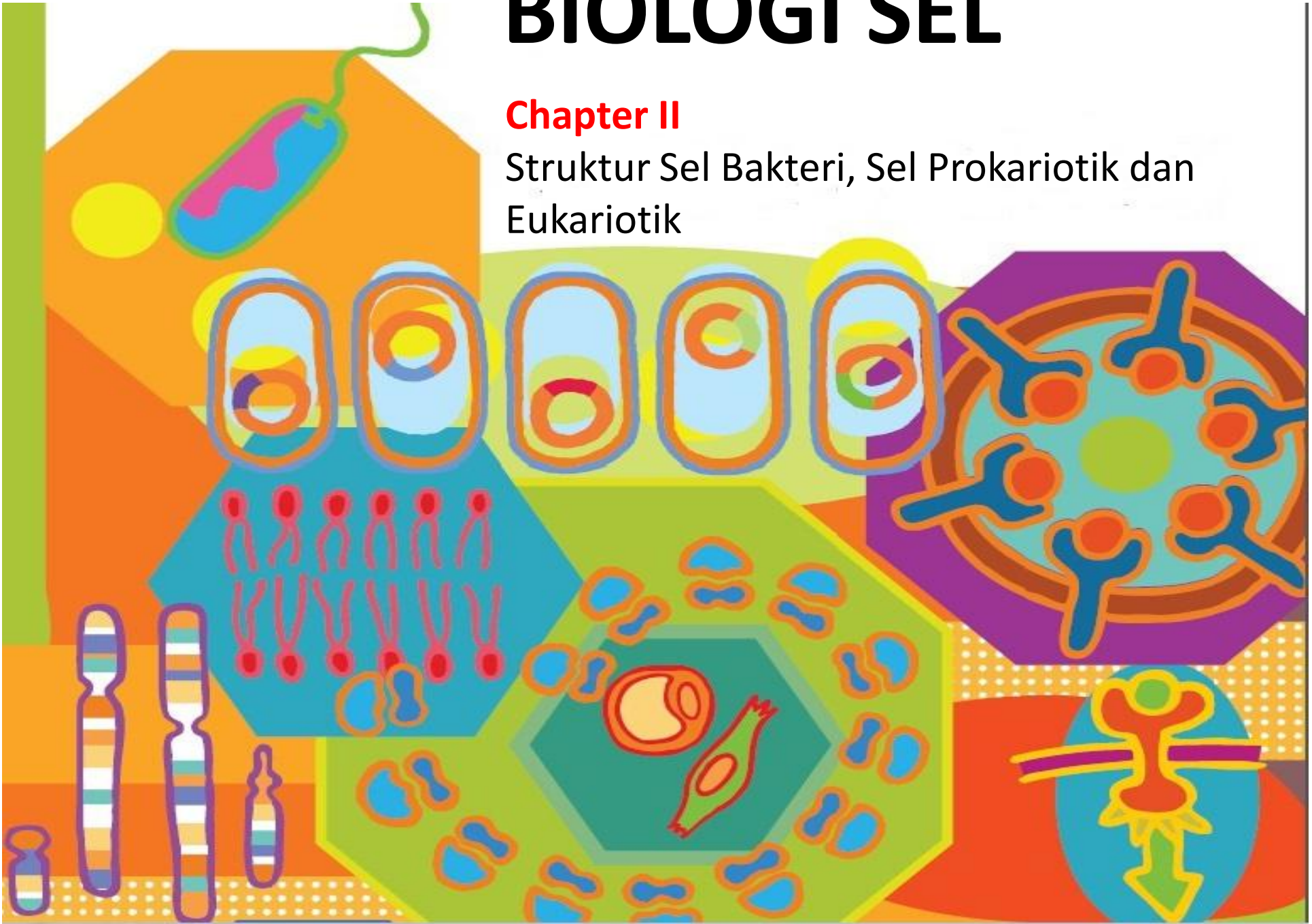


BIOLOGI SEL

Chapter II

Struktur Sel Bakteri, Sel Prokariotik dan Eukariotik



Aturan Main

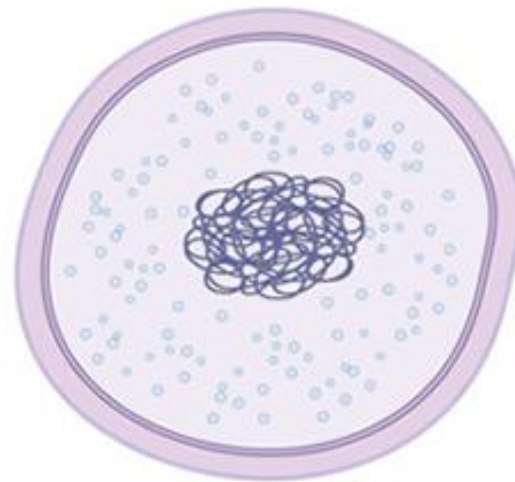
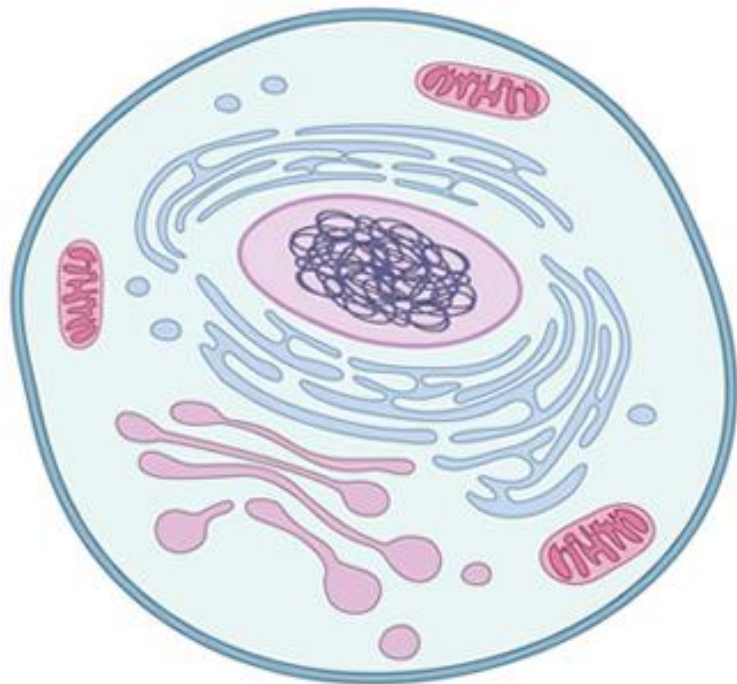
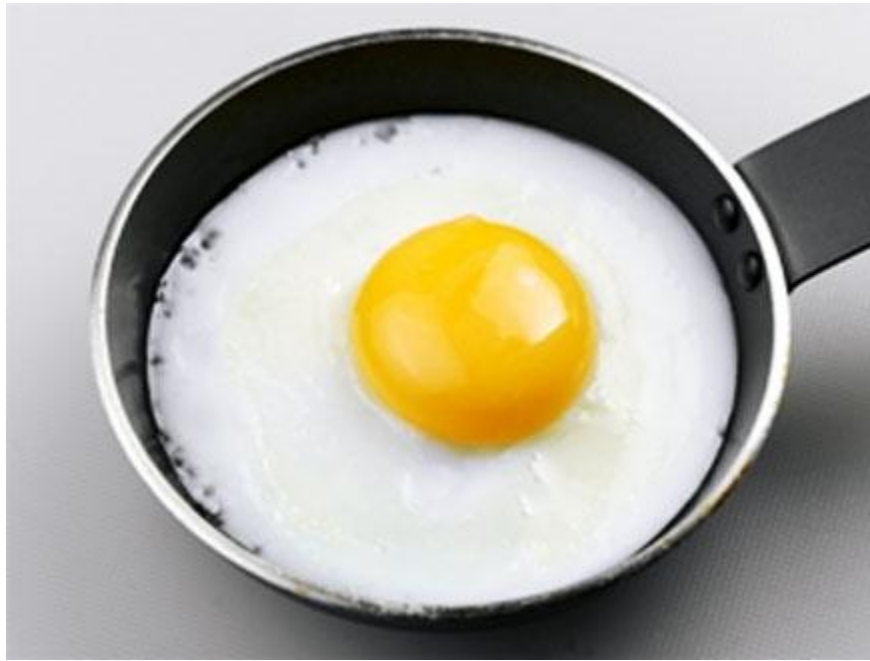
- Setiap kelompok yang menjawab BENAR/ TEPAT atau menyelesaikan pekerjaannya terlebih dahulu berhak mendapatkan **5 Bintang** (**4 Bintang** – urutan kedua dan **3 Bintang** - urutan ketiga dan **1 Bintang** – urutan keempat dst)
- Jumlah bintang akan diakumulasi
- Kelompok yang bintangnya paling banyak akan diberi **Reward**
- Kelompok yang bintangnya paling sedikit akan diberi **Punishment**
- **Semua anggota kelompok harus ikut aktif**

