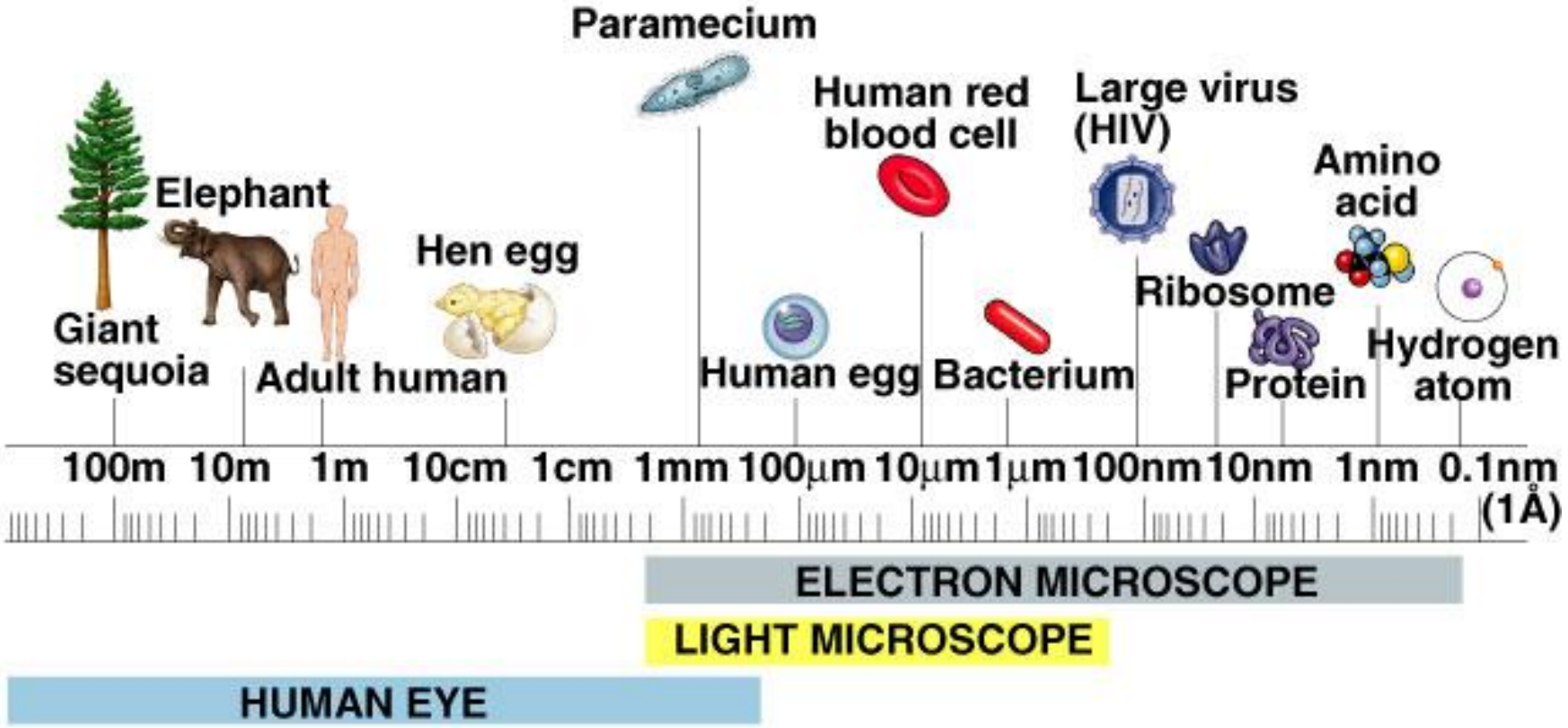
La cellule

La taille d'une cellule



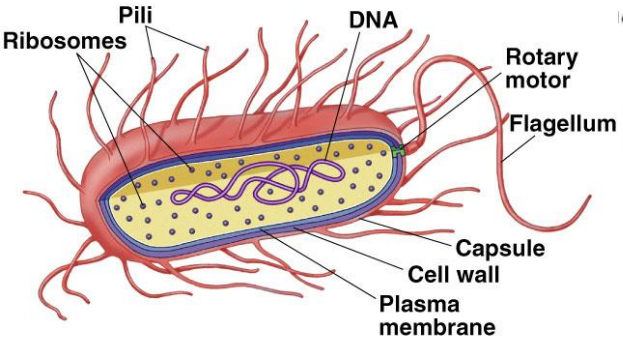
Deux types de cellule

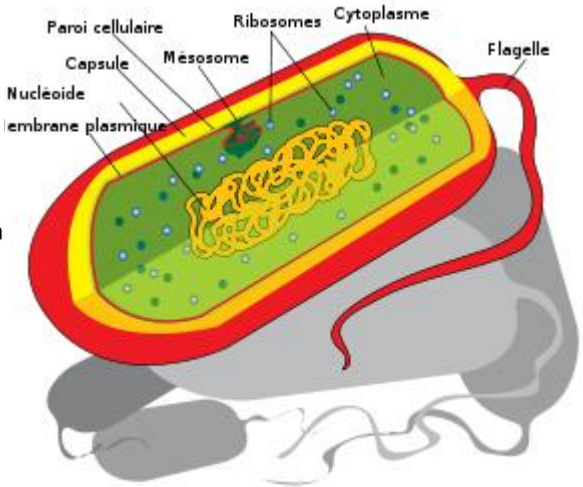
- **<u>Procaryote</u>:**

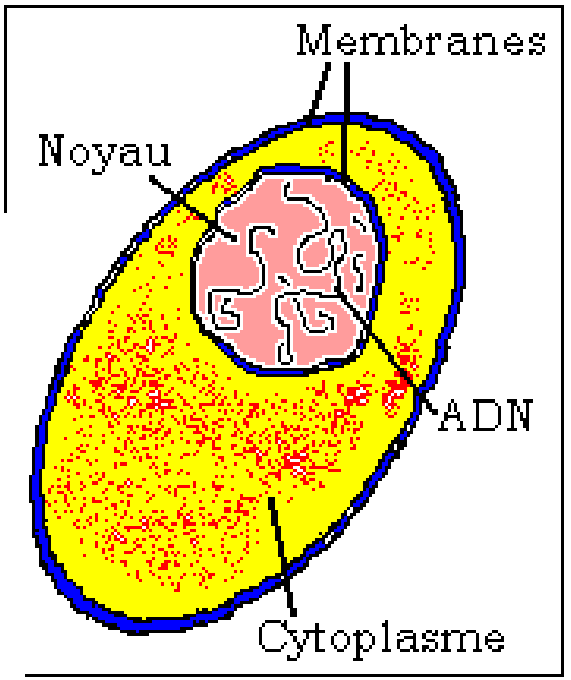
  est un organisme qui ne possède pas de noyau. Le matériel génétique est regroupé mais n'est pas séparée du reste de la cellule.

- **<u>Eucaryote</u>:**

  est un organisme qui possède un noyau qui contient le matériel génétique.







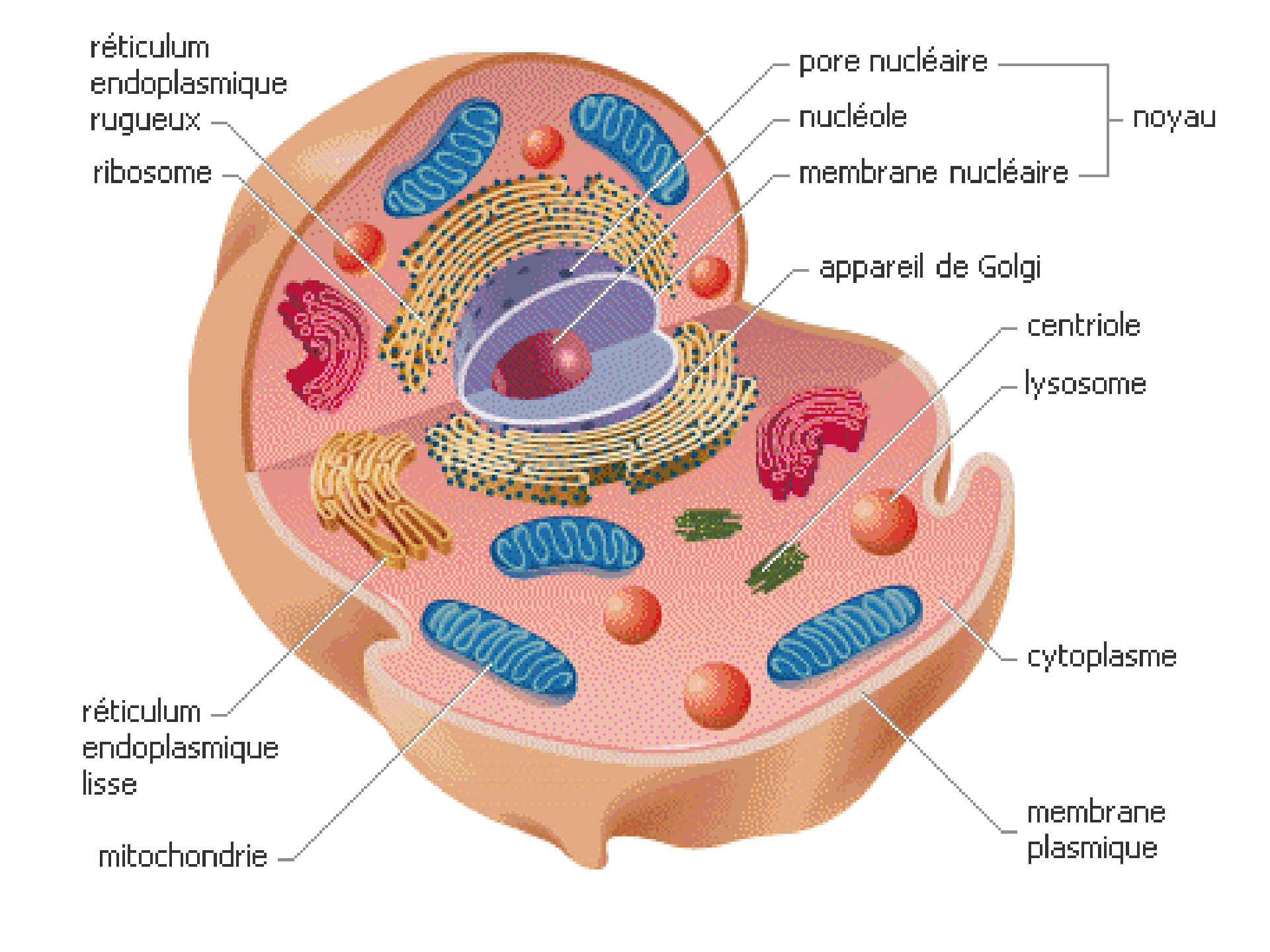
Voici les avantages de la structure de chaque cellule

Procaryote	Eucaryote
simple	spécialisé
se reproduit vite	Multi-cellulaire
Tous sont pareils	Peuvent composé des

La cellule animale

Partie A: Choisis une couleur pour chaque partie de la cellule.

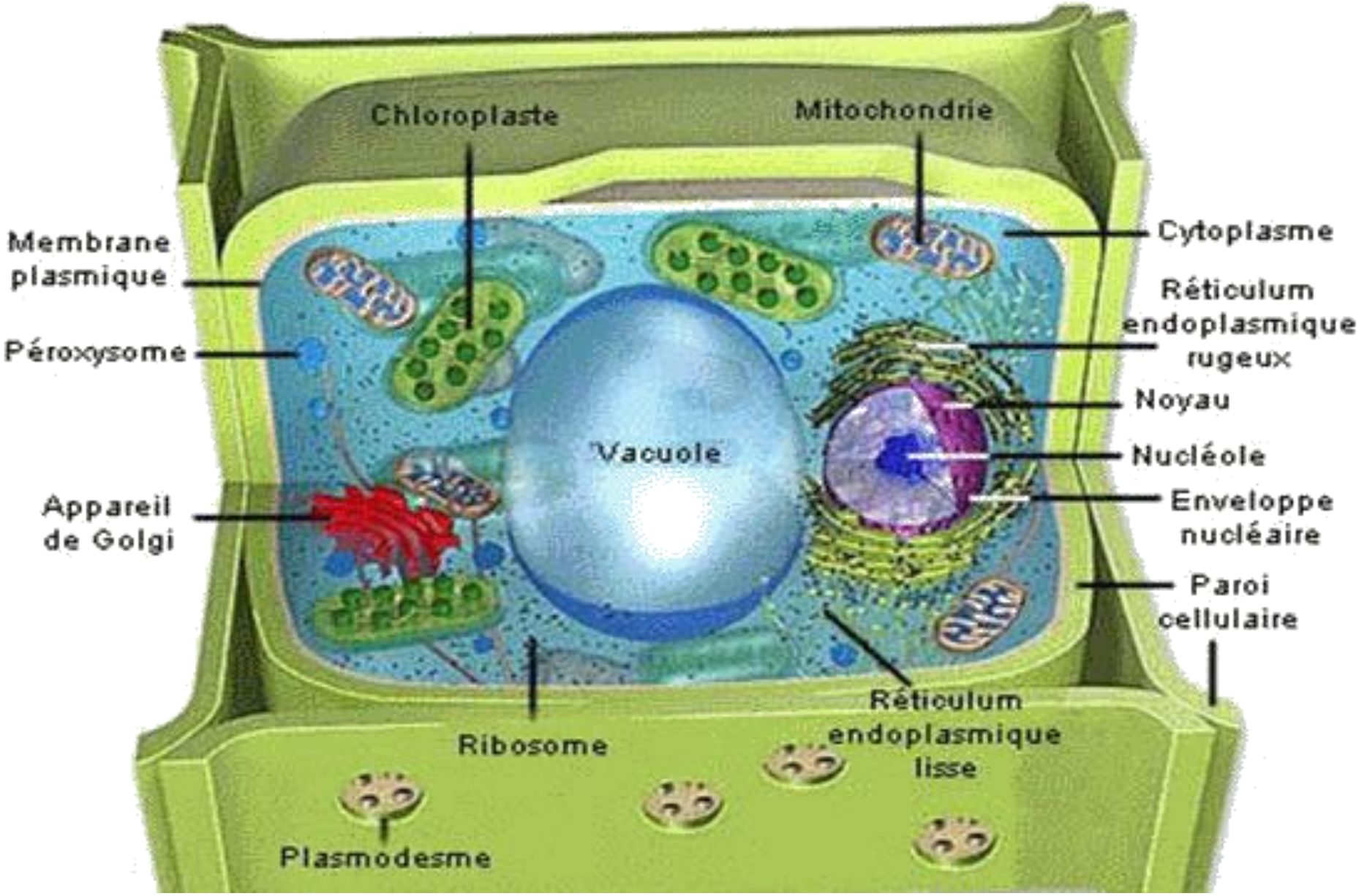
- ❑ membrane cellulaire
- ❑ cytoplasme
- ❑ noyau
- ❑ membrane nucléaire
- ❑ vacuole
- ❑ nucléole
- ❑ centriole
- ❑ réticulum endoplasmique rugueux
- ❑ réticulum endoplasmique lisse
- ❑ mitochondrie
- ❑ lysosome
- ❑ ribosome
- ❑ appareil de Golgi


réticulum endoplasmique rugueux
ribosome
pore nucléaire
nucléole
membrane nucléaire
noyau
appareil de Golgi
centriole
lysosome
cytoplasme
réticulum endoplasmique lisse
mitochondrie
membrane plasmique

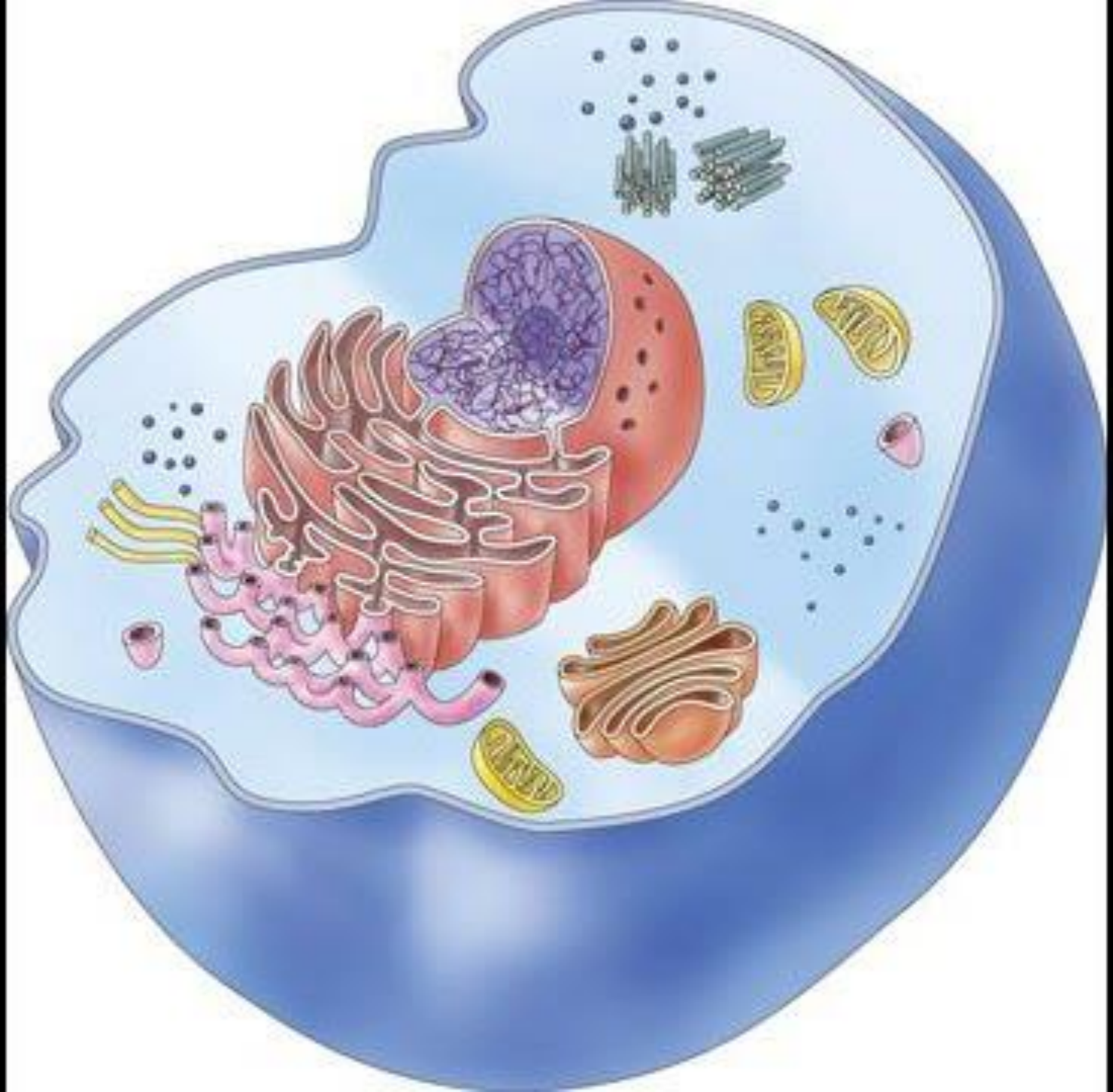
La cellule végétale

Partie A: Choisis une couleur pour chaque partie de la cellule.

