzle.com


The Golgi Apparatus
Incoming Transport Vesicle
Lumen
Cis Face
Incoming Transport Vesicle
Cisternae
Trans Face
Newly Formed Vesicles
Outgoing Transport Vesicles
Figure 1

Ribosome diameter = 10 nm




DNA
Ribosomes
Matrix
Outer Membrane
Inner Membrane
F0 , F1 Complexes
Cristae Junction
Intermembrane Space


Outer Membrane
Inner Membrane
Nucleoplasm
Nucleolus
Chromatin
Nuclear Envelope
Pore in Nuclear Envelope

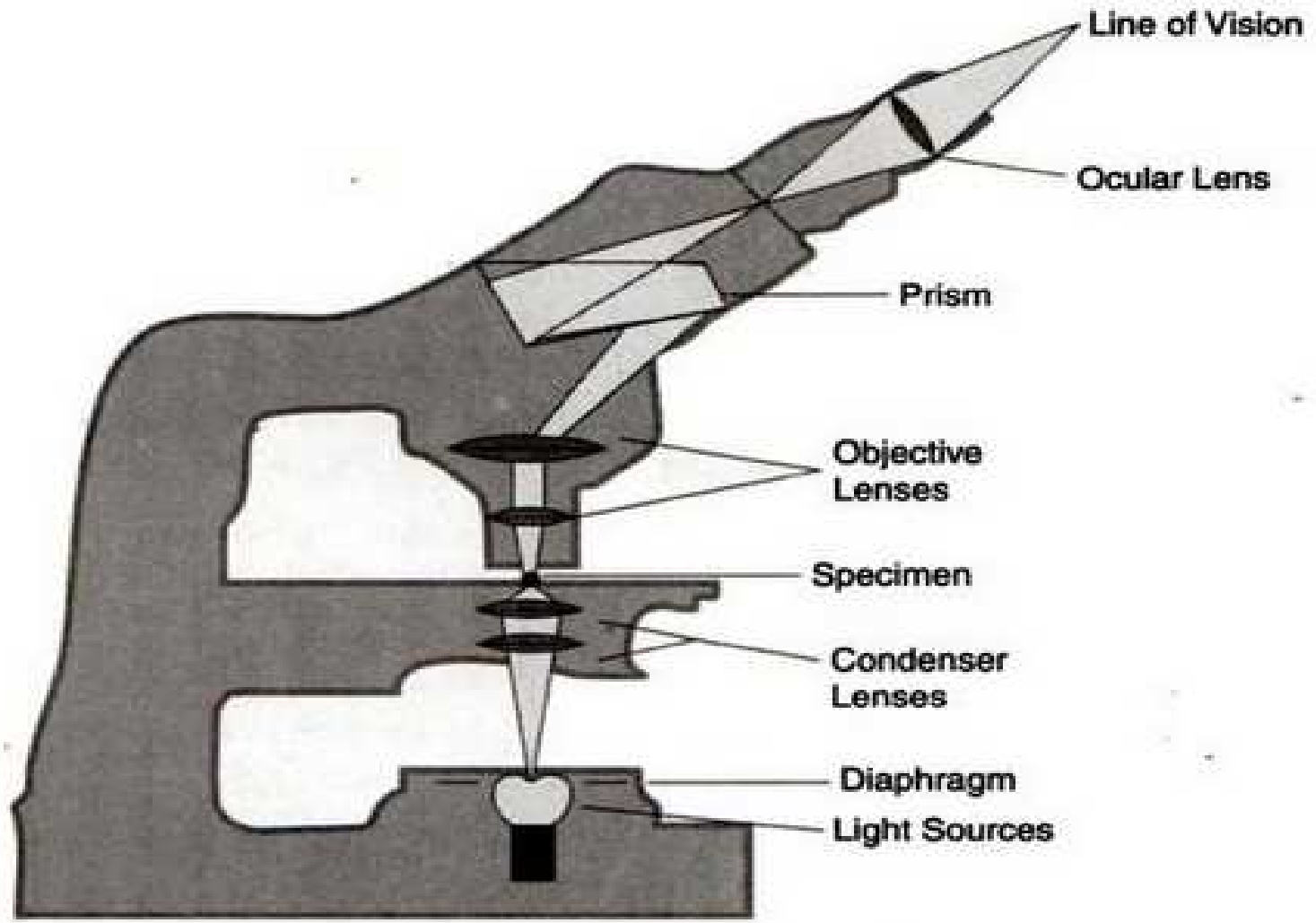


Figure 1.13 Light Microscope