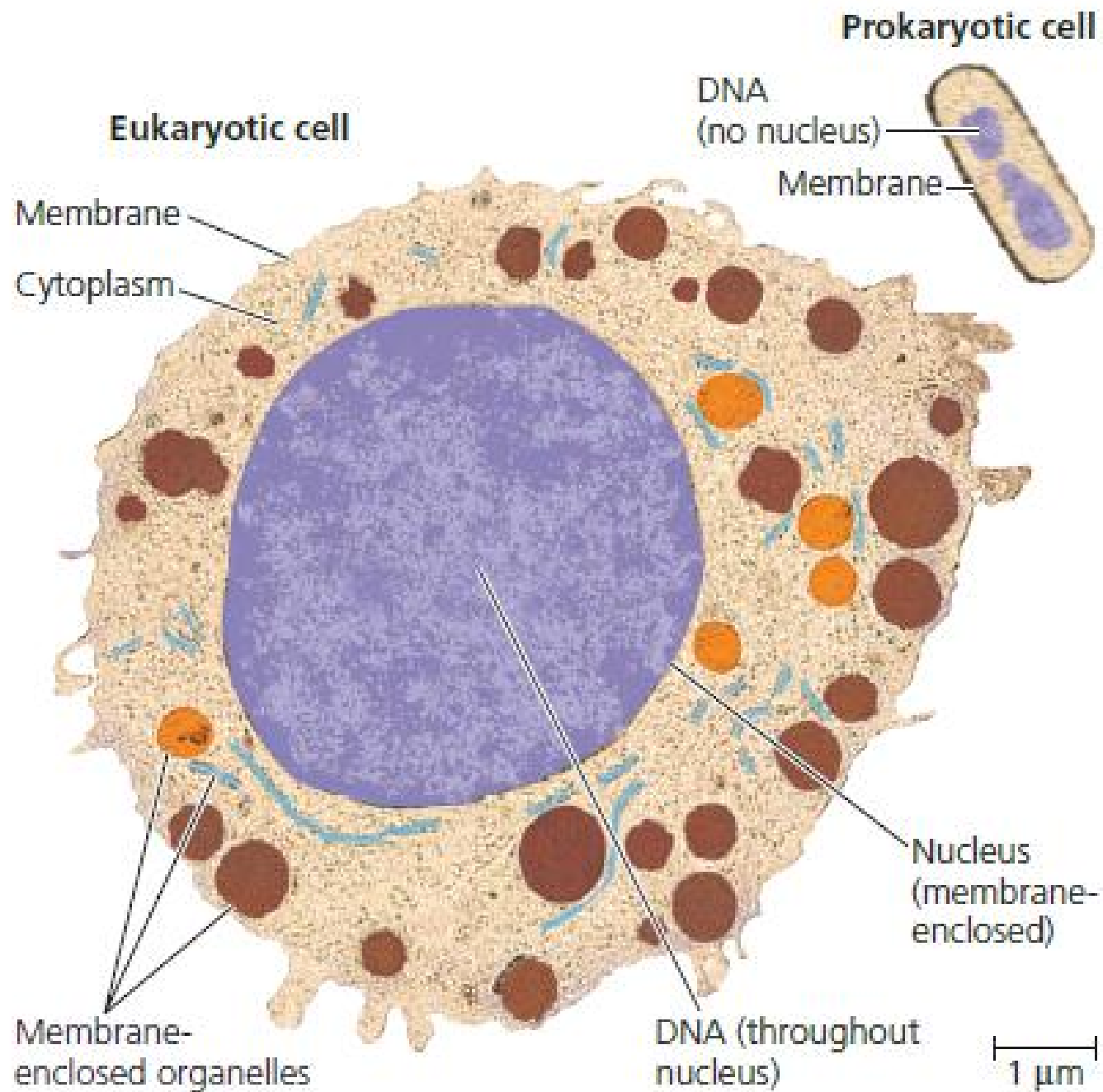
Permainan 1

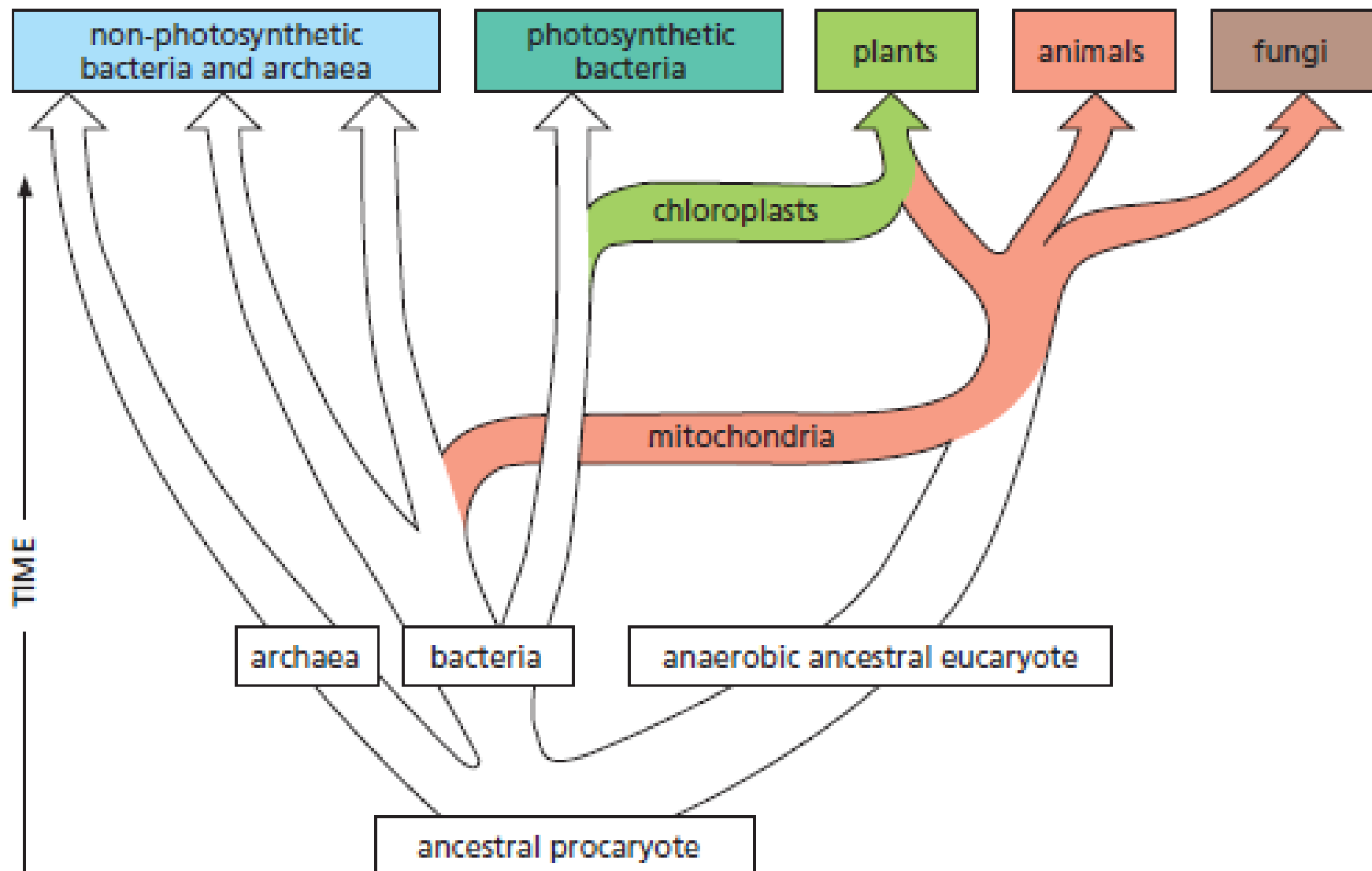
- Buatlah **Sel Prokariotik** dan **Sel Eukariotik sederhana** dengan bahan yang ada
- Waktu