- ❑ paroi cellulaire
- ❑ membrane cellulaire
- ❑ cytoplasme
- ❑ noyau
- ❑ membrane nucléaire
- ❑ vacuole
- ❑ nucléole
- ❑ centriole
- ❑ chloroplaste
- ❑ réticulum endoplasmique rugueux
- ❑ réticulum endoplasmique lisse
- ❑ mitochondrie
- ❑ lysosome
- ❑ ribosome
- ❑ appareil de Golgi

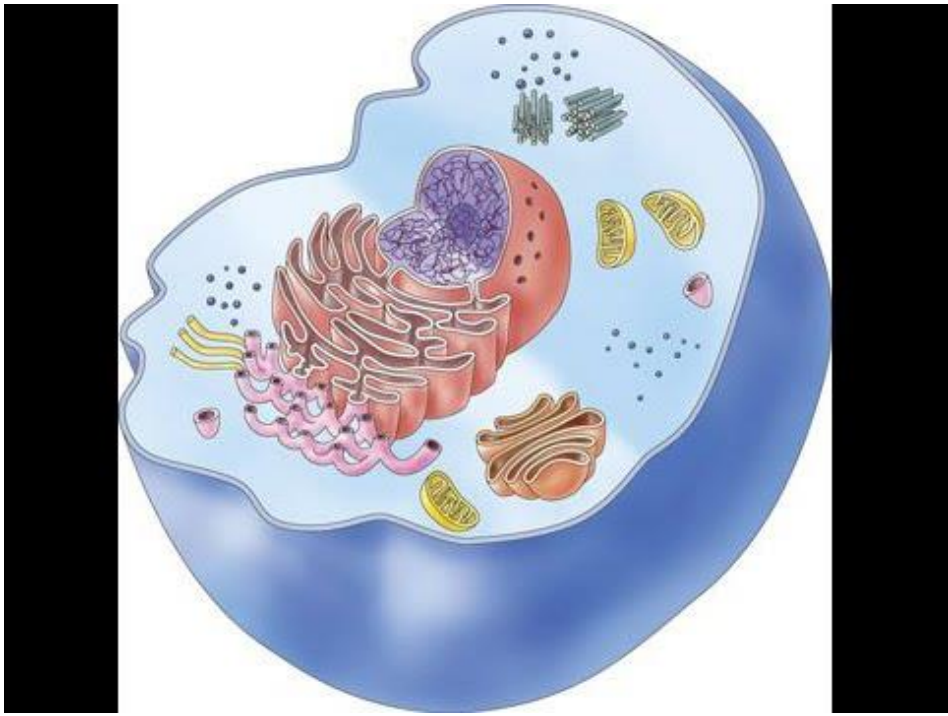

Chloroplaste
Mitochondrie
Membrane plasmique
Cytoplasme
Réticulum endoplasmique rugueux
Péroxysome
Noyau
Vacuole
Nucléole
Appareil de Golgi
Enveloppe nucléaire
Paroi cellulaire
Réticulum endoplasmique lisse
Ribosome
Plasmodesme

membrane cellulaire

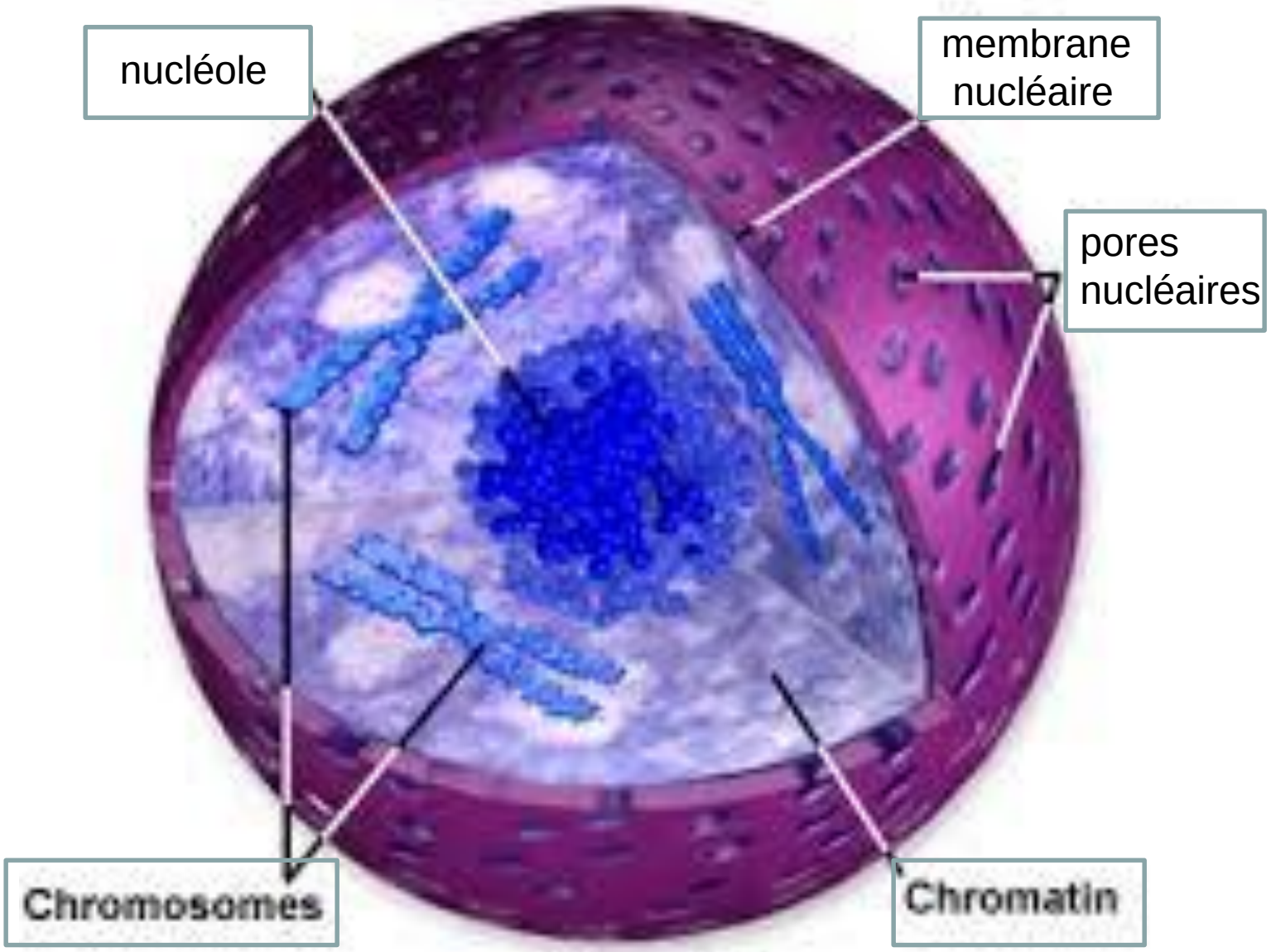


membrane cellulaire:

- enveloppe et protège le contenu de la cellule
- commande l’entrée et la sortie de substances dans la cellule

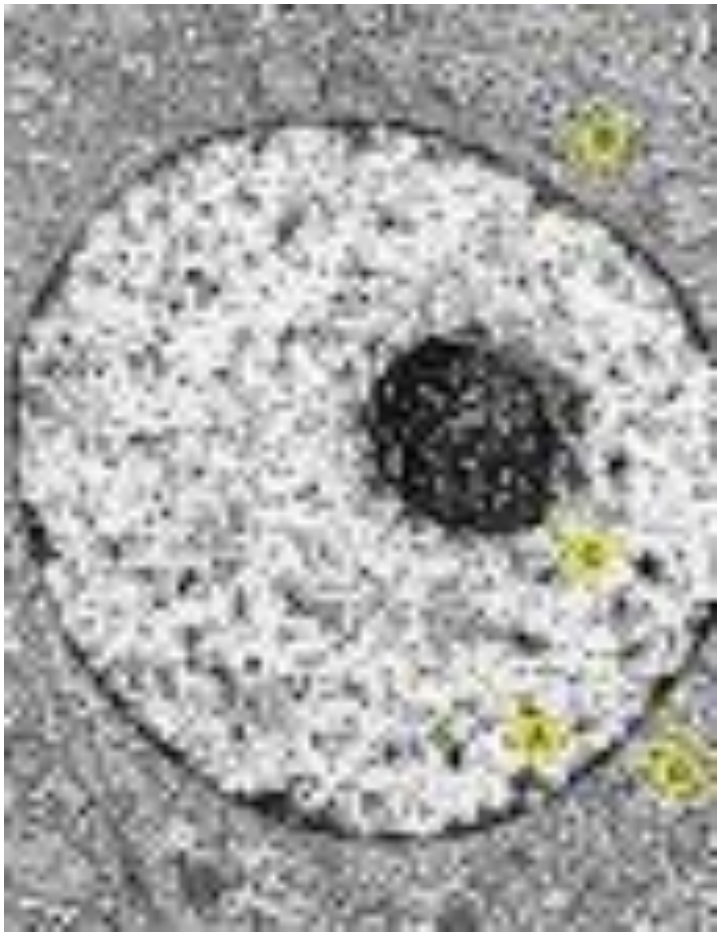


noyau

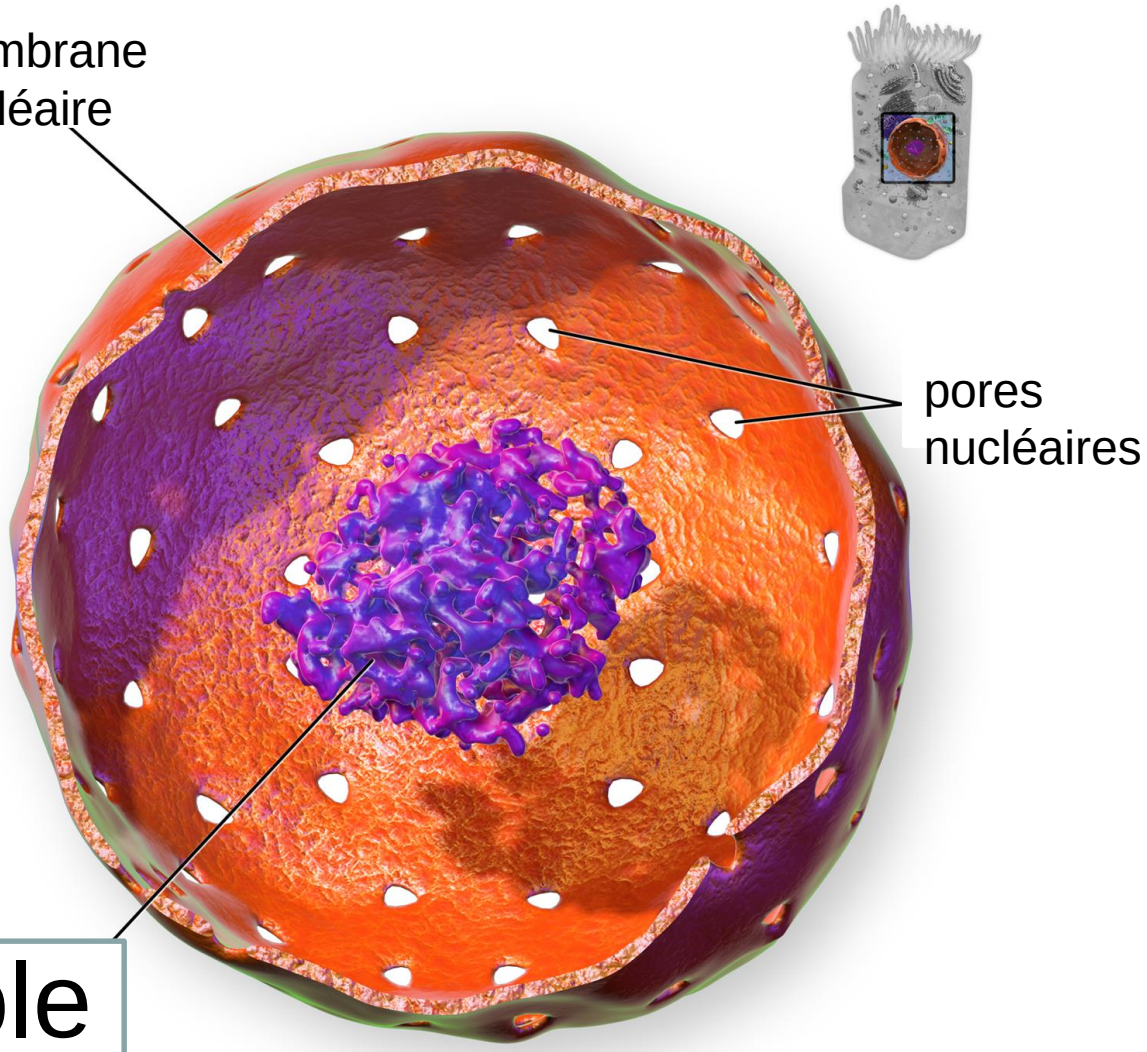

nucléole
membrane nucléaire
pores nucléaires
Chromosomes
Chromatin

Noyau:

- dirige les activités de la cellule
- renferme les chromosomes

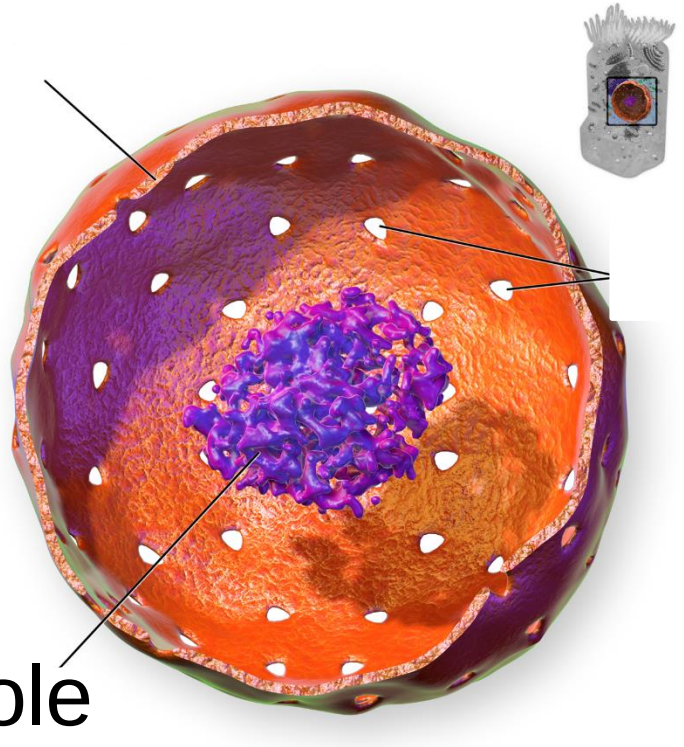


nucléole


membrane
nucléaire
pores
nucléaires
nucléole

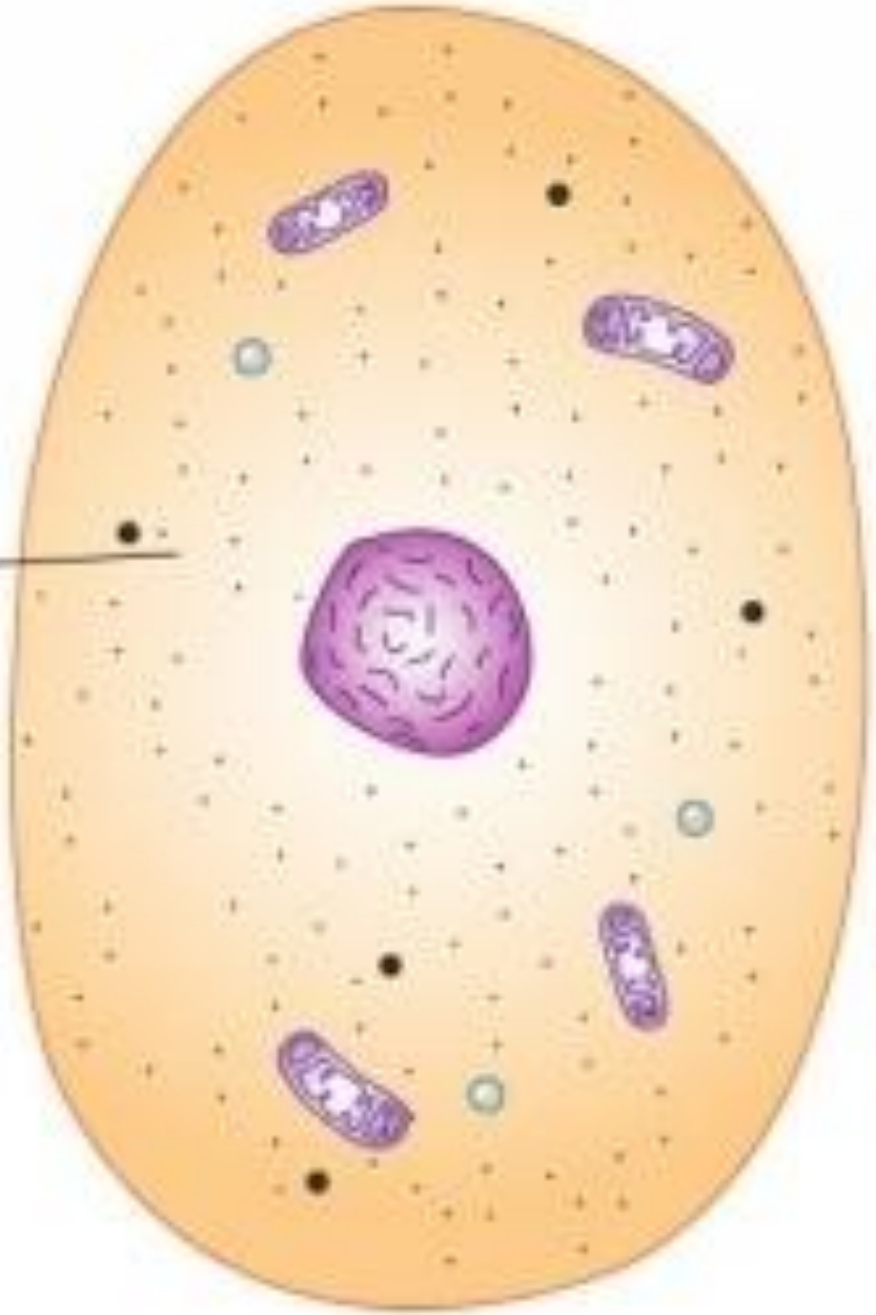
nucléole:

- le corps sombre a l'intérieur du noyau ou l'ARN est synthetisée



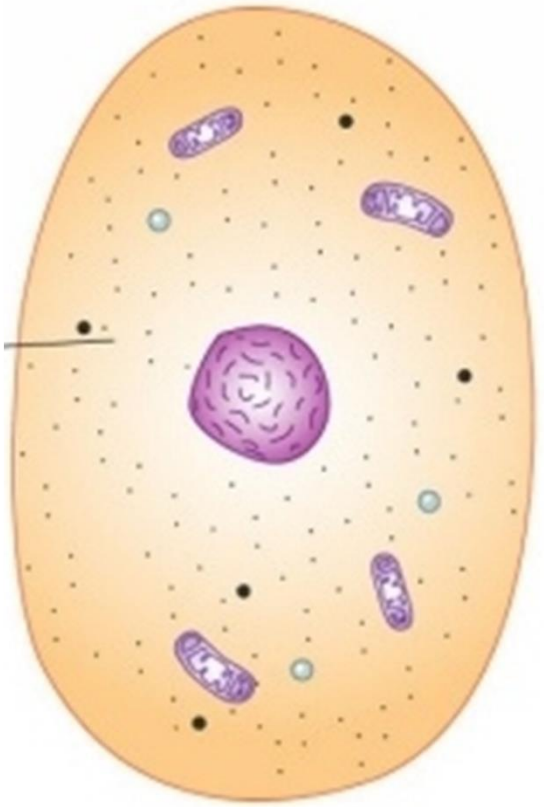
cytoplasme

cytoplasme

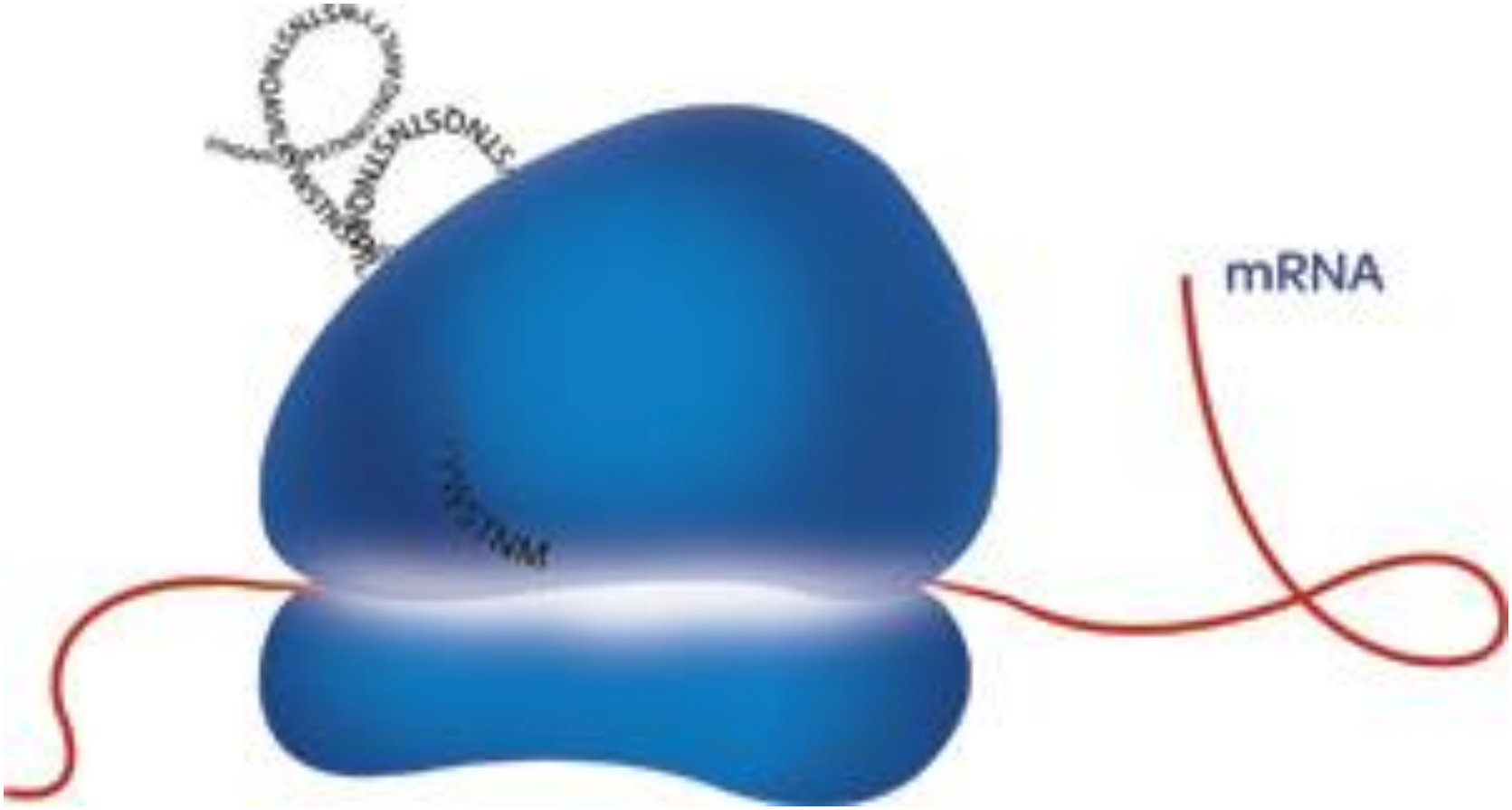


cytoplasme:

- C’est un aspect gélatineux.
- Le cytoplasme est toujours en mouvement.
- Il distribue de l’oxygen et la nourriture aux différentes parties de la cellule.

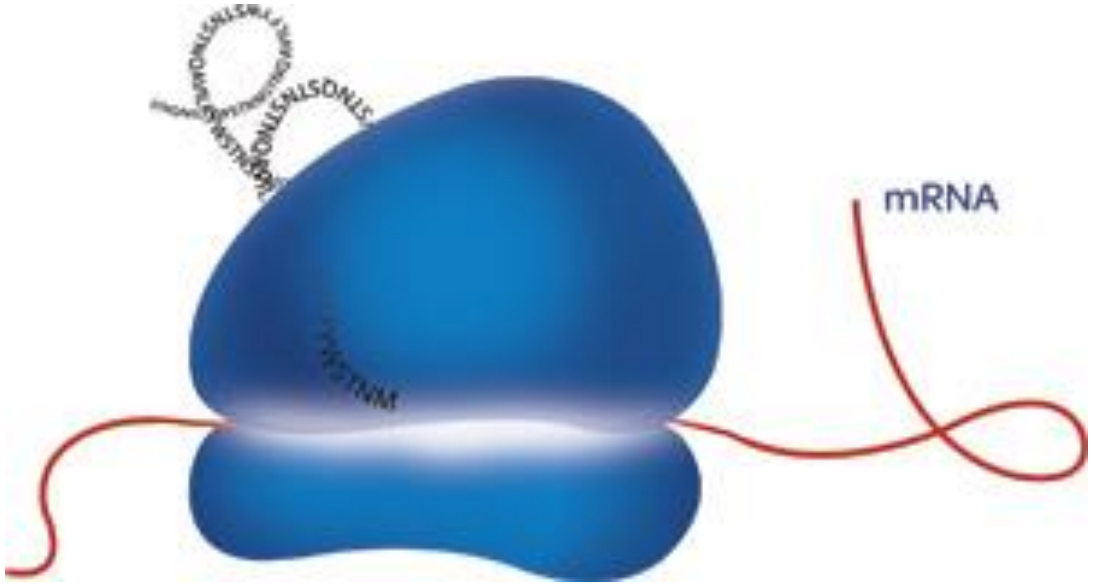


ribosome

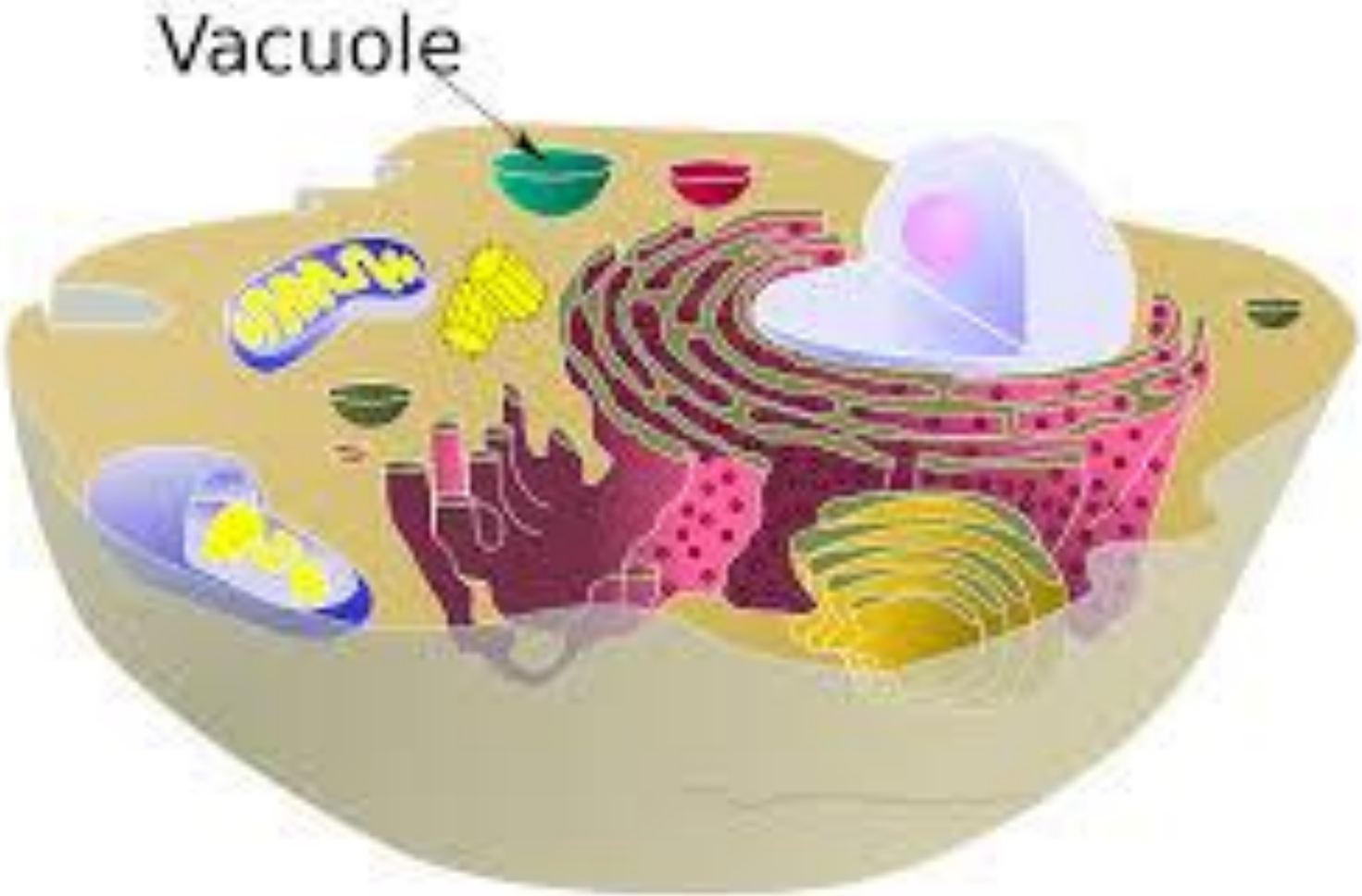

mRNA

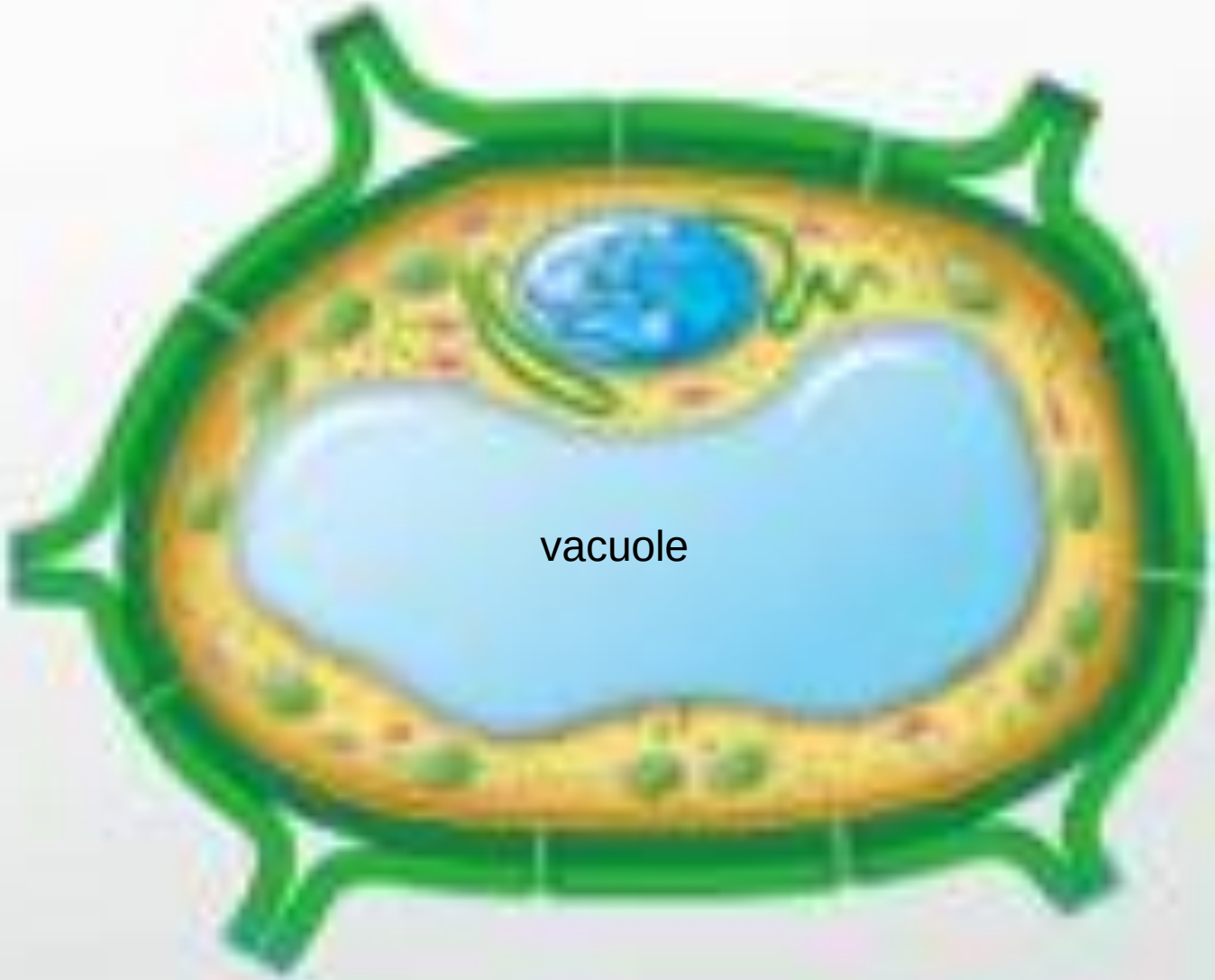
ribosome:

- site des organelle de synthèse des protéines



vacuole

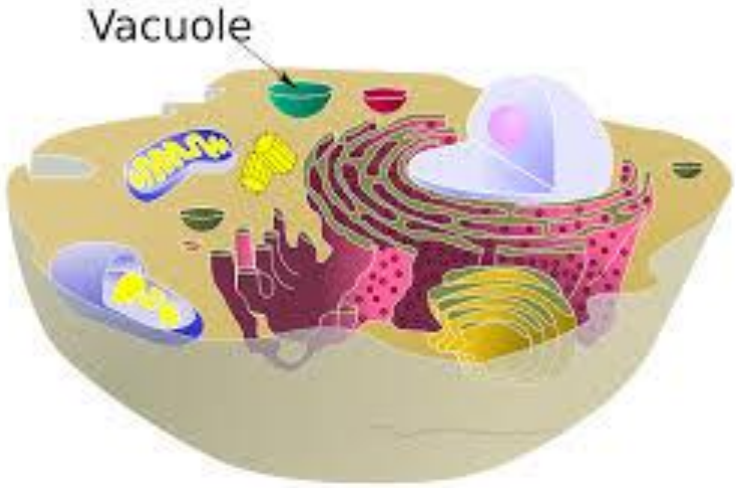

Vacuole

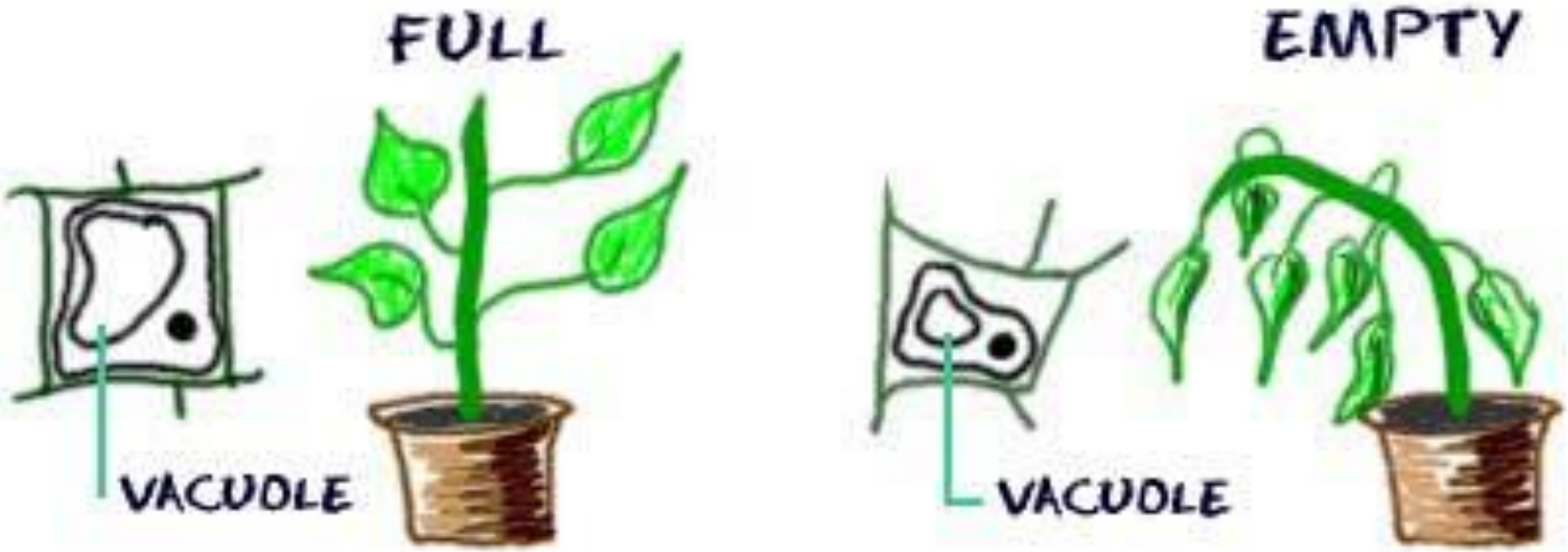


cellule végétale

vacuole:

- des espaces en forme de ballon qui servent à stoker la nourriture, les déchets et d’autres substances que la cellule ne peut pas utiliser
- chaque vacuole a une membrane



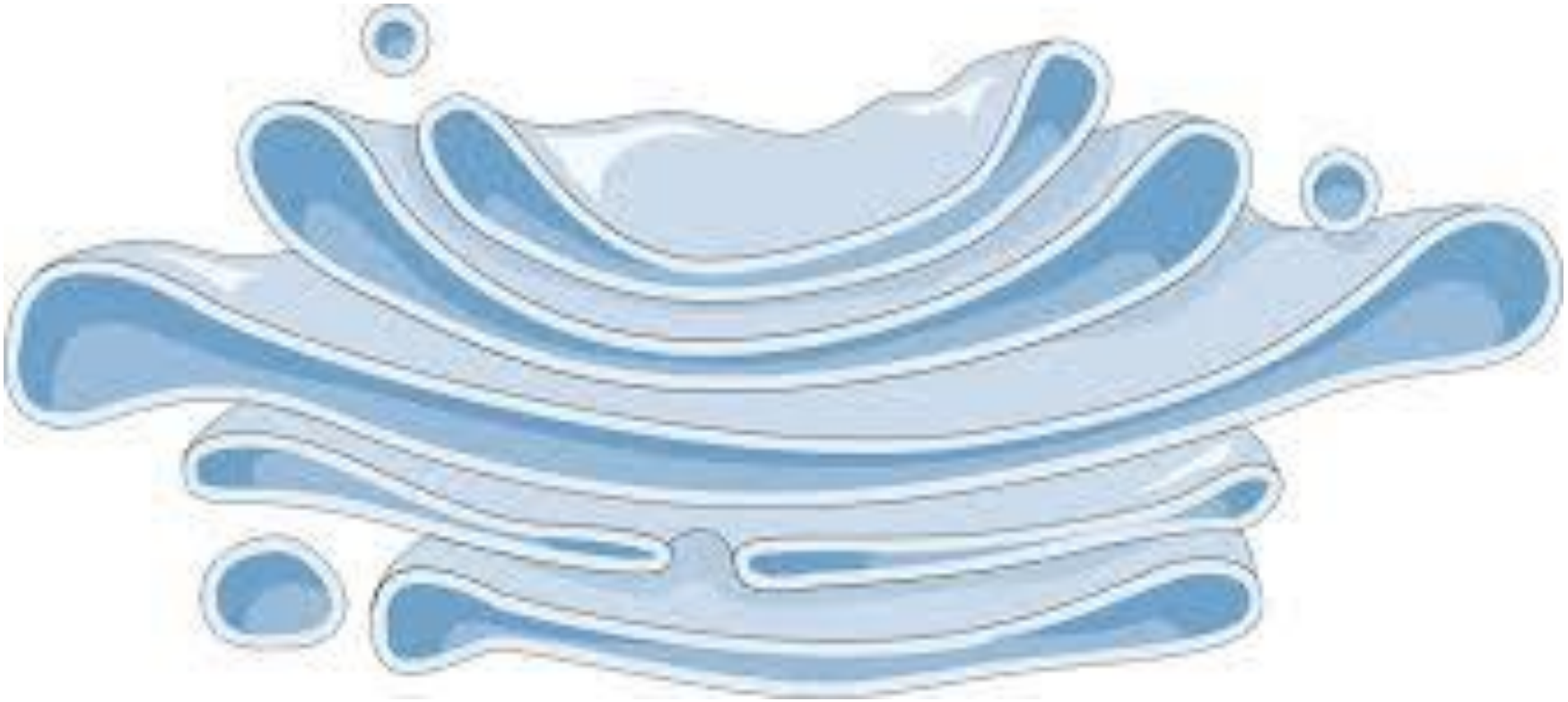

FULL
VACUOLE
EMPTY
VACUOLE

mitochrondrie

mitochondrie:

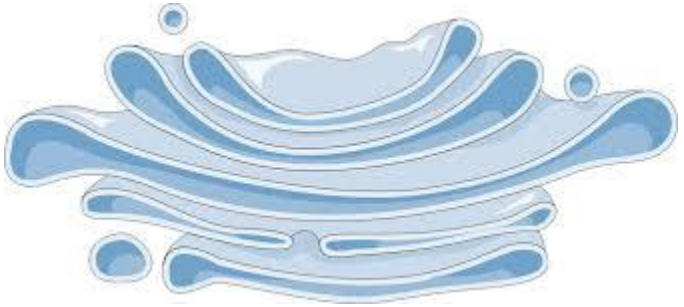
- Dans les mitochondries, les particules de nourriture se décomposent et libèrent l'énergie chimique.
- ATP (adenosine triphosphate)

appareil de Golgi



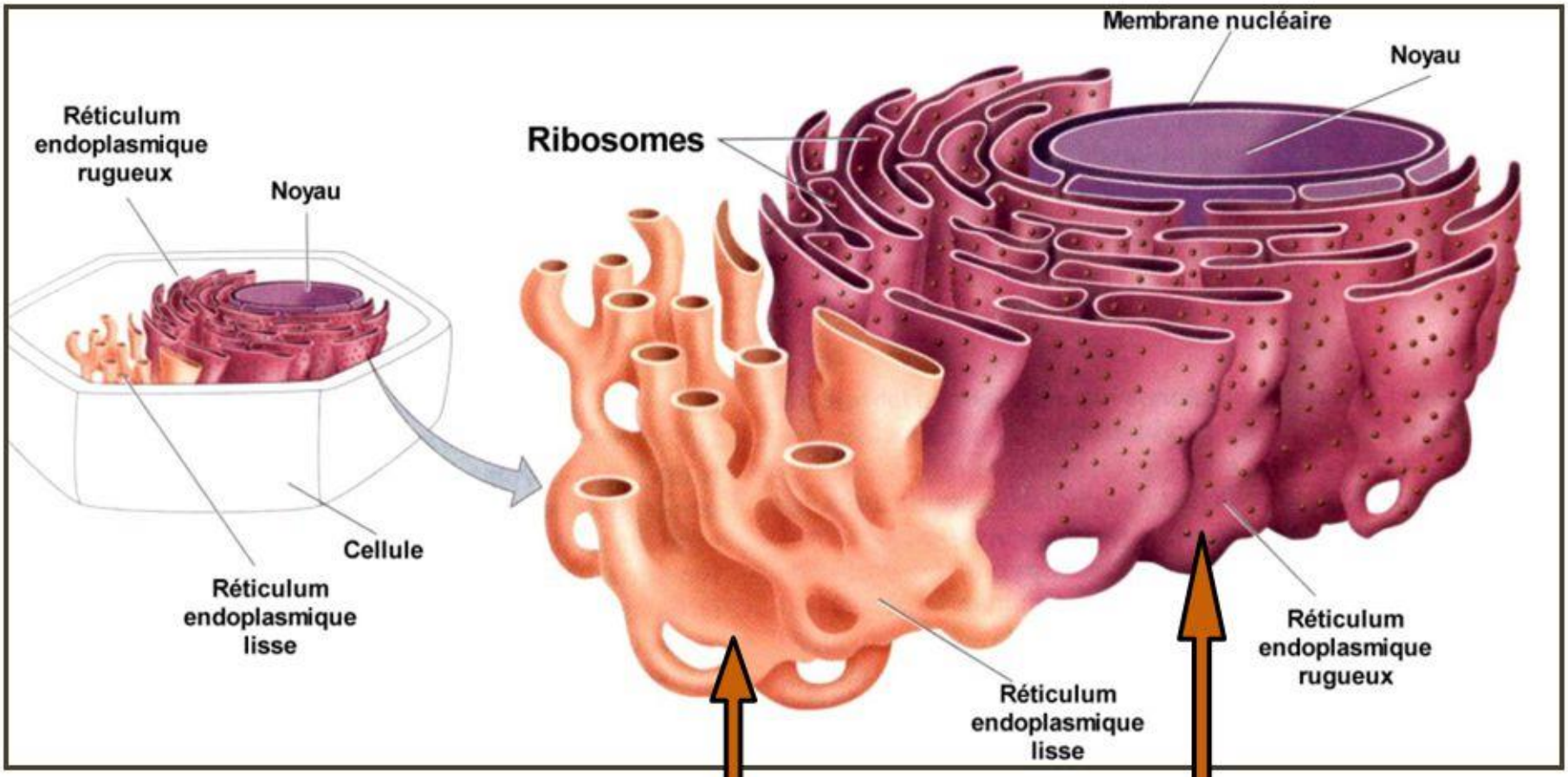
appareil de Golgi

- Une série de sacs servant à l’entreposage, à la modification et la sécretion des protéines et des lipides destinés à quitter la cellule.