15 Menit

Kelompok yang selesai silahkan menulis bintangnya di papan



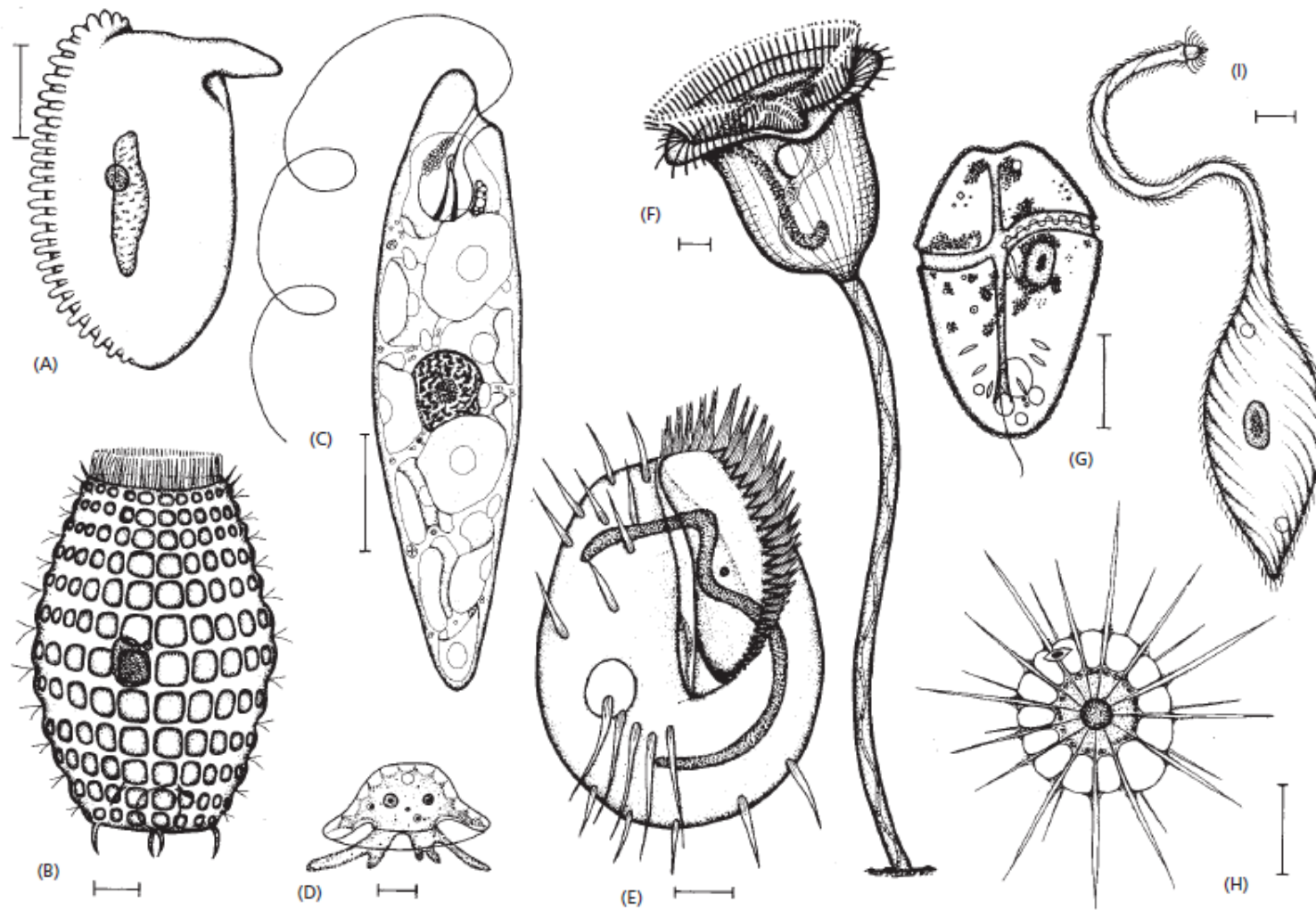




CHARACTERISTIC	DOMAIN		
	Bacteria	Archaea	Eukarya
Nuclear envelope	Absent	Absent	Present
Membrane-enclosed organelles	Absent	Absent	Present
Peptidoglycan in cell wall	Present	Absent	Absent
Membrane lipids	Unbranched hydrocarbons	Some branched hydrocarbons	Unbranched hydrocarbons
RNA polymerase	One kind	Several kinds	Several kinds
Initiator amino acid for protein synthesis	Formyl-methionine	Methionine	Methionine
Introns in genes	Very rare	Present in some genes	Present in many genes
Response to the antibiotics streptomycin and chloramphenicol	Growth usually inhibited	Growth not inhibited	Growth not inhibited
Histones associated with DNA	Absent	Present in some species	Present
Circular chromosome	Present	Present	Absent
Growth at temperatures > 100°C	No	Some species	No

Perbedaan mendasar Prokariot dan Eukariot

Perbedaan mendasar Bakteri dan Archea



BENTUK PROTOZOA

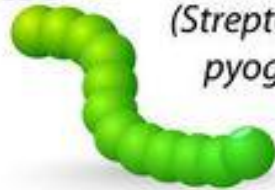
SHAPES OF BACTERIA

COCCI

depositphotos



Diplococci
(*Streptococcus pneumoniae*)



Streptococci
(*Streptococcus pyogenes*)

Tetrad

depositphotos



Staphylococci
(*Staphylococcus aureus*)



Sarcina
(*Sarcina ventriculi*)

BACILLI

depositphotos



Chain of bacilli
(*Bacillus anthracis*)



Flagellate rods
(*Salmonella typhi*)

depositphotos



Spore-former
(*Clostridium botulinum*)

OTHERS

depositphotos



Vibrios
(*Vibrio cholerae*)

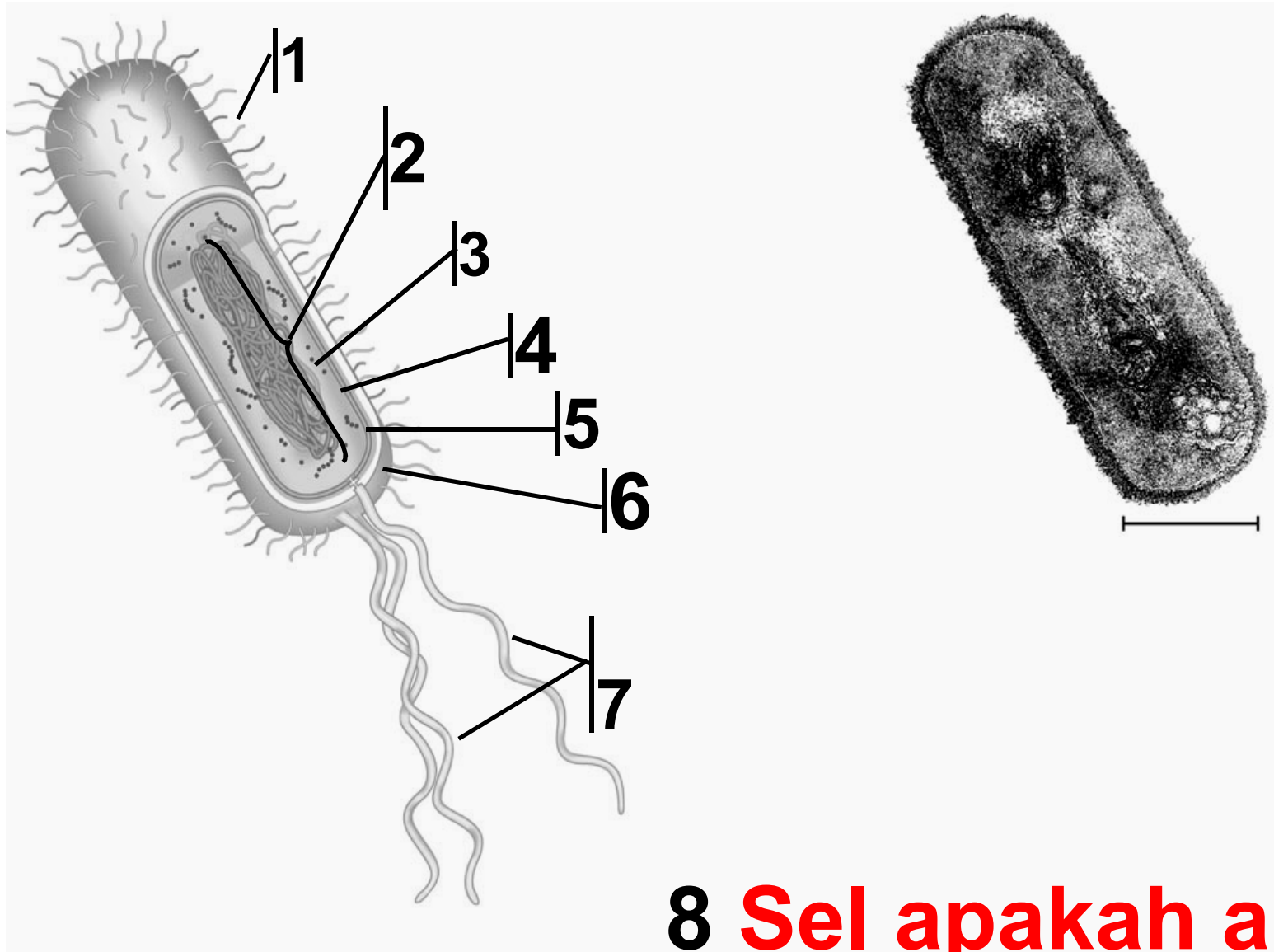


Spirilla
(*Helicobacter pylori*)