réticulum endoplasmique

Deux types de RE

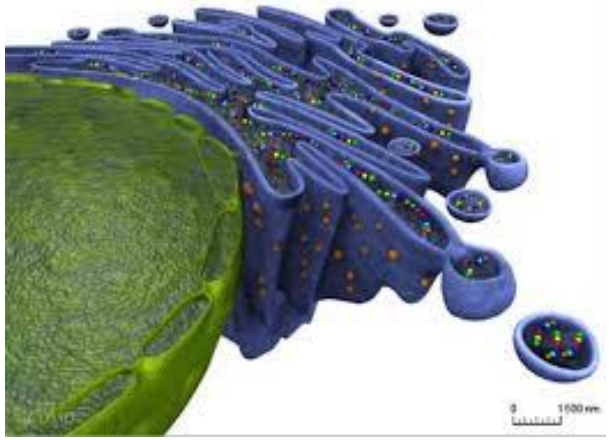


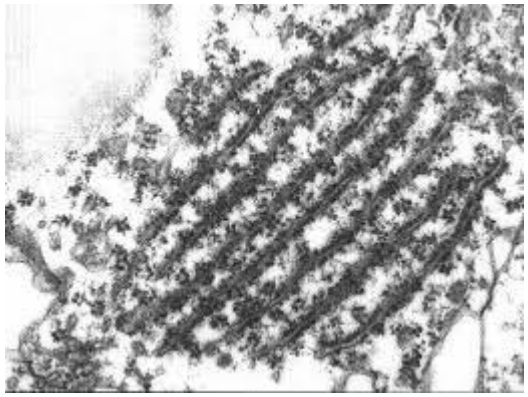
Réticulum endoplasmique lisse

Réticulum endoplasmique rugueux

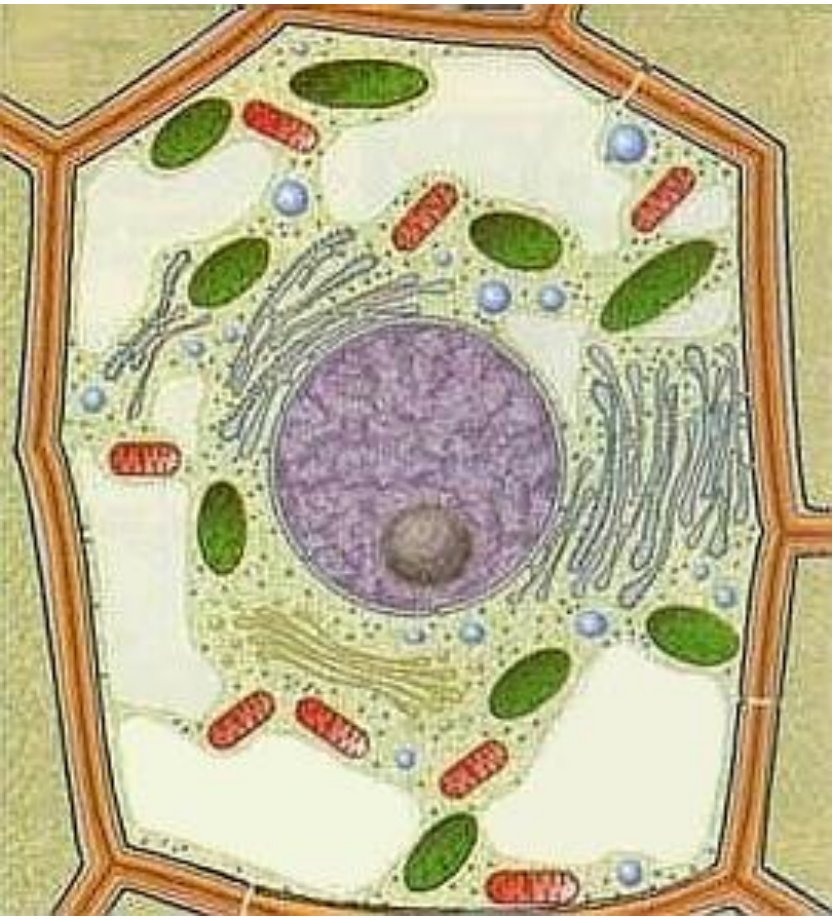
réticulum endoplasmique:

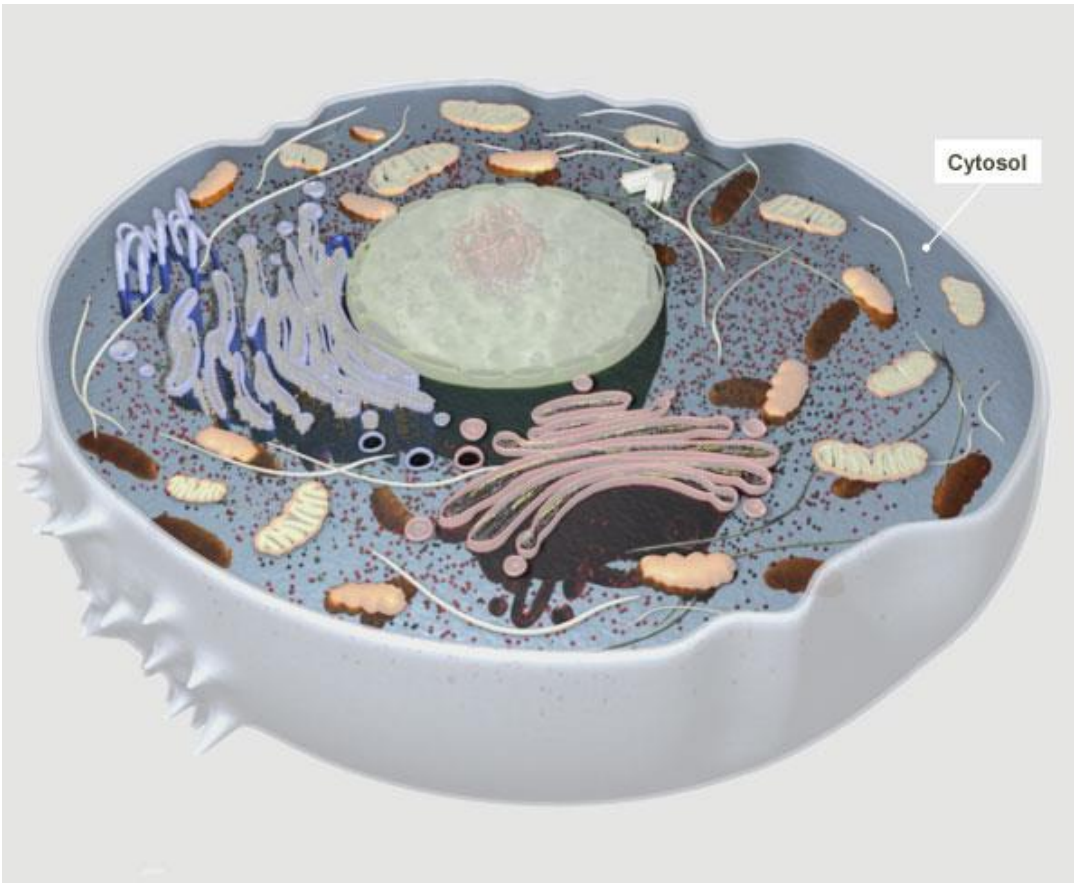
Une série de membranes repliées.
Elle transportent les substances à travers le cytoplasme aux différentes parties de la celulle.
De nombreux ribosomes se rattachent au réticulum endoplasmique.





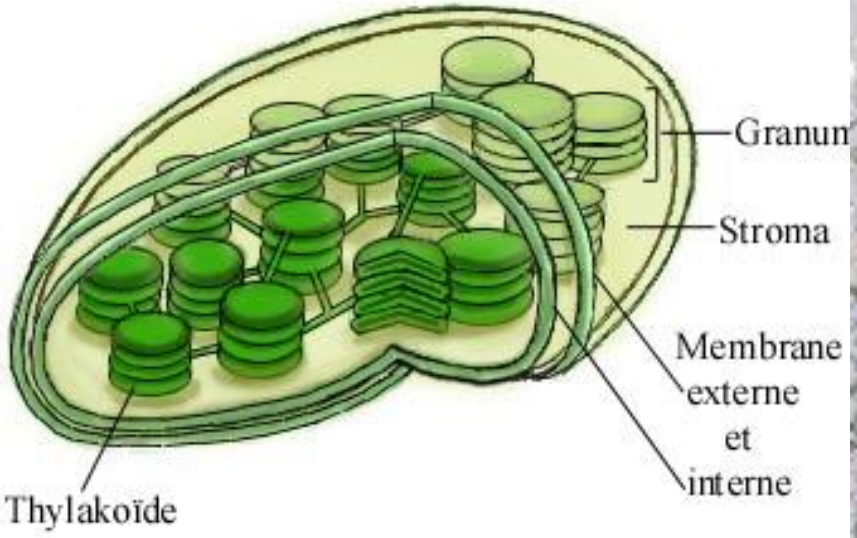
Quelle est la différence entre une cellule végétale et une cellule animale?

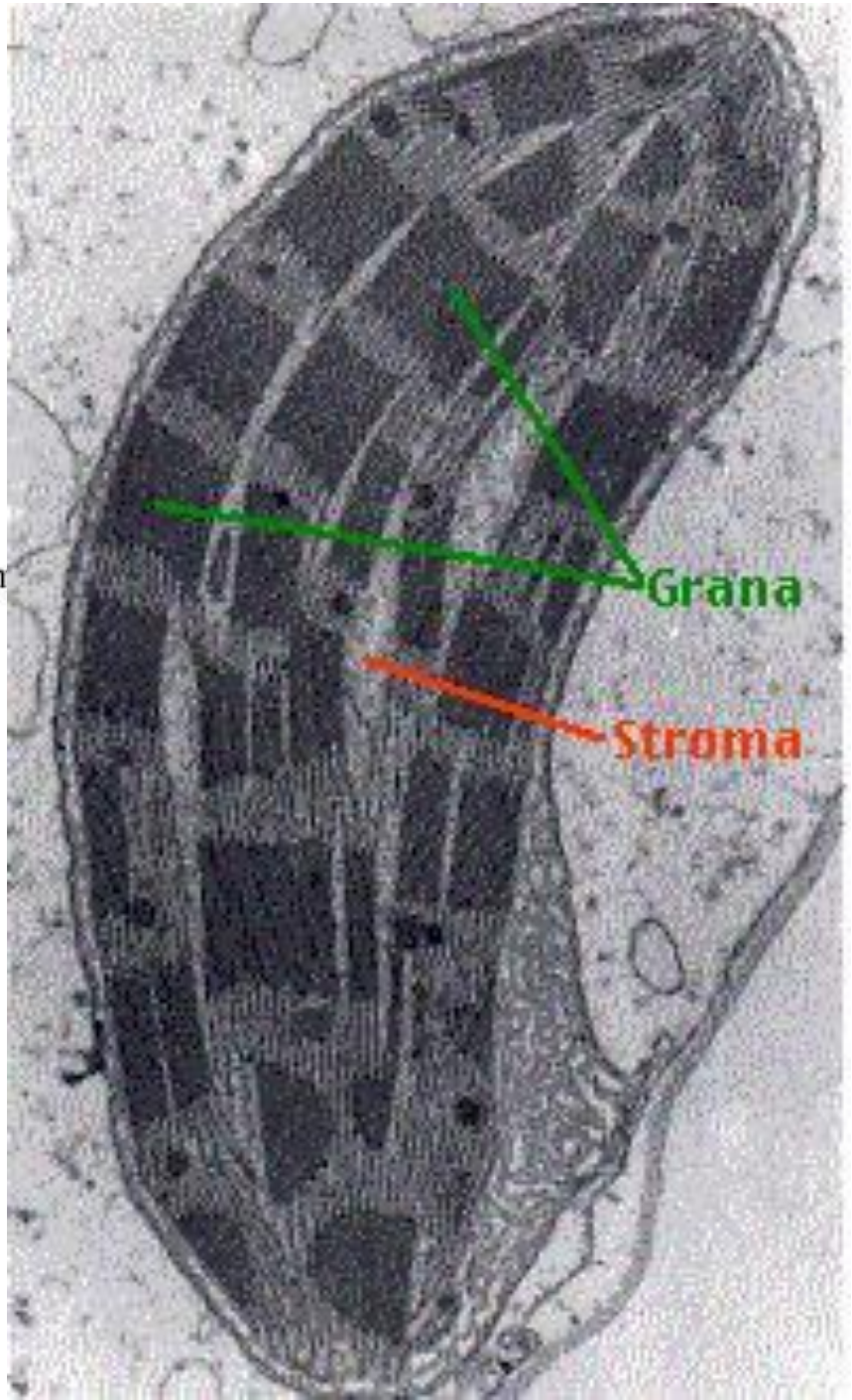




chloroplaste

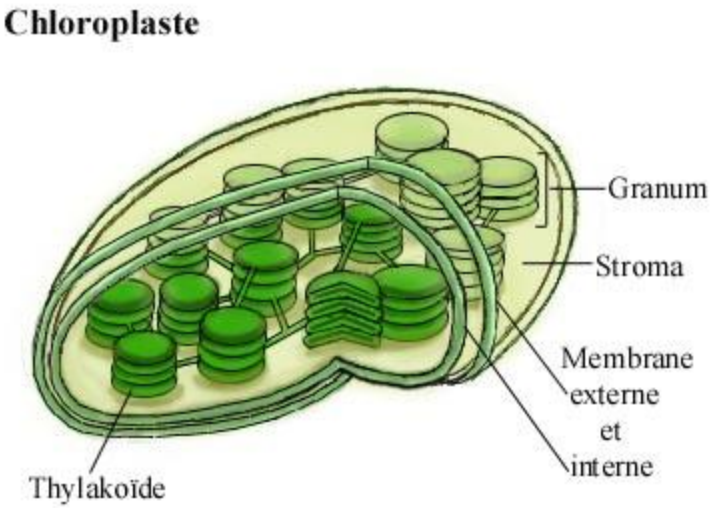
Chloroplaste



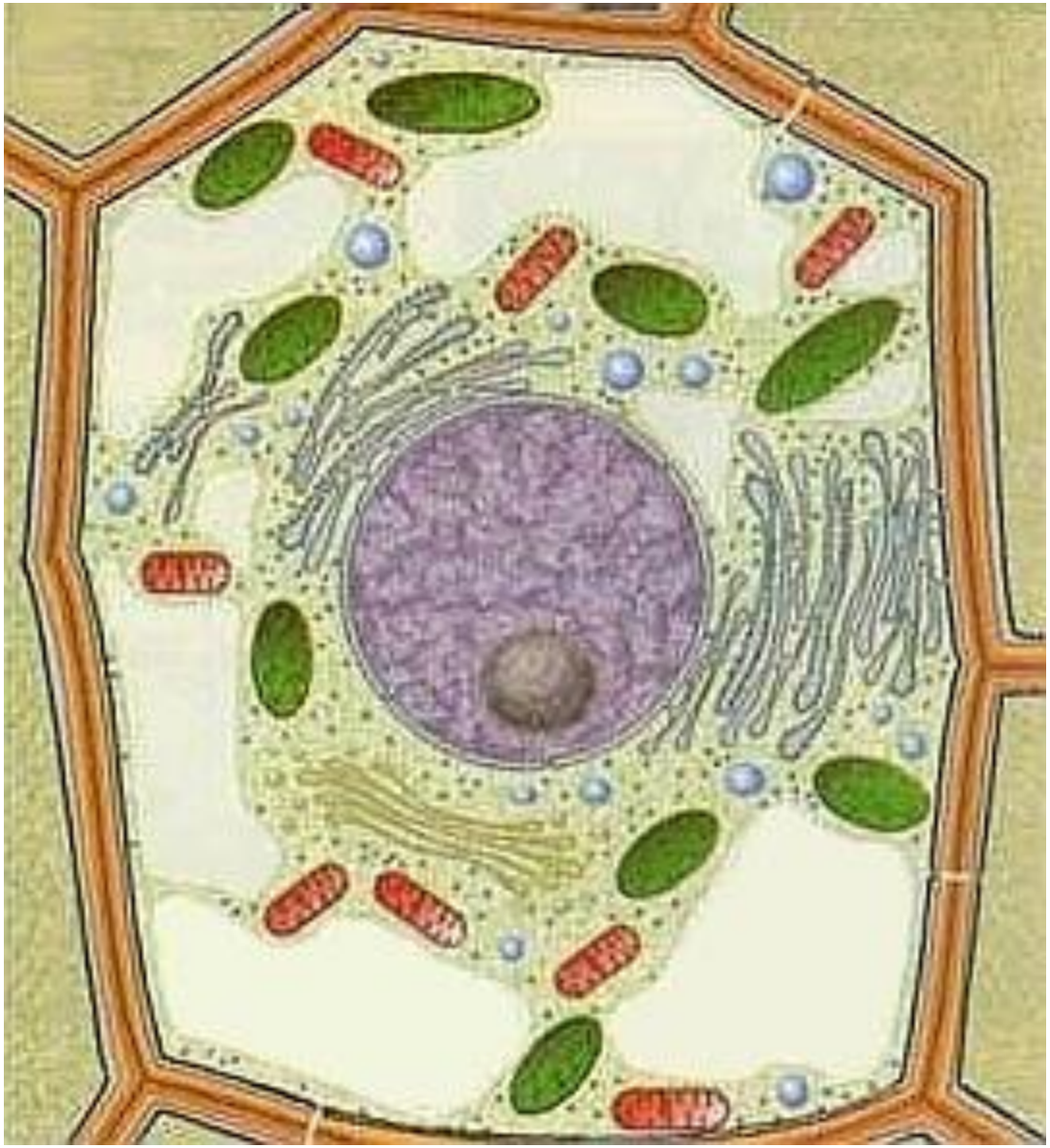


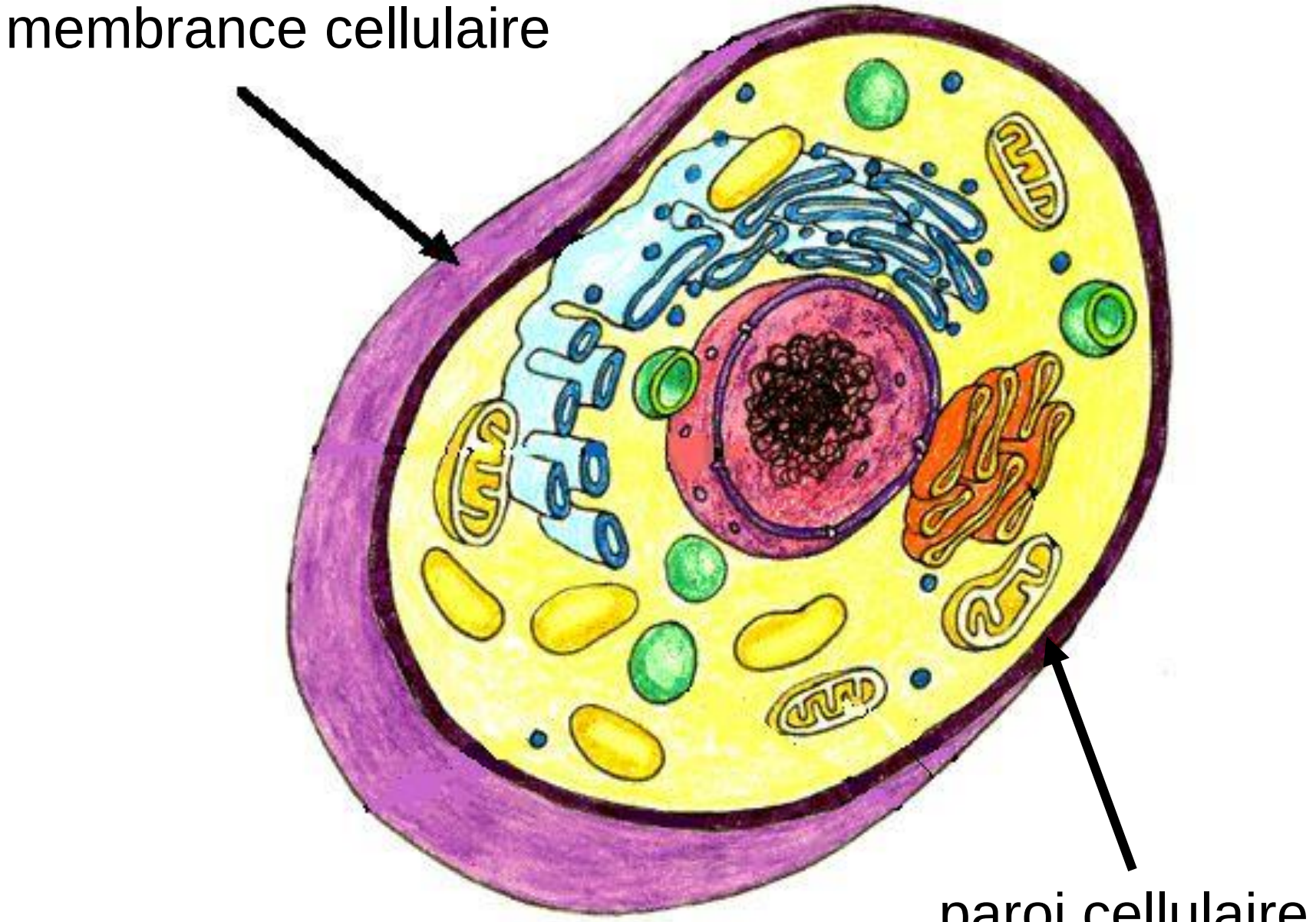
chloroplaste

- C’est des structures où a lieu le processus de la photosynthèse.
- Dans la photosynthèse, l’énergie solaire sert à produire des glucides.
- On trouve les chloroplastes seulement dans les plantes vertes et des organismes unicellulaires.



La paroi cellulaire



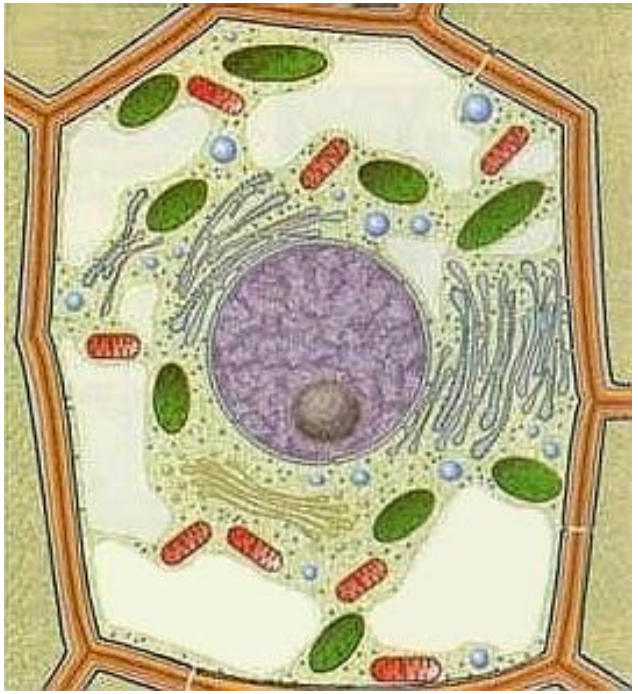

membrance cellulaire
paroi cellulaire

La paroi cellulaire

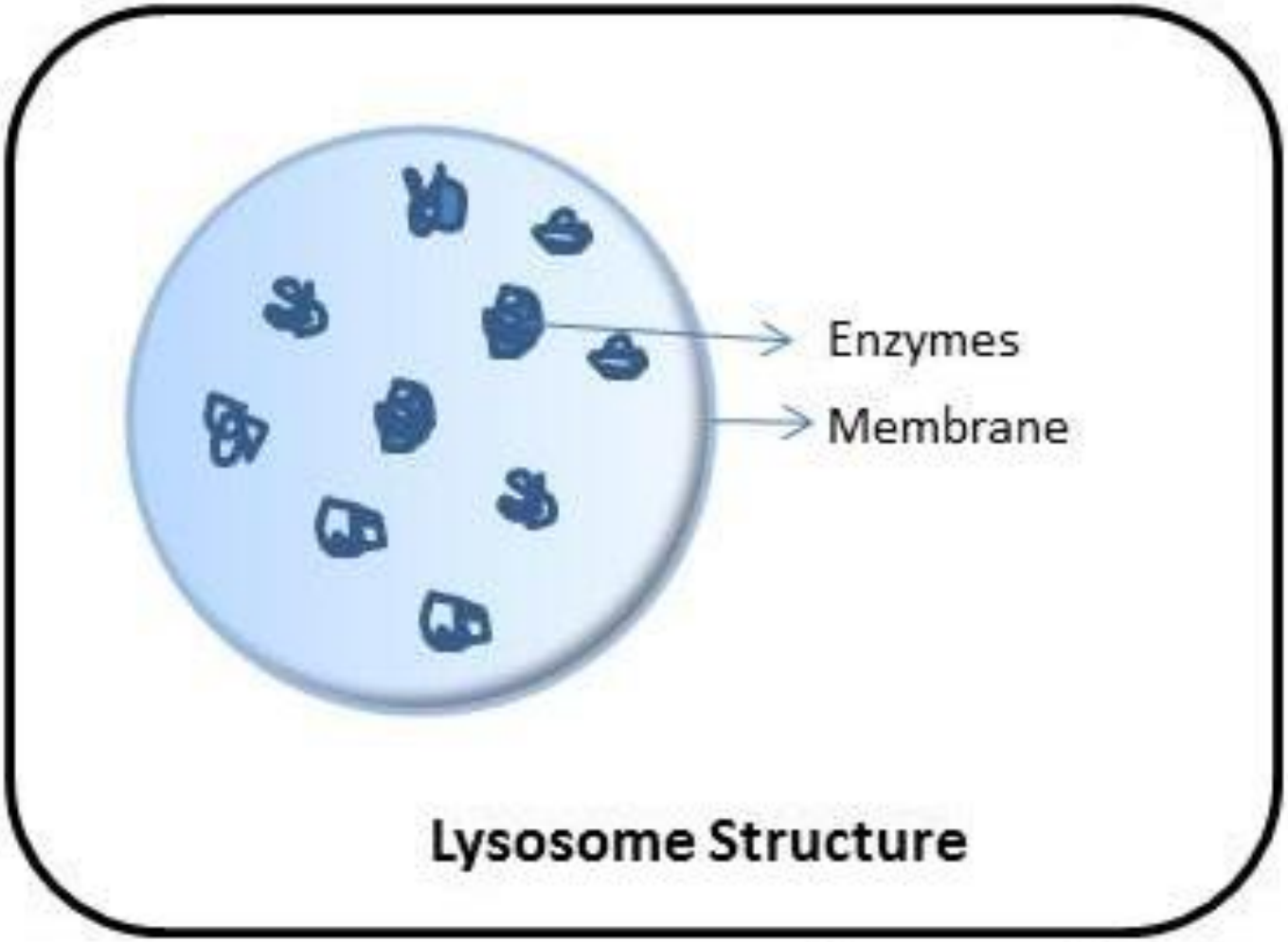
Seuls les cellules des plantes et des champignons possèdent une paroi cellulaire.

Cette paroi est beaucoup plus épaisse et rigide que la membrane cellulaire.

La paroi sert de support à la cellule.



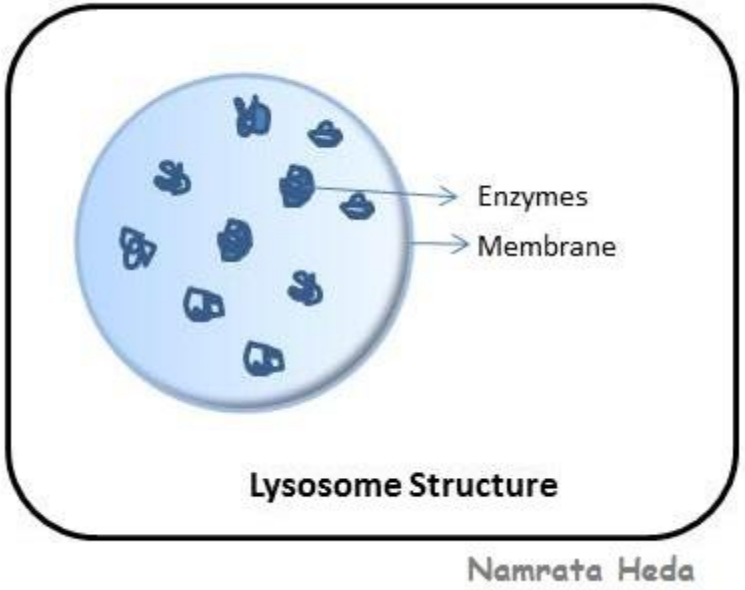
Lysosome



Namrata Heda

Lysosome

Une organelle qui contient des enzymes pour digérer ou recycler les molécules



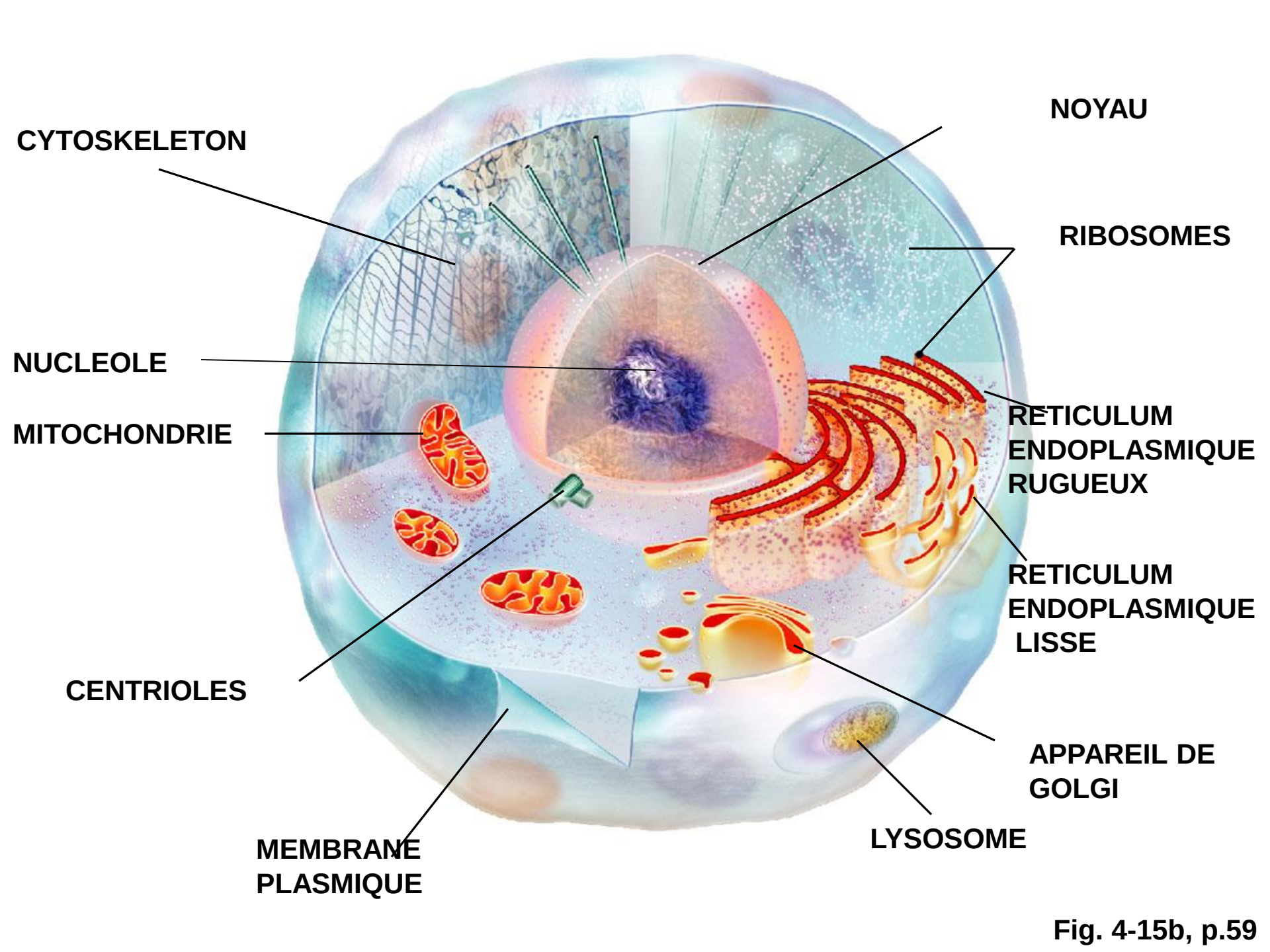

CYTOSKELETON
NOYAU
RIBOSOMES
NUCLEOLE
MITOCHONDRIE
RETICULUM ENDOPLASMIQUE RUGUEUX
RETICULUM ENDOPLASMIQUE LISSE
CENTRIOLES
APPAREIL DE GOLGI
LYSOSOME
MEMBRANE PLASMIQUE

Fig. 4-15b, p.59

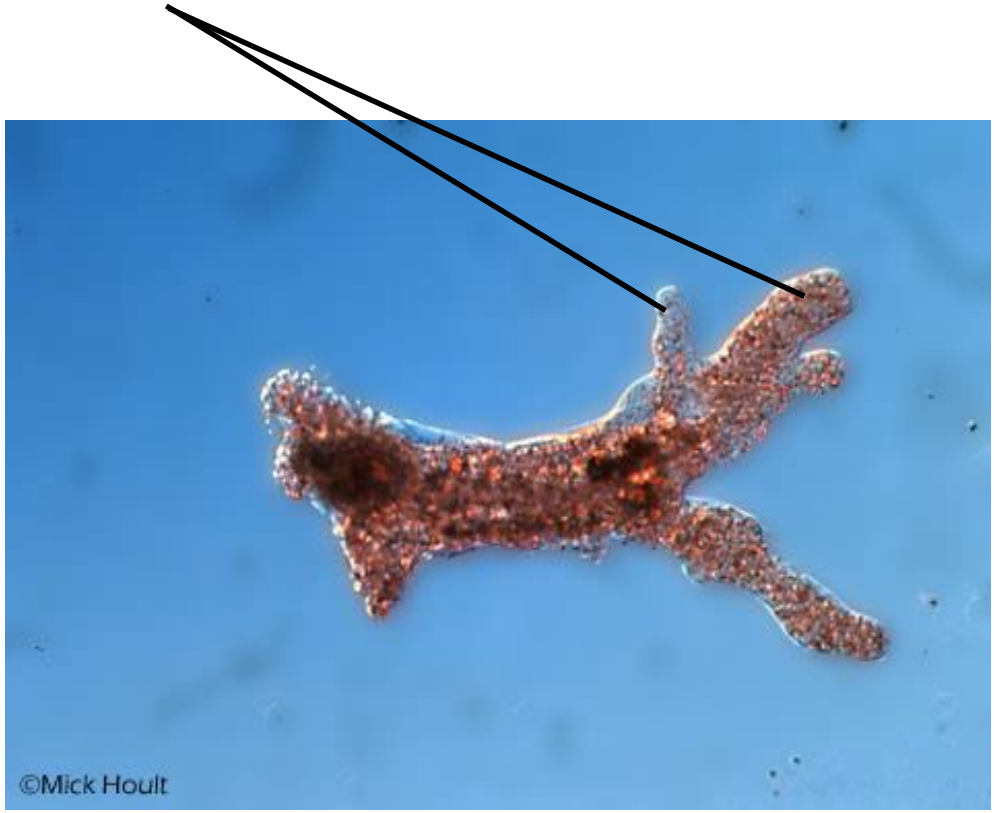
Organisme Unicellulaire

How do animal cells move?

- Some can crawl with pseudopods
- Some can swim with a flagellum
- Some can swim very fast with cilia

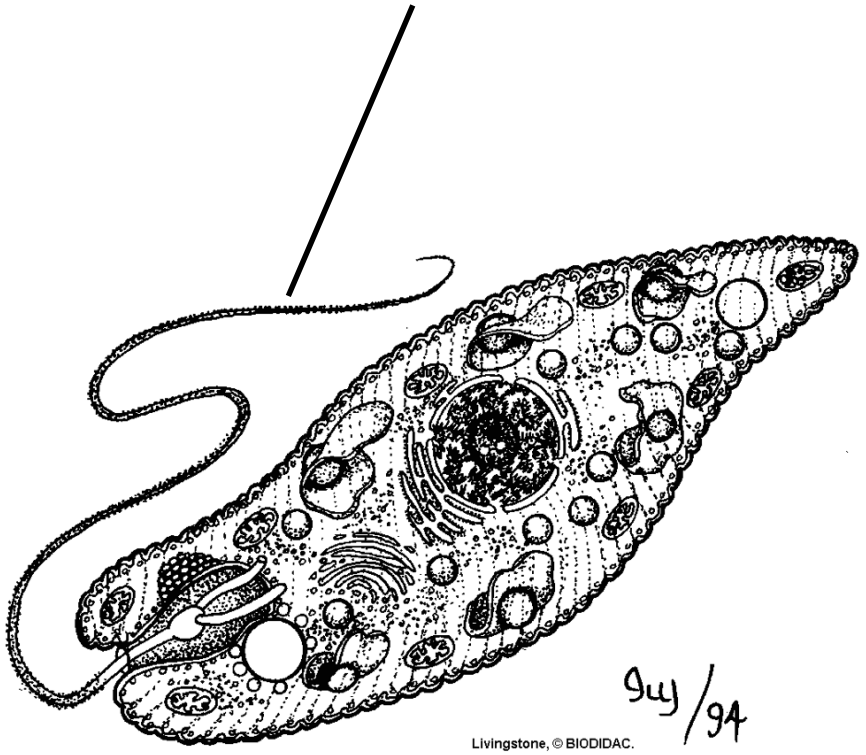
Pseudopods

- means “fake feet”
- extensions of cell membrane
- example: ameoba



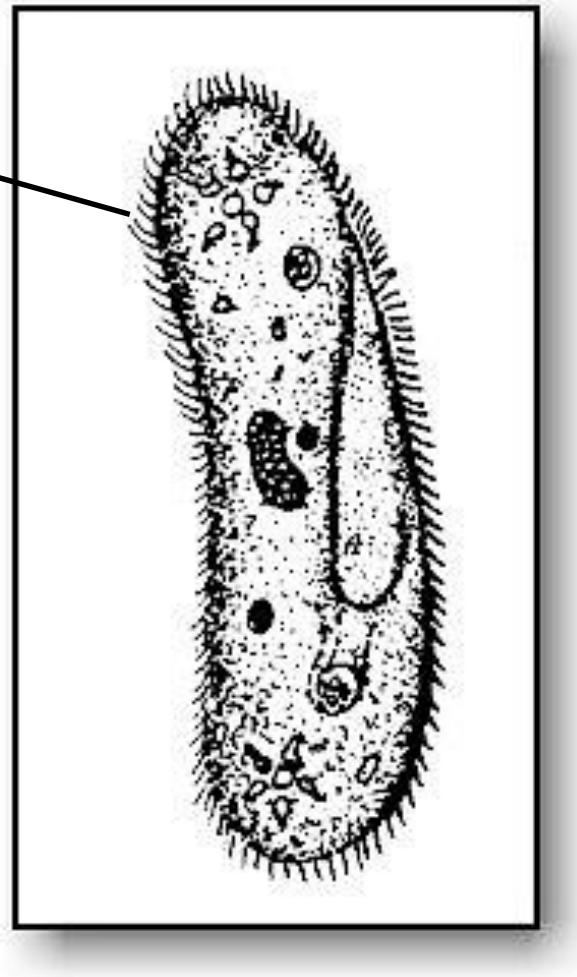
Flagellum/flagella

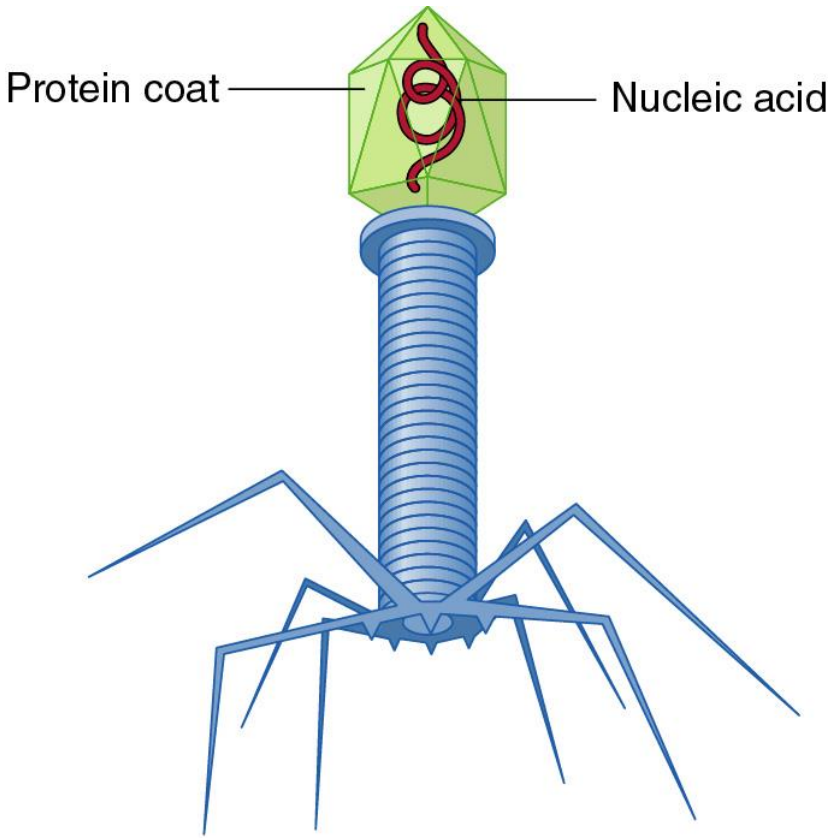
- large whiplike tail
- pushes or pulls cell through water
- can be single, or a pair