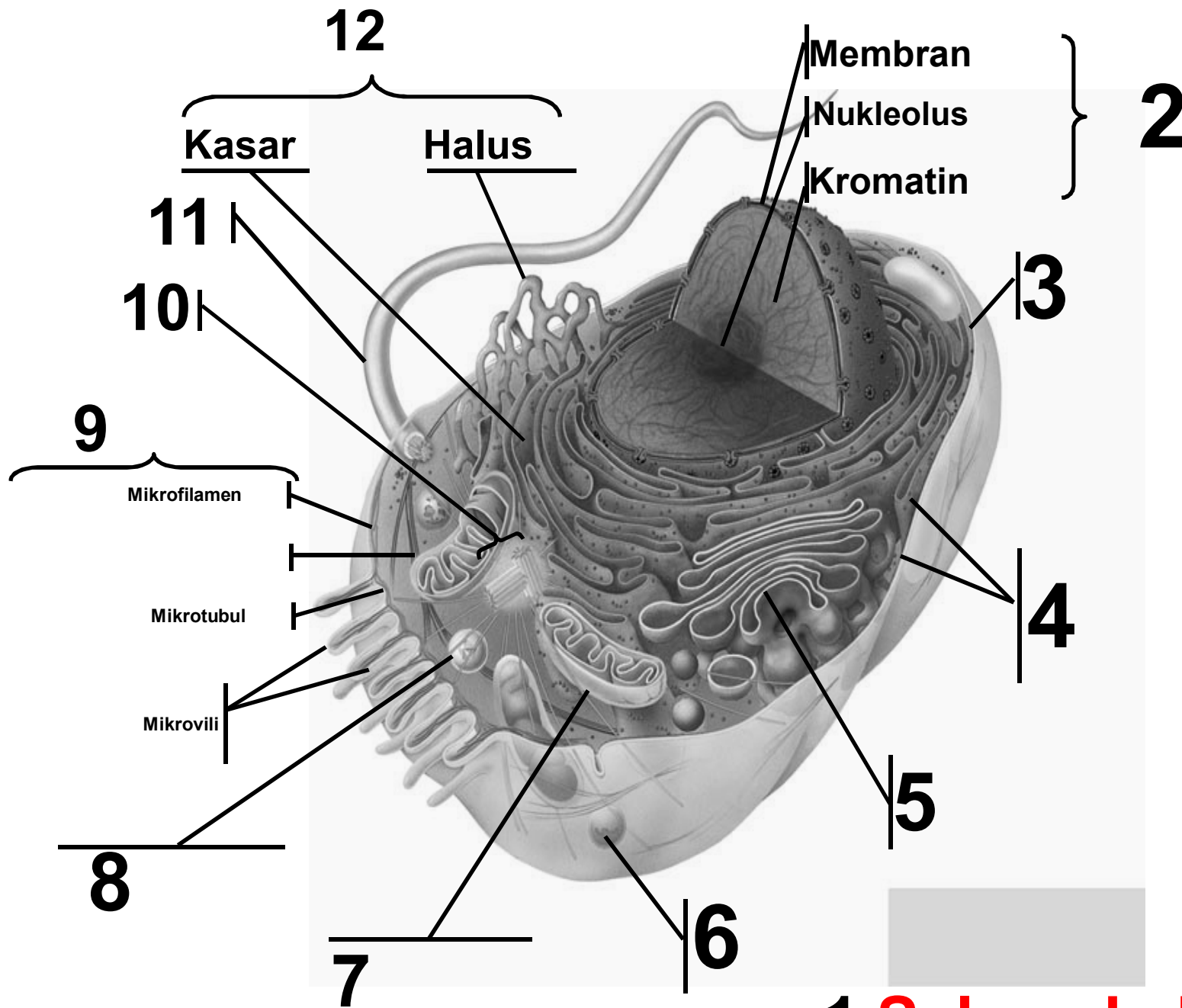


Spirochaetes
(*Treponema pallidum*)

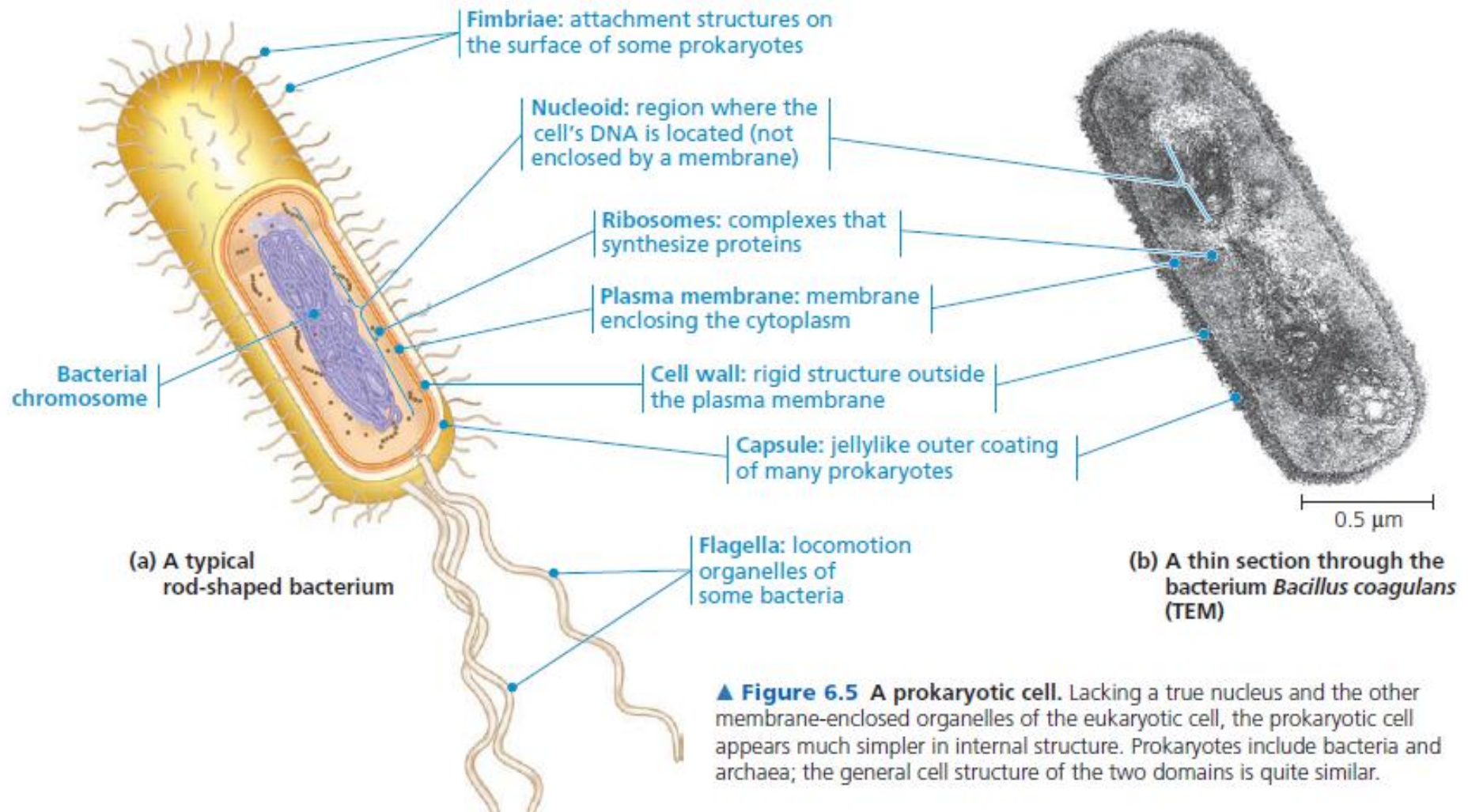
Permainan 2

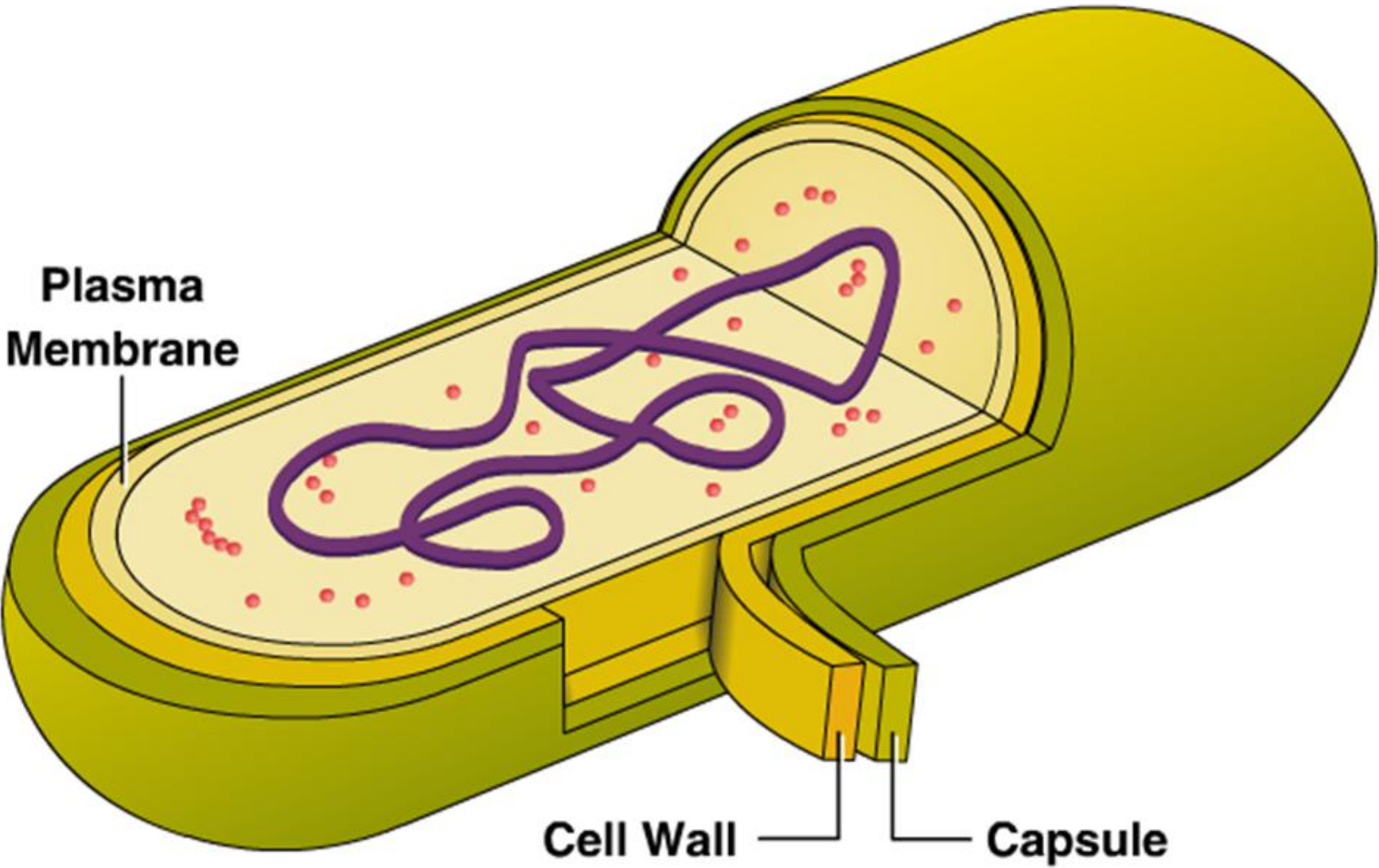


8 Sel apakah aku?

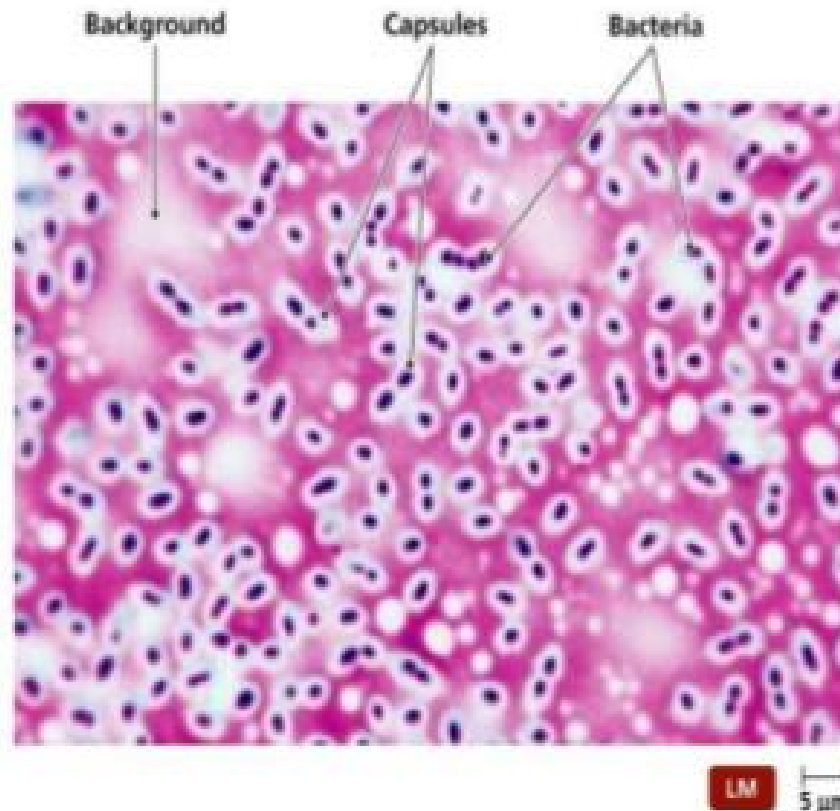


1 Sel apakah aku?





BACTERIAL CAPSULE

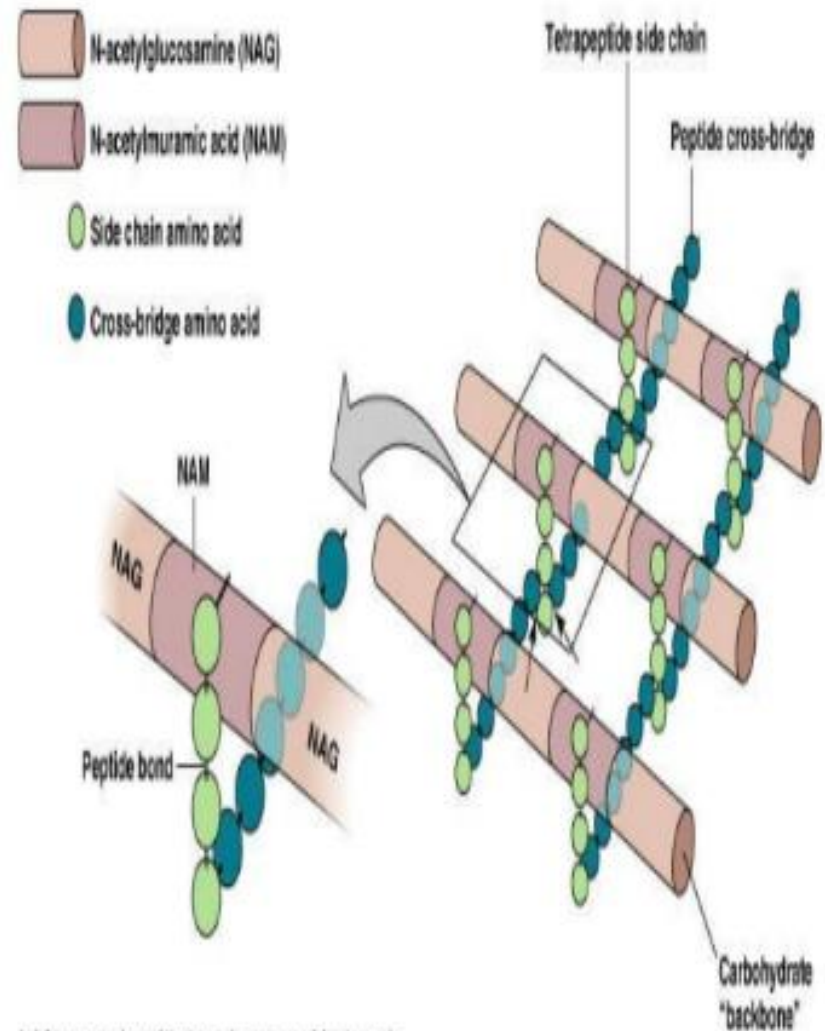


A gelatinous layer
Polysaccharide in nature
Antiphagocytic
Antigenic
Helps bacterial adherence
Aids lab diagnosis