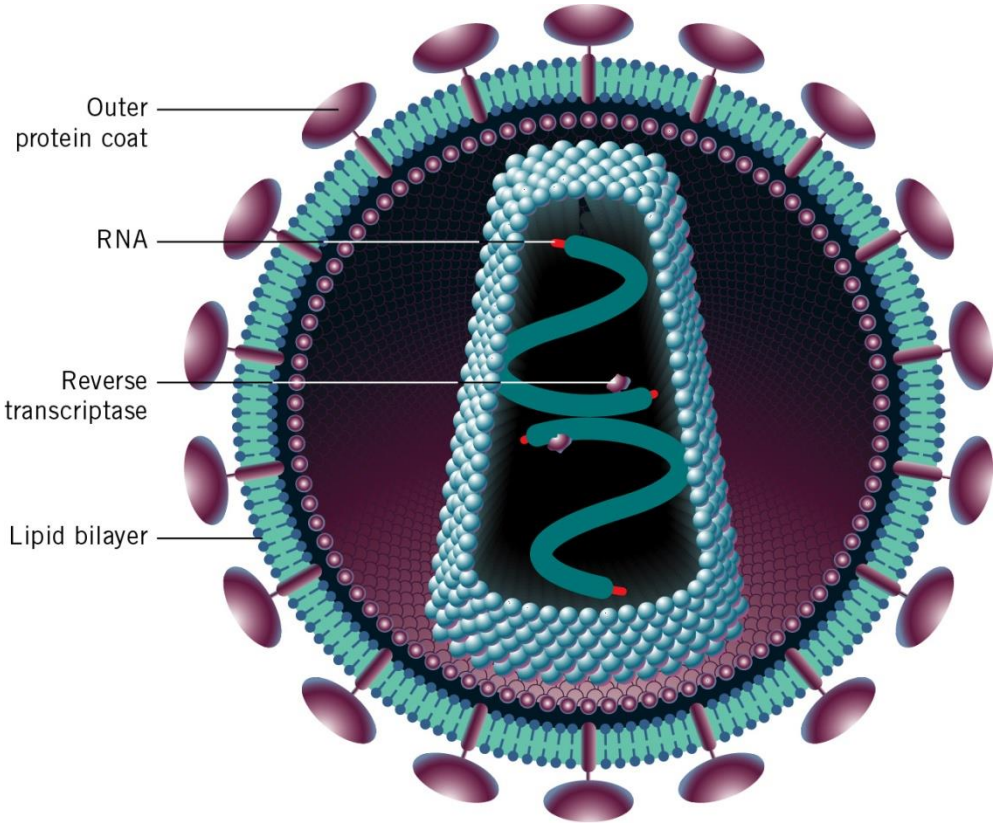
Cilia

- fine, hairlike extensions
- attached to cell membrane
- beat in unison





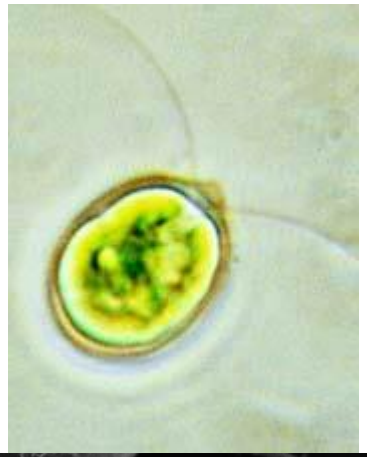
Viruses can have a wide variety of shapes and sizes. This diagram of a bacterial virus shows the protein coat containing DNA at the head. The tail fibers at the bottom attach the virus to the cell wall. DNA is then injected into the cell through the cylindrical core.

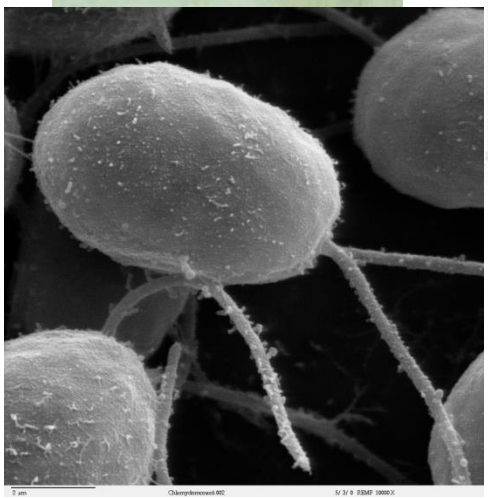


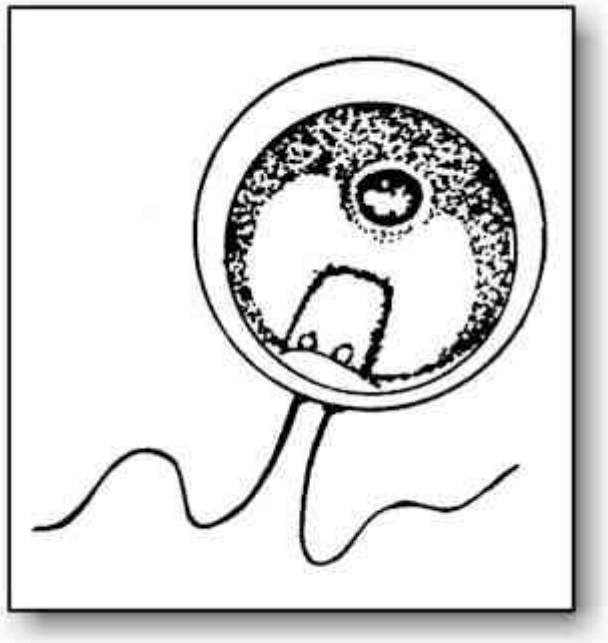
A diagram of the HIV virus. The reverse transcriptase is the enzyme that initiates reverse transcription in the virus.

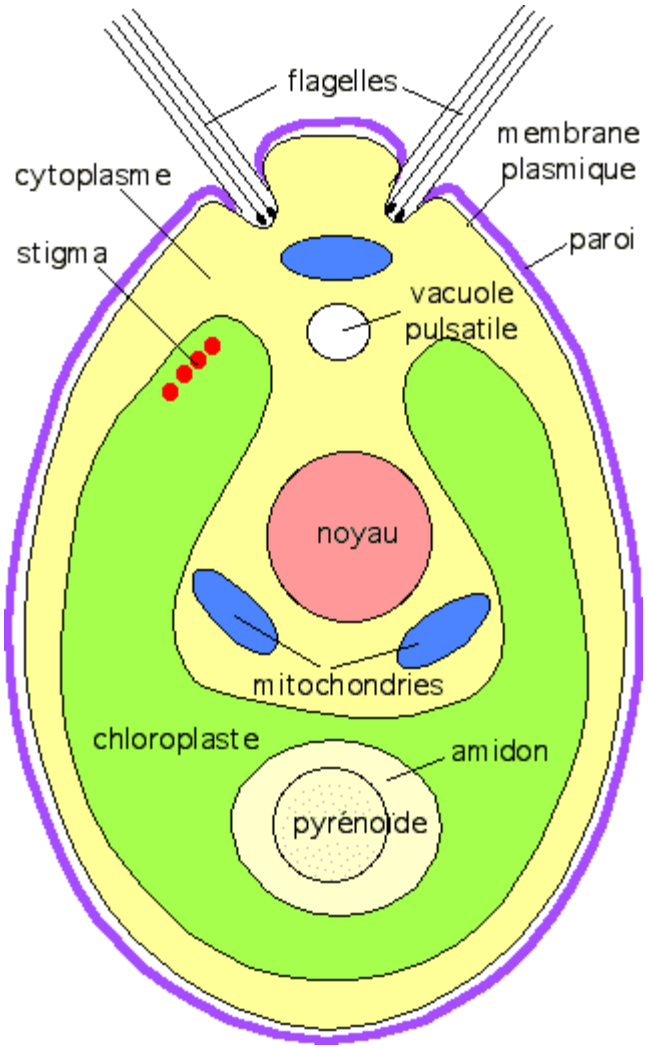
Chlamydomonas

- Trouver dans l'eau calme et la terre humide



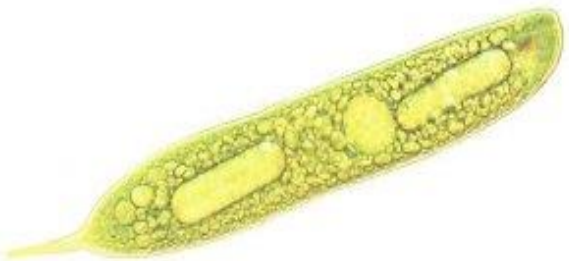


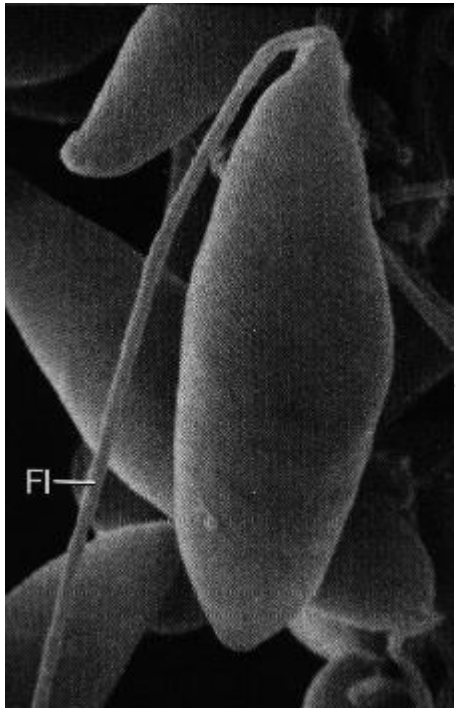


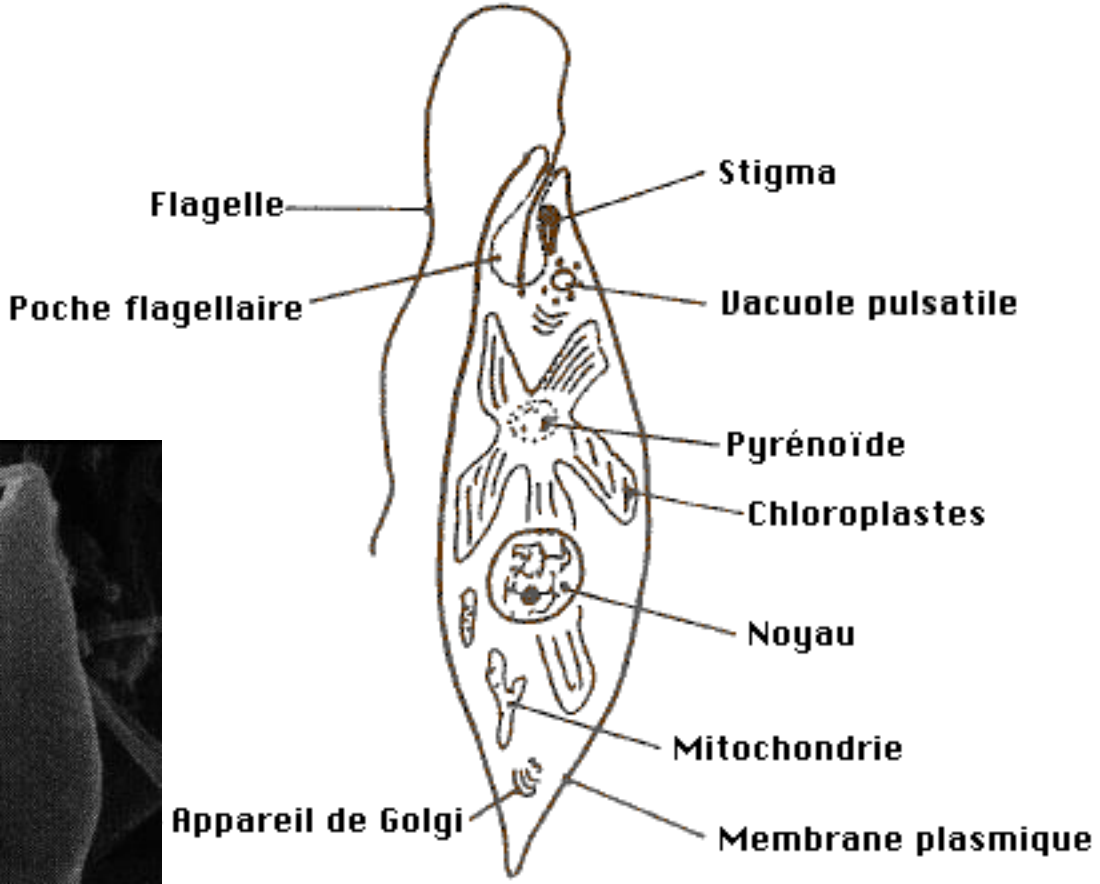


10000X

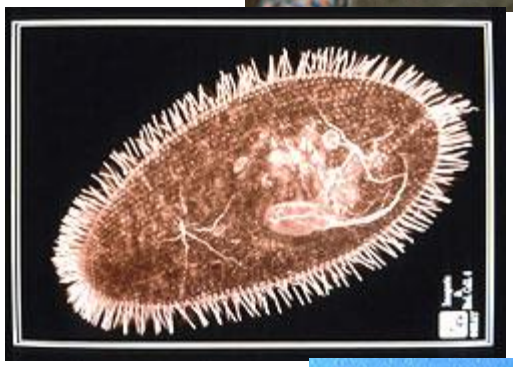
euglène

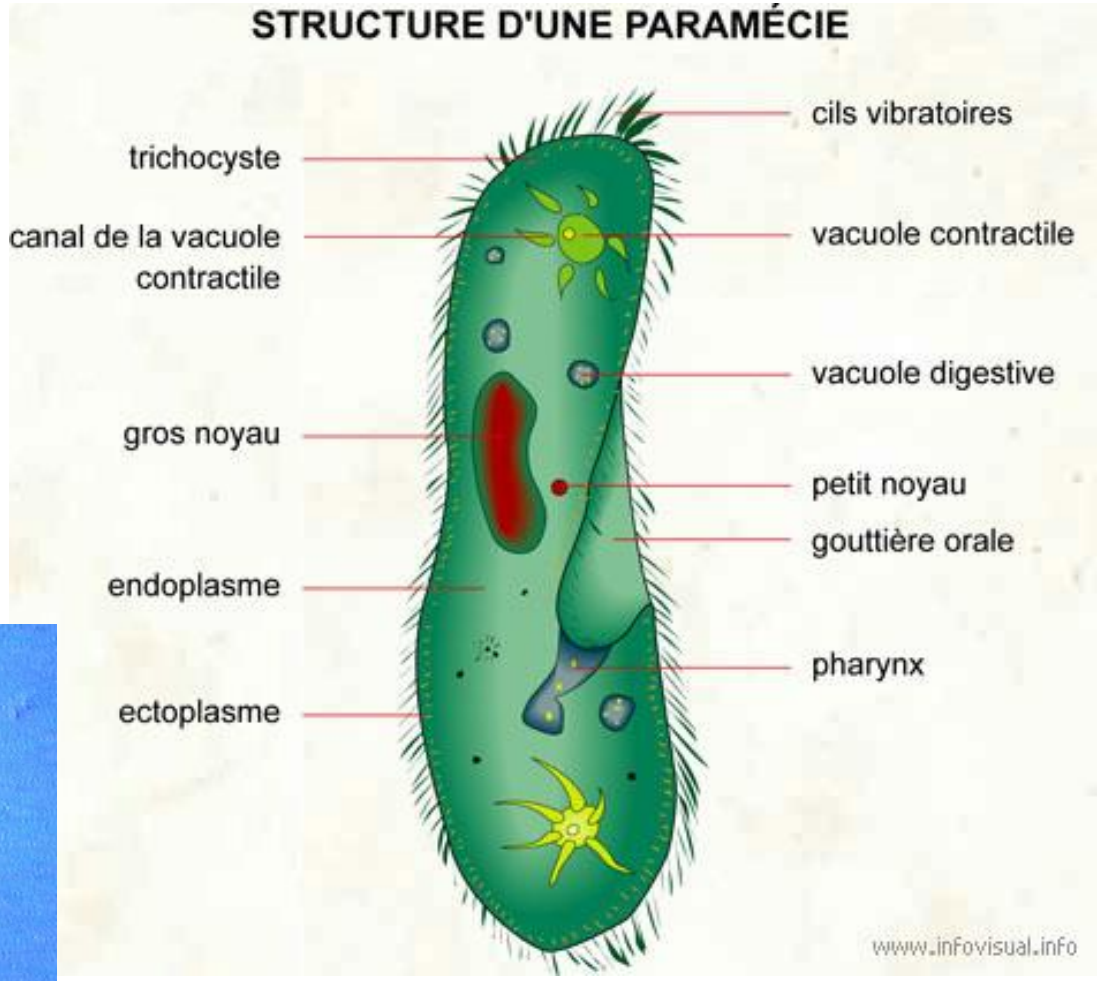



Fl

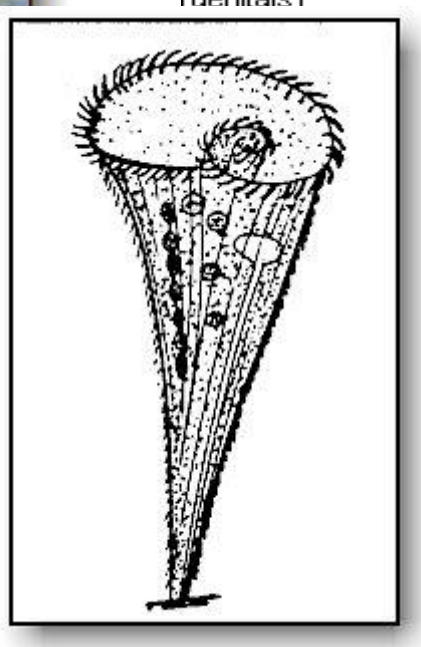

Flagelle
Stigma
Poche flagellaire
Vacuole pulsatile
Pyrénoïde
Chloroplastes
Noyau
Mitochondrie
Appareil de Golgi
Membrane plasmique