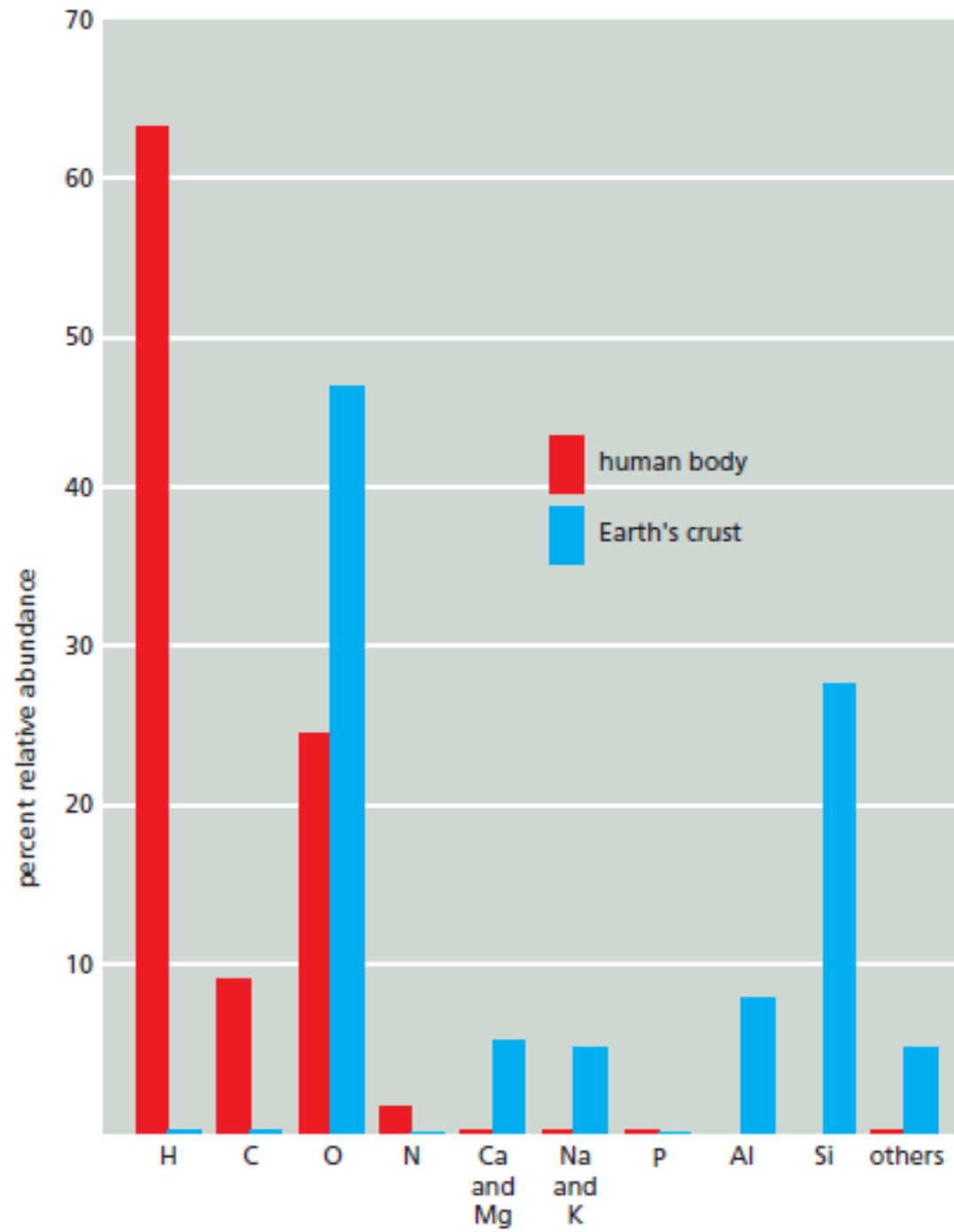
Negative staining shows unstained capsule

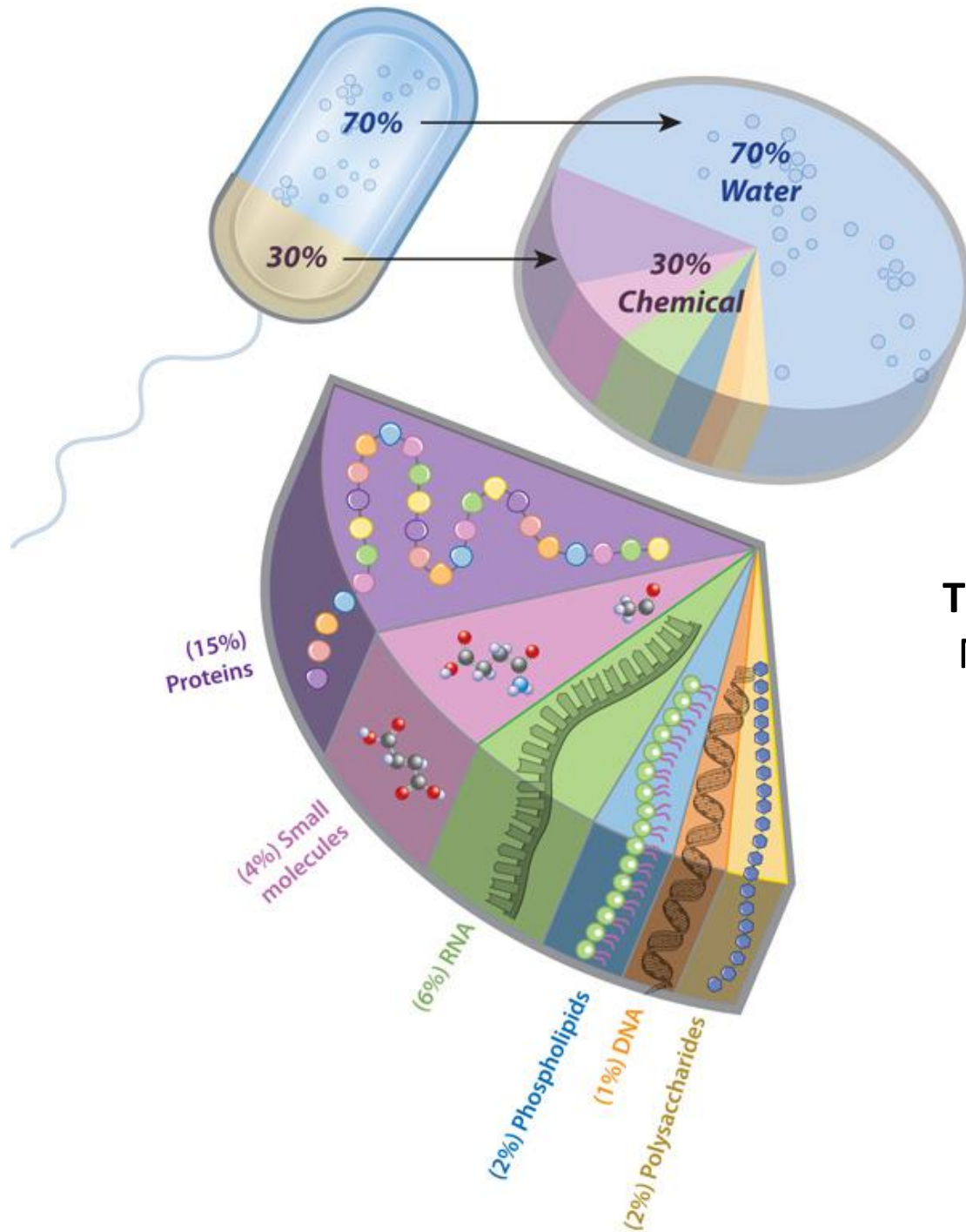
Peptidoglycan

Also known as **murein**, is a polymer consisting of sugars and amino acids that forms a mesh-like layer outside the plasma membrane of bacteria forming the cell wall. Which consist of three parts back bone, N-acetylglucosamine and N-acetylmuramic acid in alternating chains interconnected by tri, tetra or penta peptide chains.



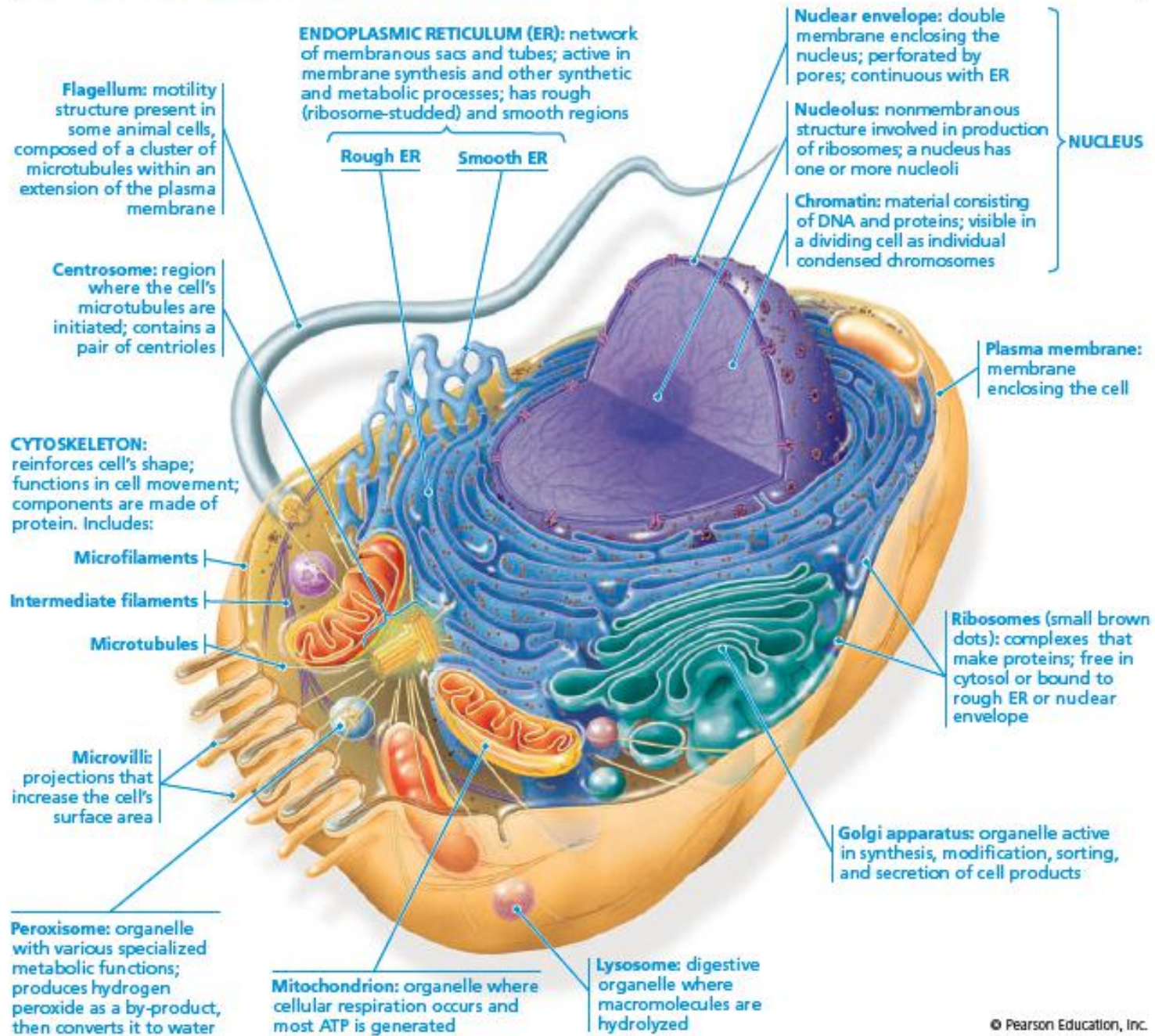
(a) Structure of peptidoglycan in gram-positive bacteria



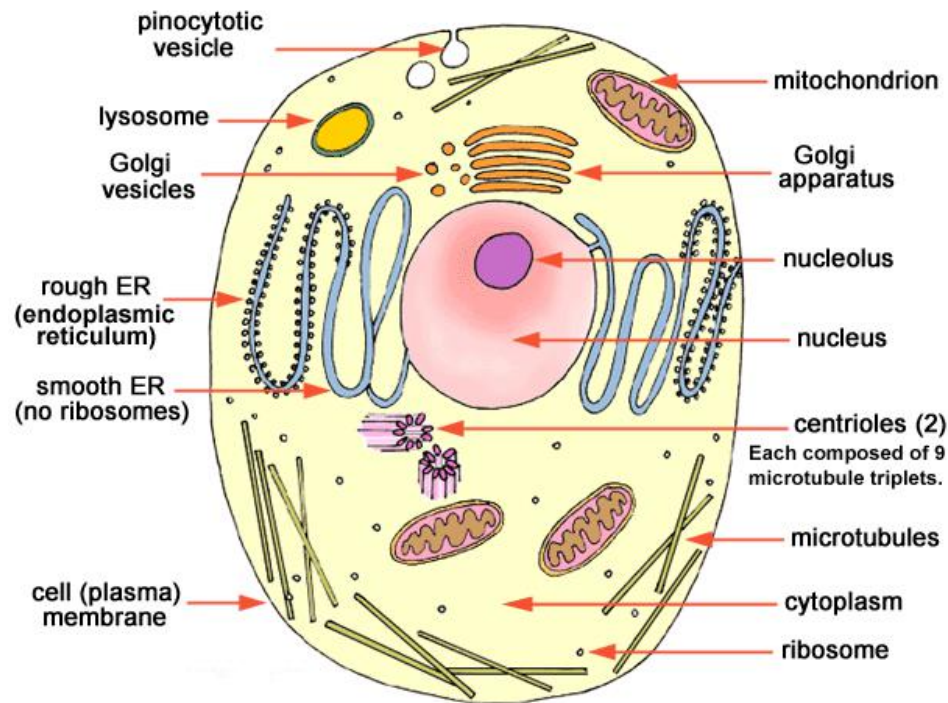


The composition of a bacterial cell
 Most of a cell is **water** (70%). The remaining 30% contains varying proportions of structural and functional molecule

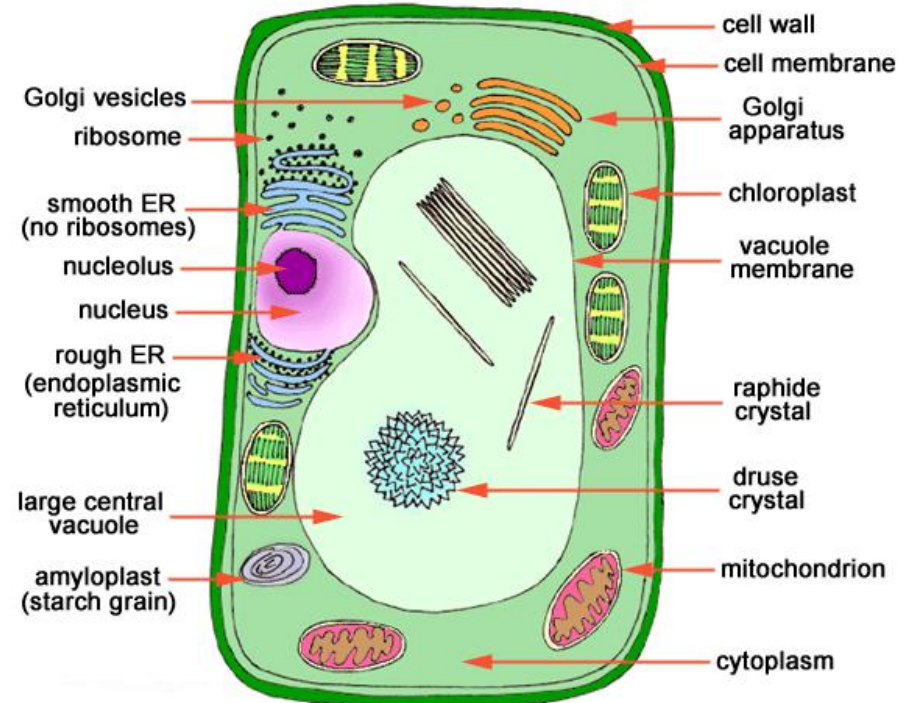
Animal Cell (cutaway view of generalized cell)