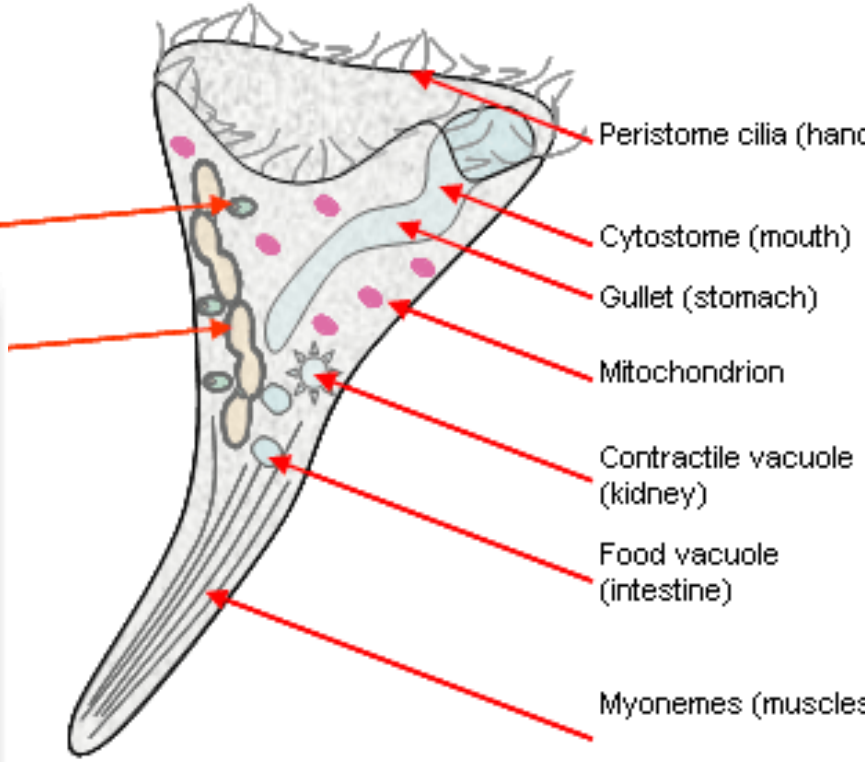
paramécie



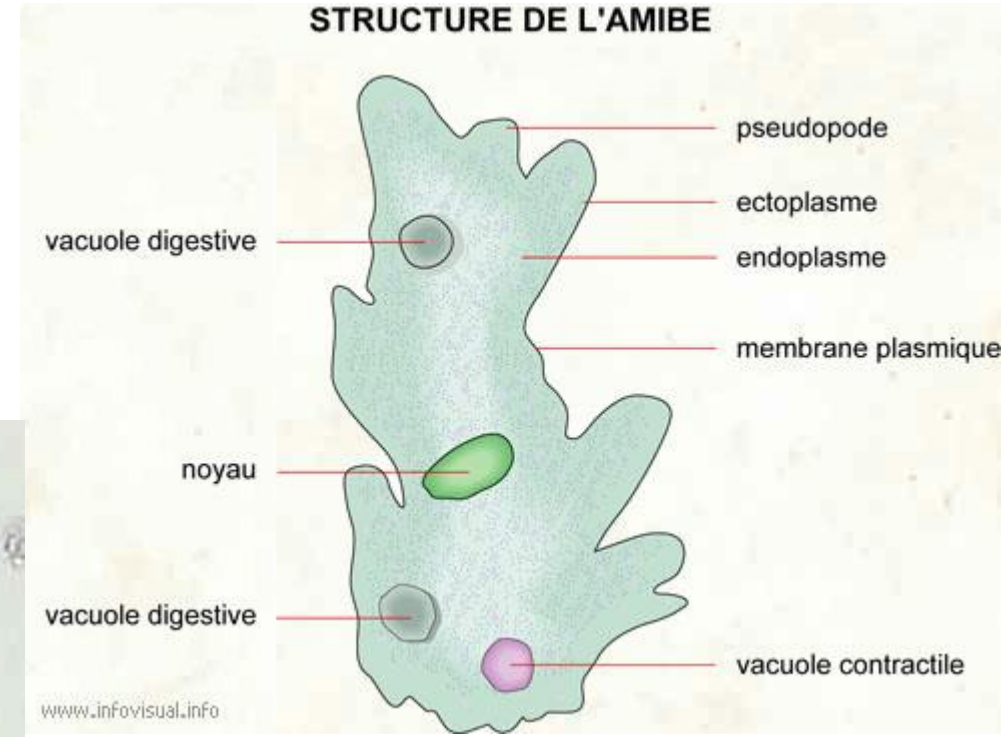

STRUCTURE D'UNE PARAMÉCIE
cils vibratoires
trichocyste
canal de la vacuole contractile
vacuole contractile
vacuole digestive
gros noyau
petit noyau
gouttière orale
endoplasme
pharynx
ectoplasme
www.infovisual.info

stentor

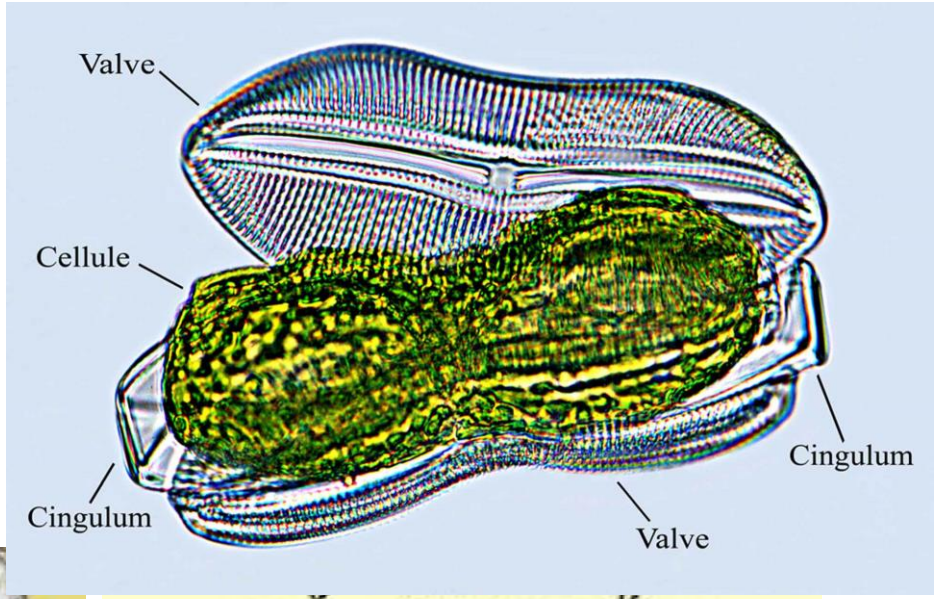


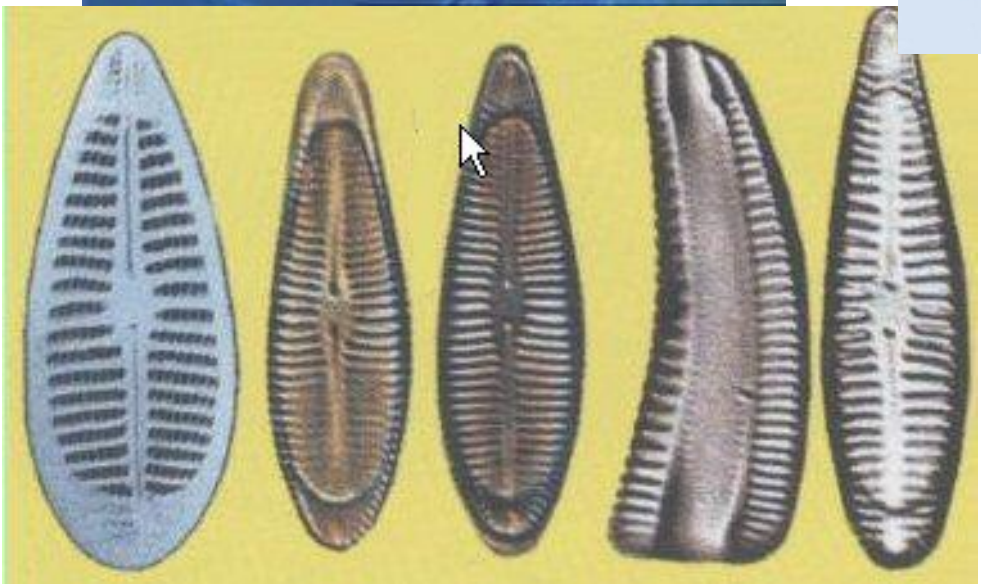

Micronucleus
(genitals)
Peristome cilia (hand
Cytostome (mouth)
Gullet (stomach)
Mitochondrion
Contractile vacuole
(kidney)
Food vacuole
(intestine)
Myonemes (muscles

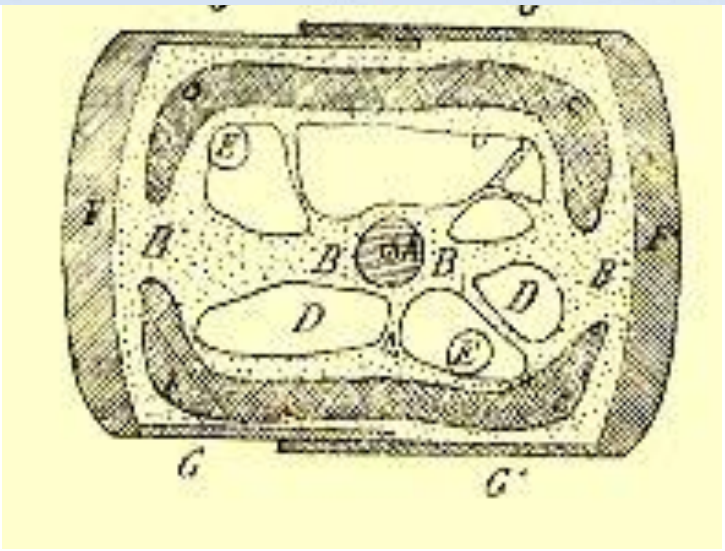
amibe


STRUCTURE DE L'AMIBE
pseudopode
ectoplasme
vacuole digestive
endoplasme
membrane plasmique
noyau
vacuole digestive
vacuole contractile
www.infovisual.info

diatomée

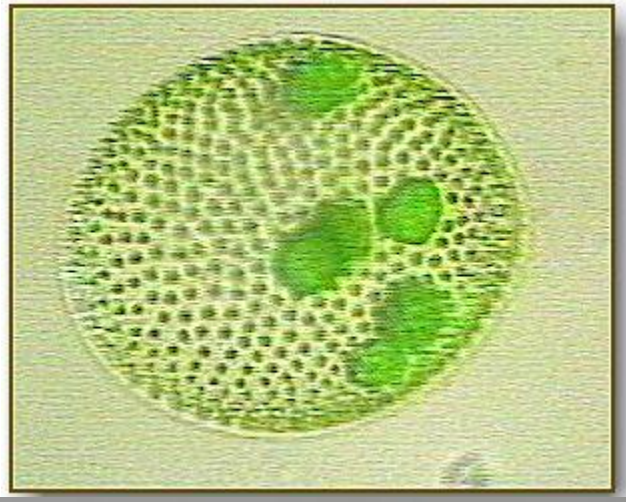


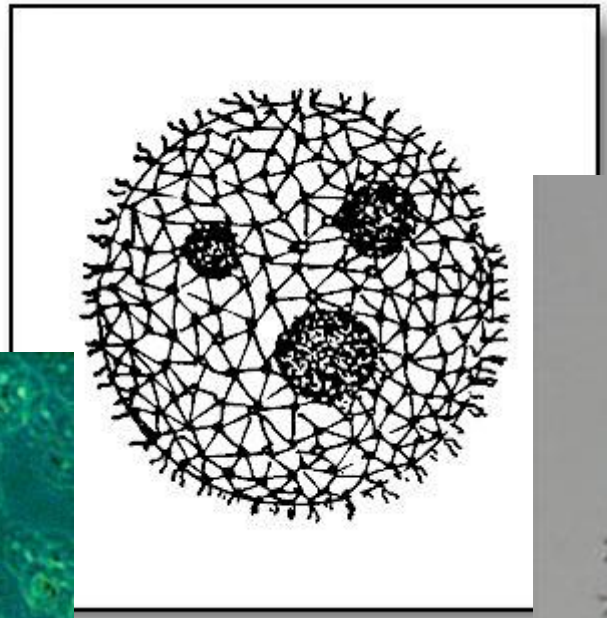


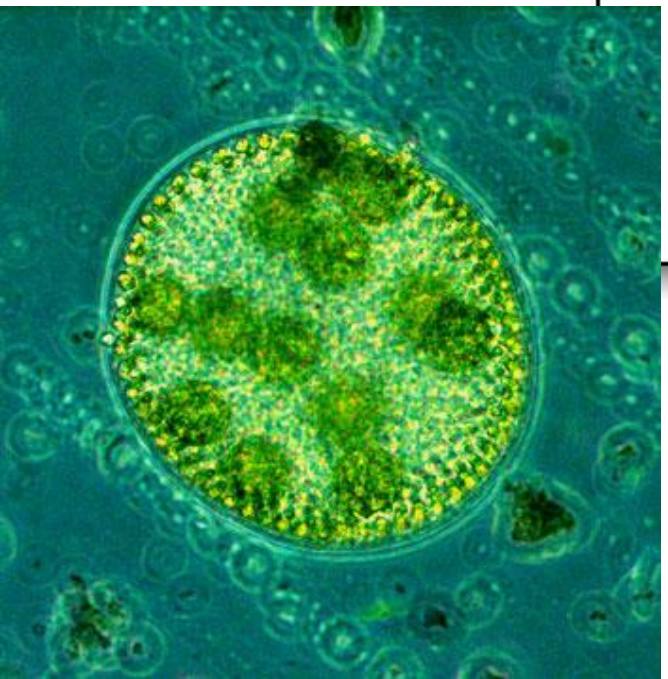


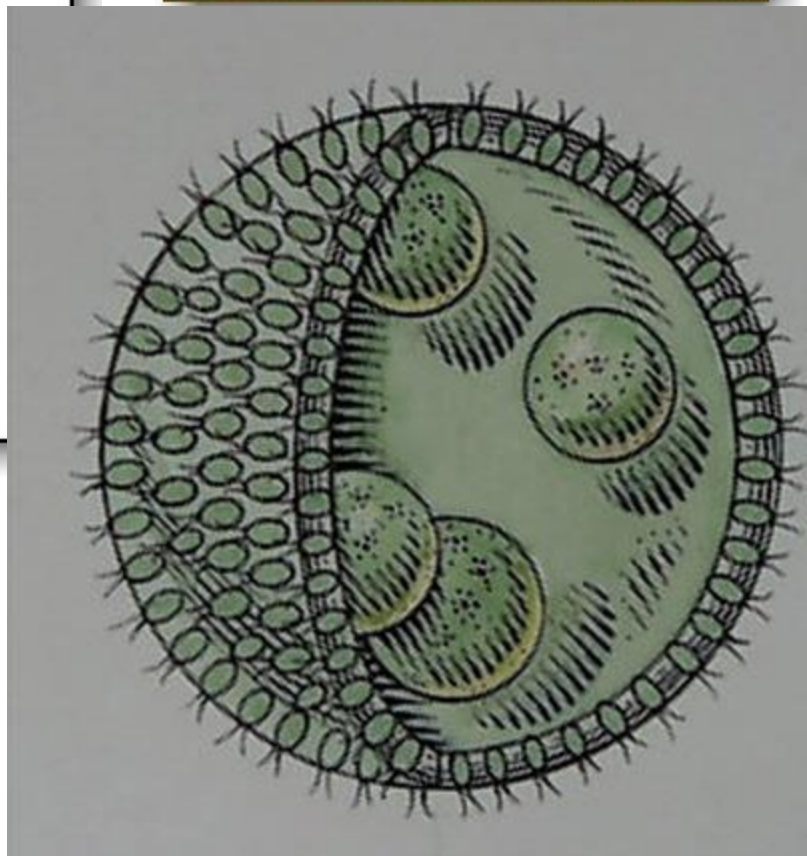
volvox

- Trouver dans flac d'eau, fosset et ponds



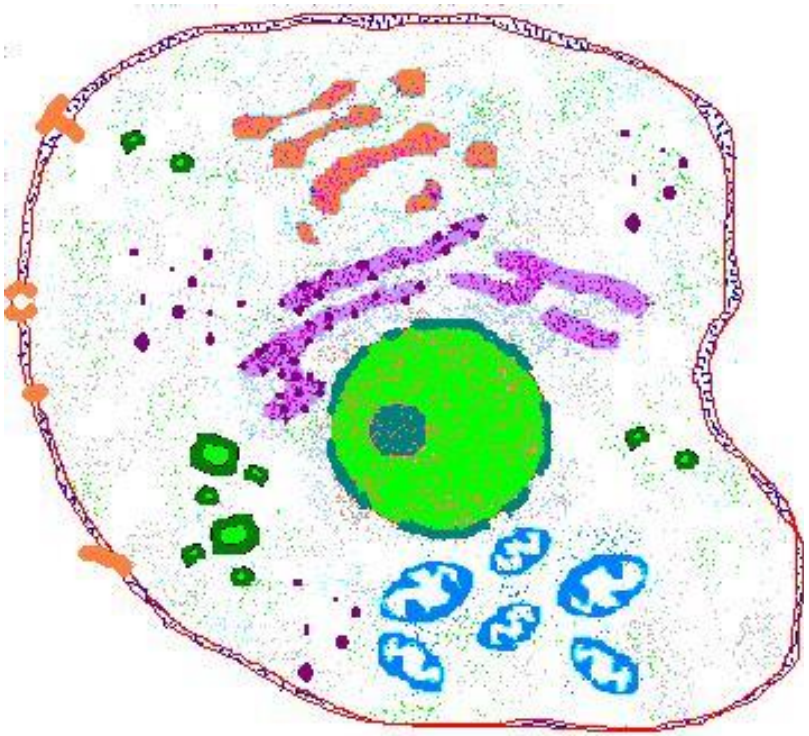


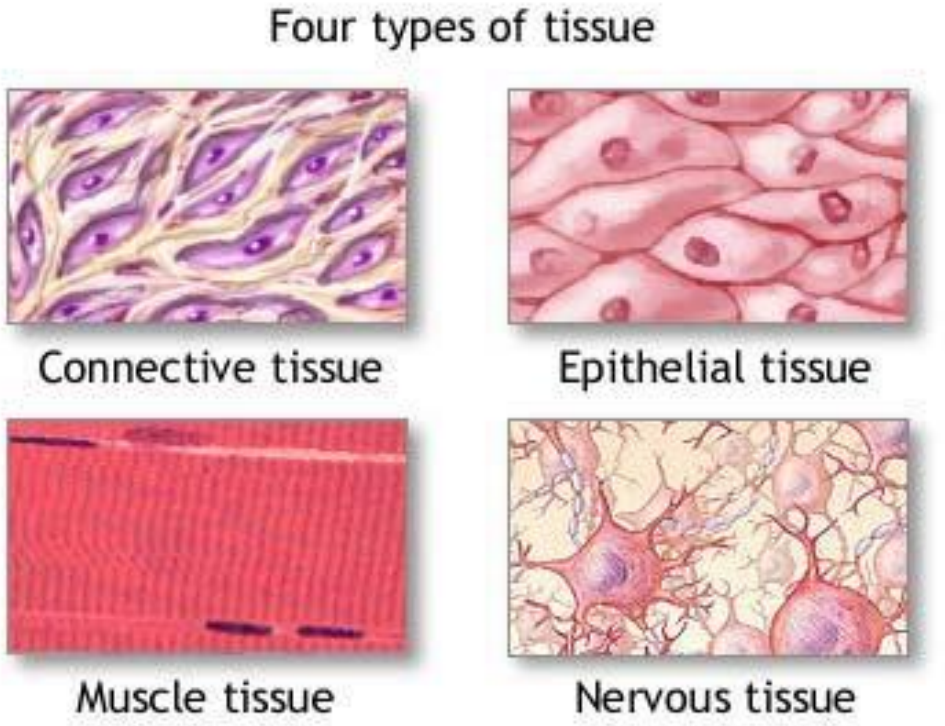


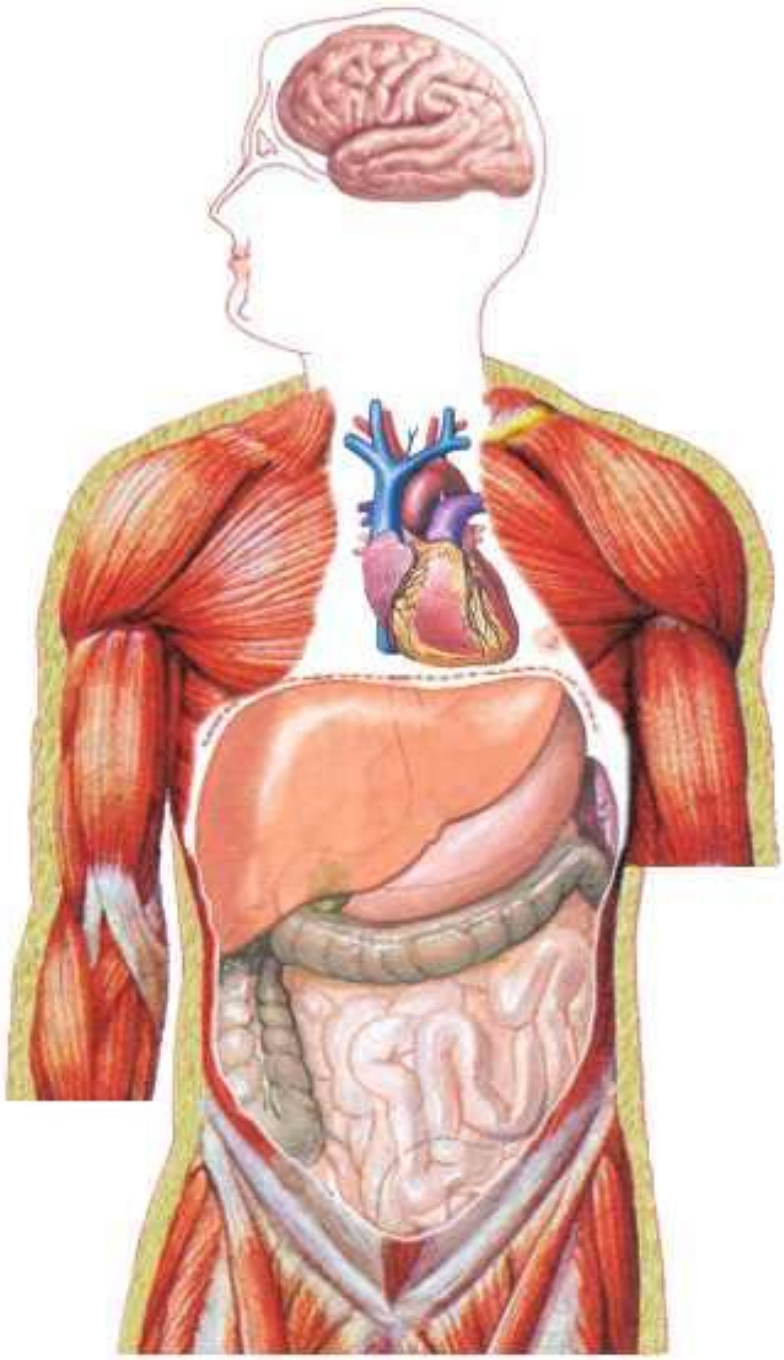


La mitose

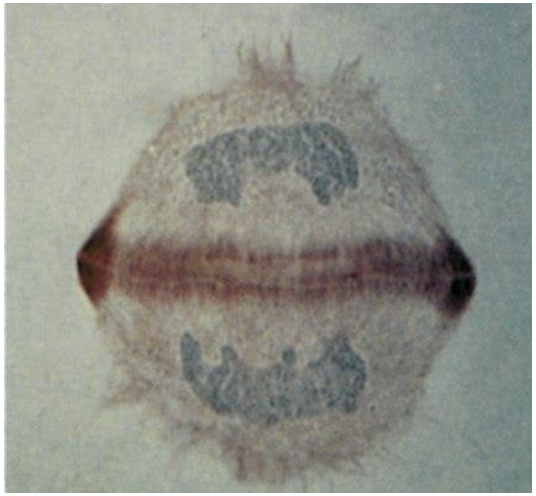
- La cellule est l'unité de base de la vie. Lorsqu'elle se divise, elle se multiplie et forme des tissus. Ces tissus forment des organes.