Sel Hewan VS Sel Tumbuhan

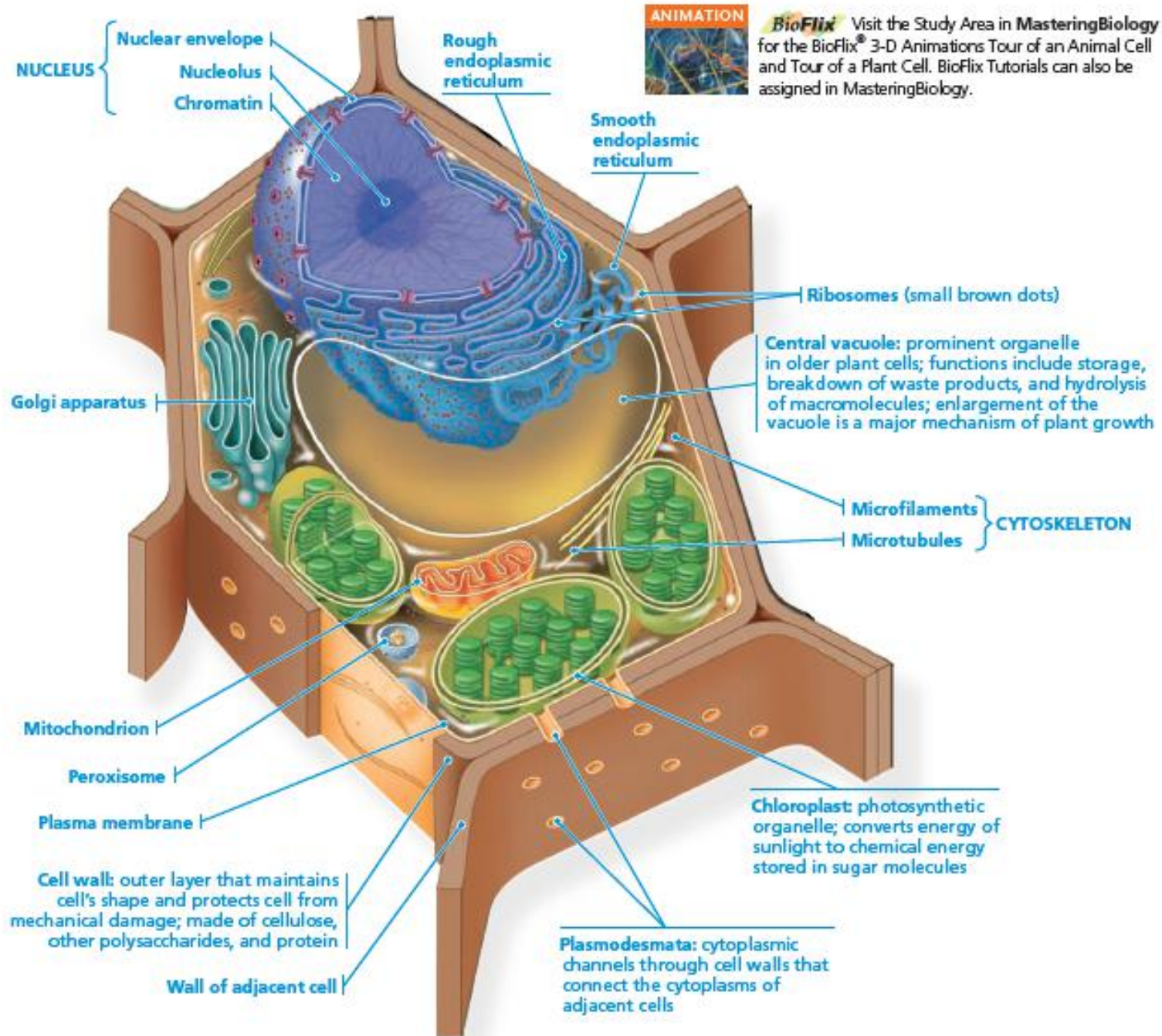


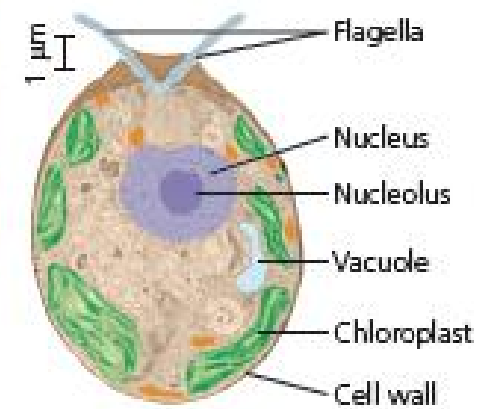
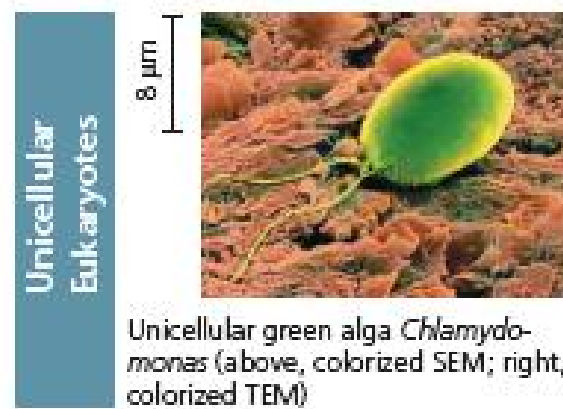
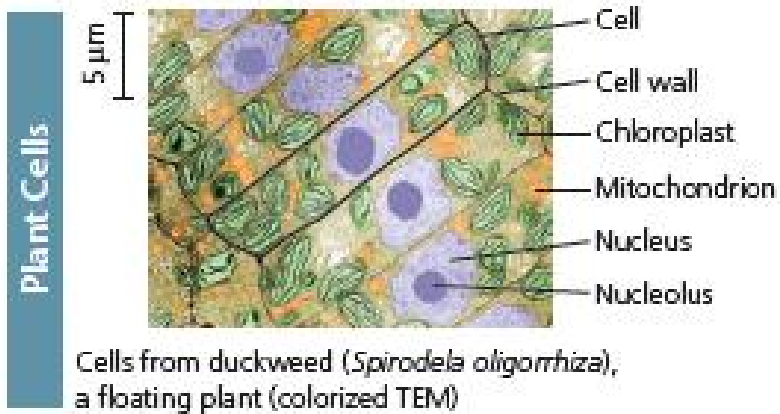
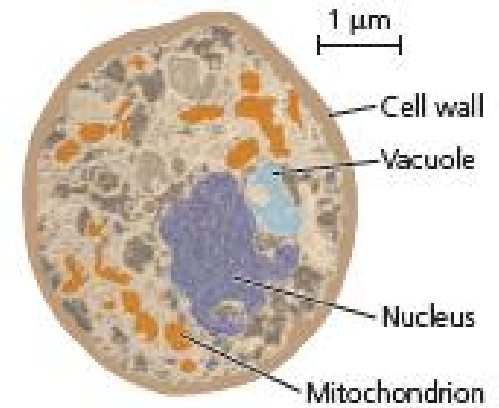
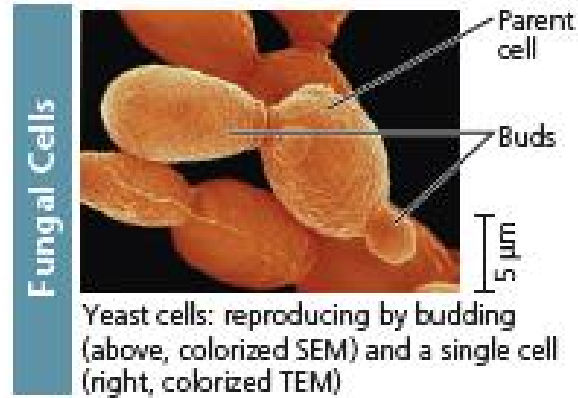
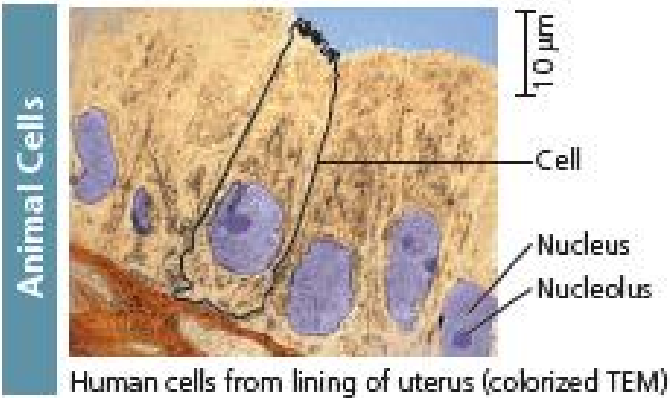
ANIMAL CELL



PLANT CELL

Plant Cell (cutaway view of generalized cell)





Structure	Plant Cell	Animal Cell
Cell membrane	yes	yes
Cell wall	yes	no
Mitochondrion	yes	yes
Chloroplast	yes	no
Nucleus	yes	yes
Vacuole	yes	no (small and tentative)
Lysosome	no	yes

Q: Apakah sel tumbuhan punya sentrosom??



Thank
You