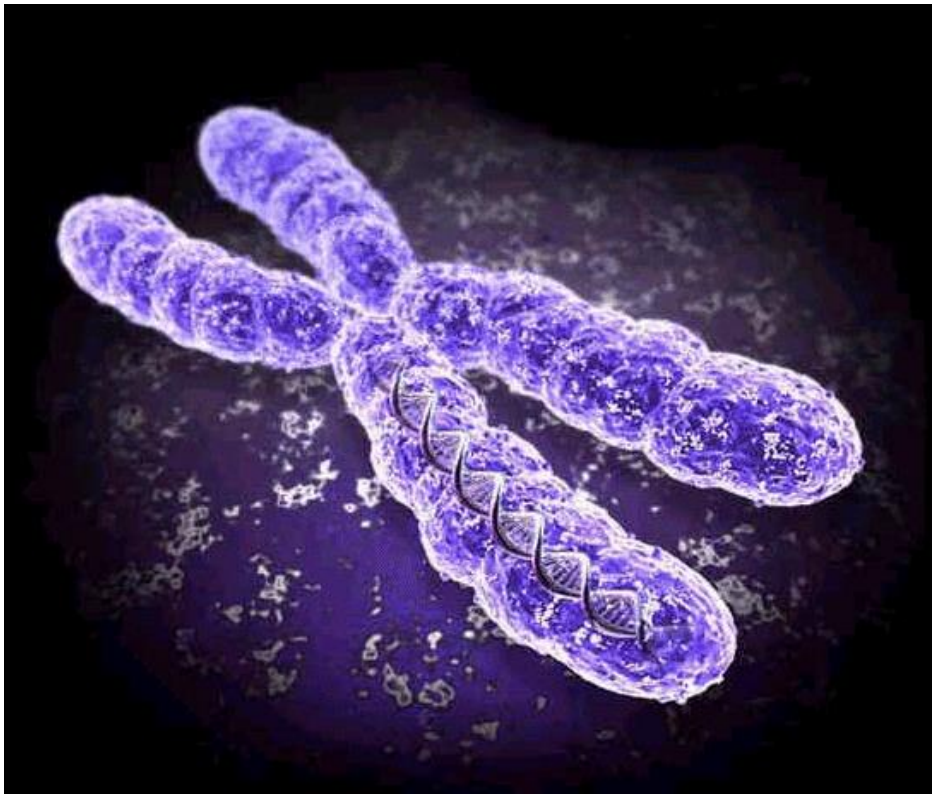


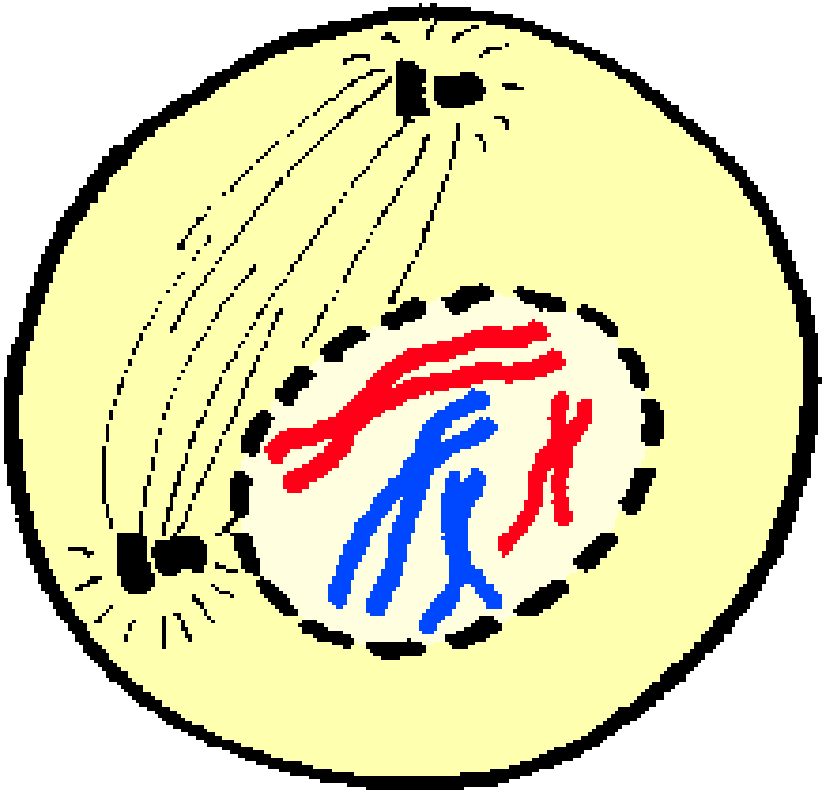


- Ces organes forment des systèmes et ces systèmes constituent un organisme:notre corps



première phase: la prophase

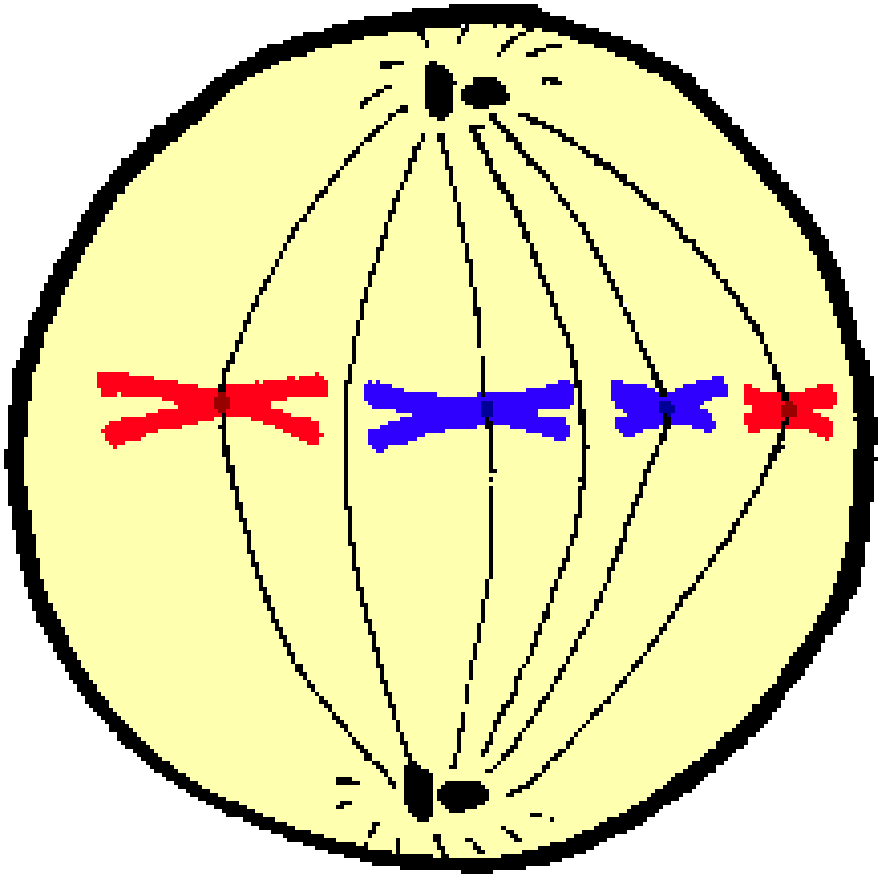


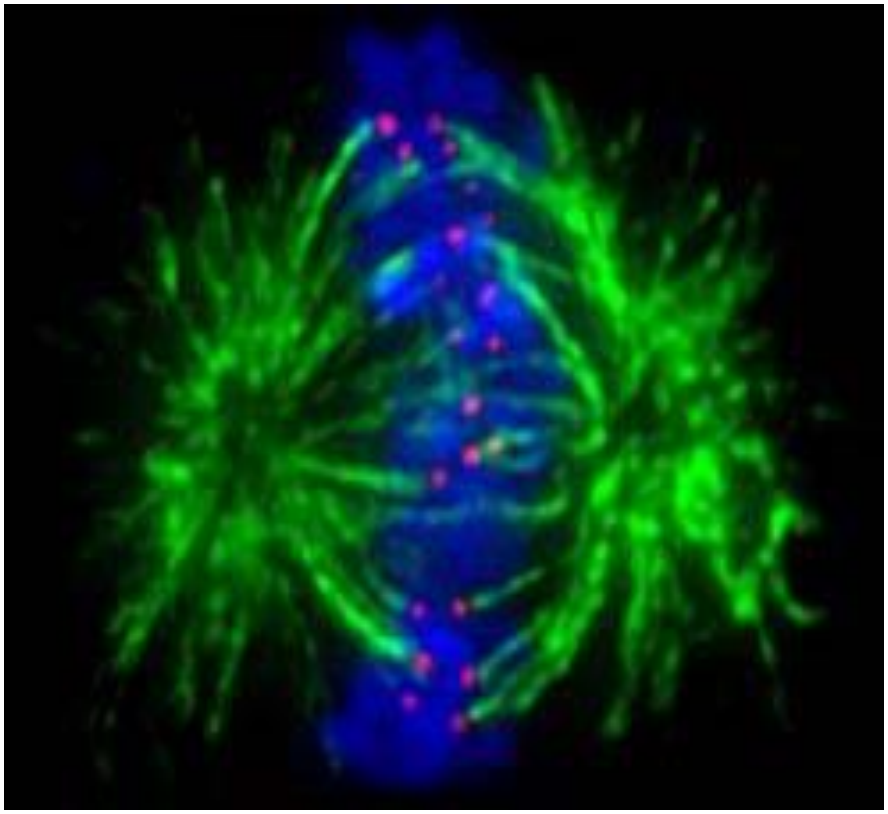


Prophase

- Durant cette étape, il y a une migration des centrioles vers les pôles de la cellule animale. Il y a aussi formation de fibres fusoriales. La membrane nucléaire et les nucléoles commencent à se désintegrer.
- Chaque chromosome du noyau est en double brin. Sur chacun des brins s'incrit de façon identique l'info héréditaire de la cellule.

deuxième phase: la métaphase

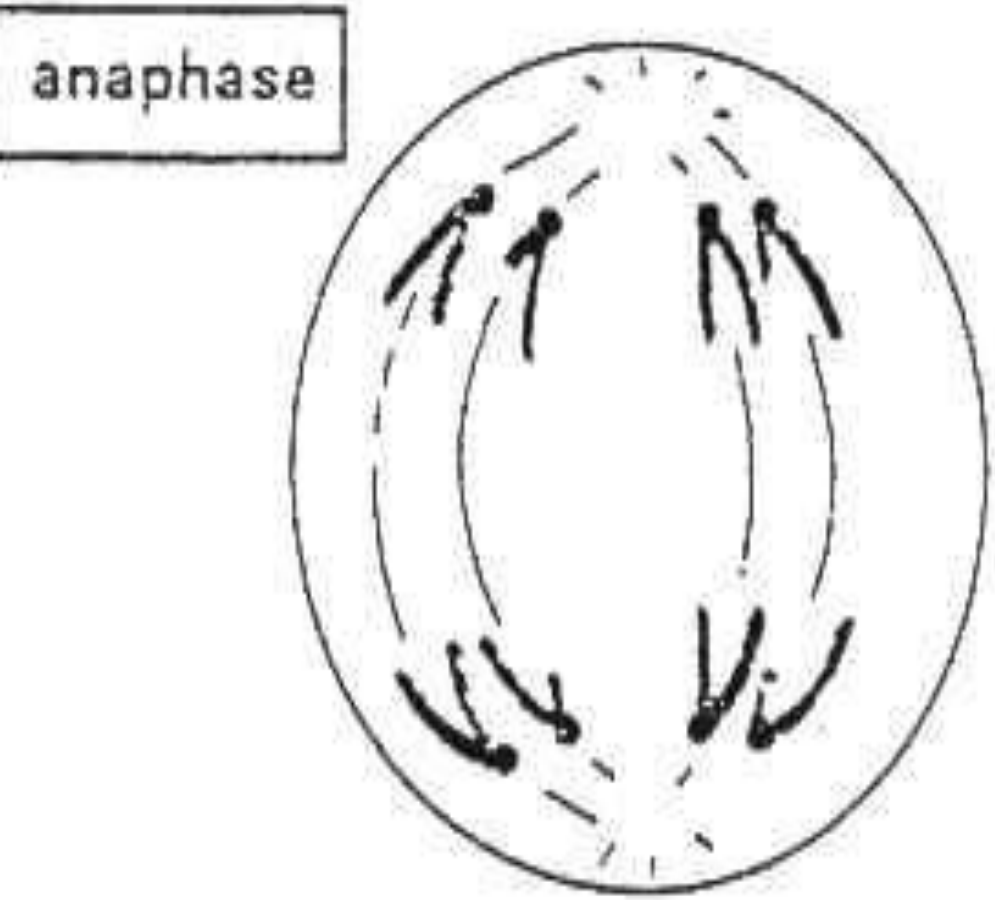


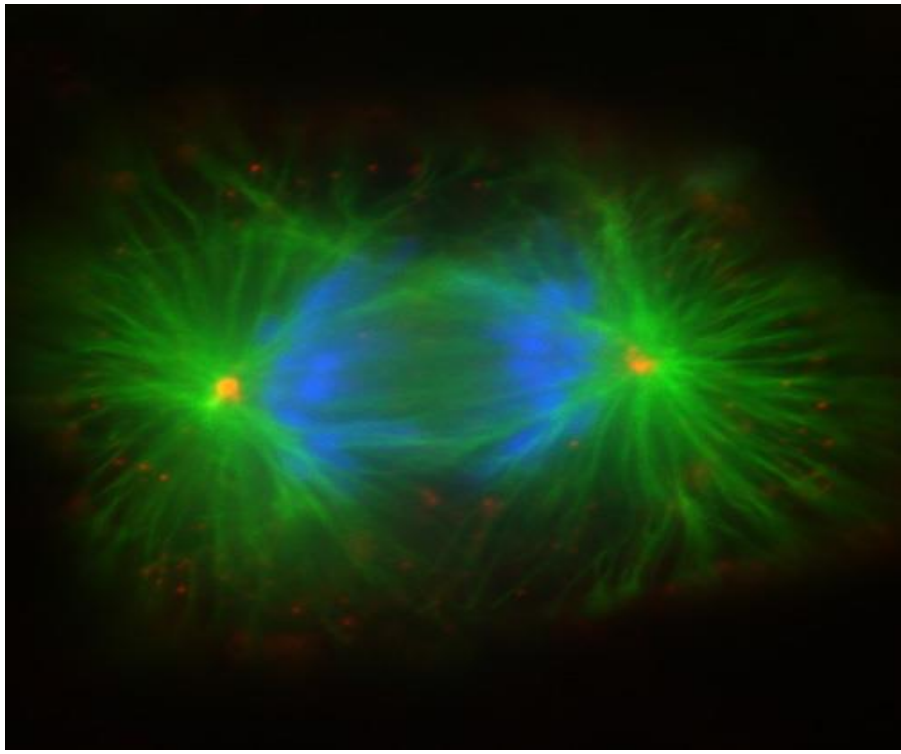


Métaphase

- Les chromosomes se situent au centre de la cellule. Les fibres tirent les chromosomes en double brin le long d'une ligne qui traverse la cellule en son centre.

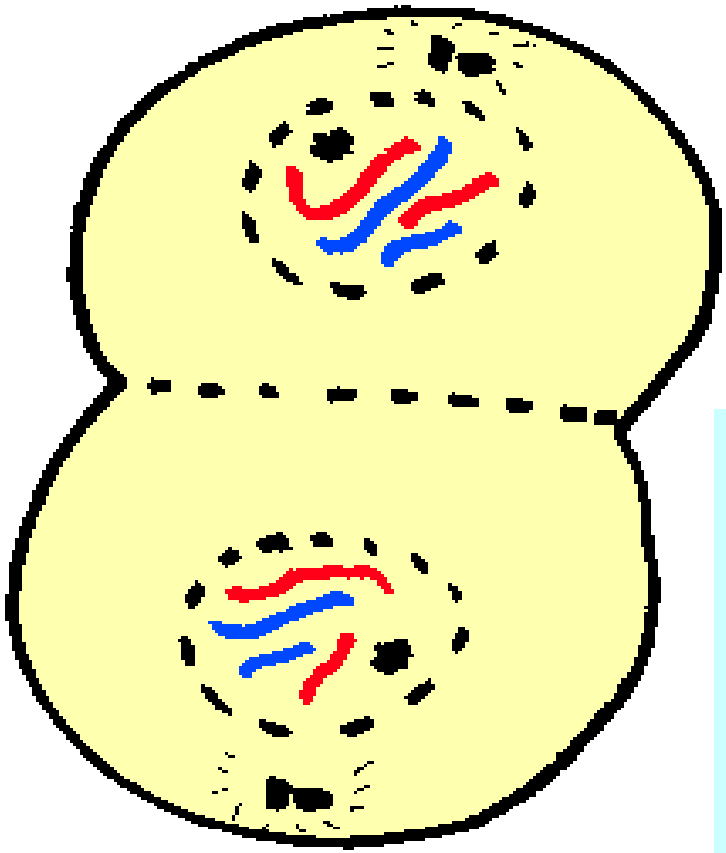
troisième phase: l'anaphase

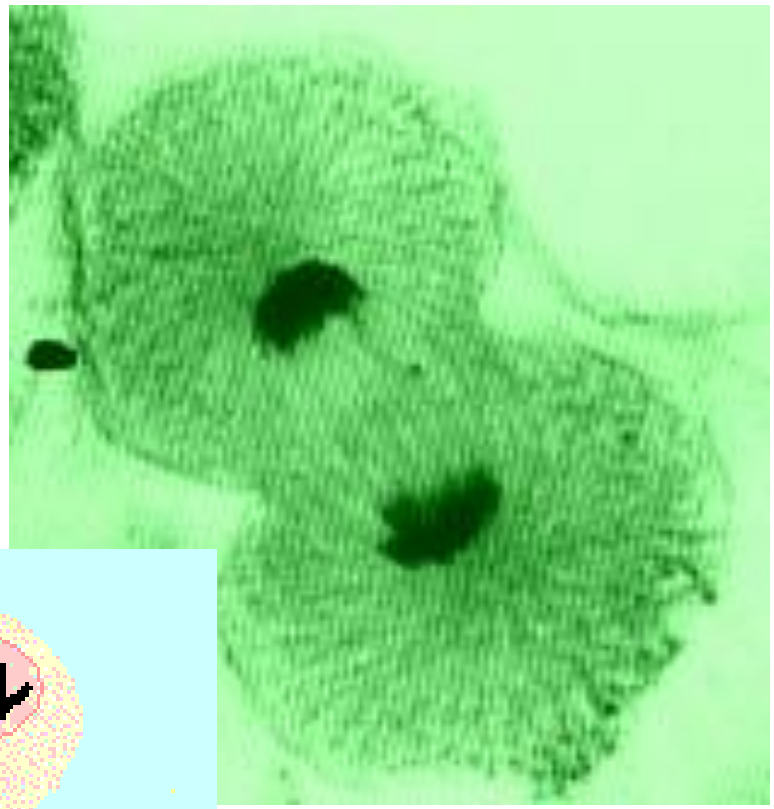


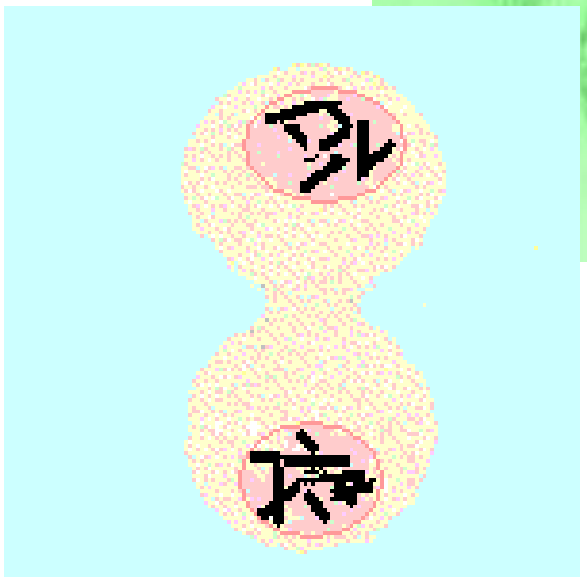


- Les brins de chromosomes se separent et se repartissent de facon semblable, en se dirigeant vers les deux poles de la cellule en glissant sur le fuseau. Ils provoquent peu a peu l’etrangelement de la cellule. La membrane necleaire commence a se reformer.

quatrième phase: la télophase

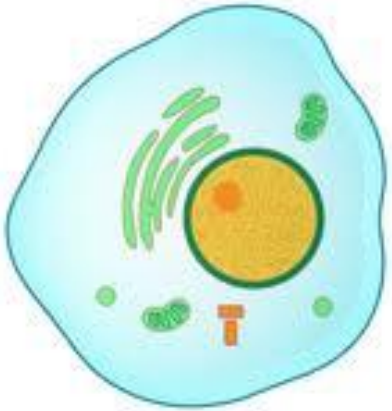


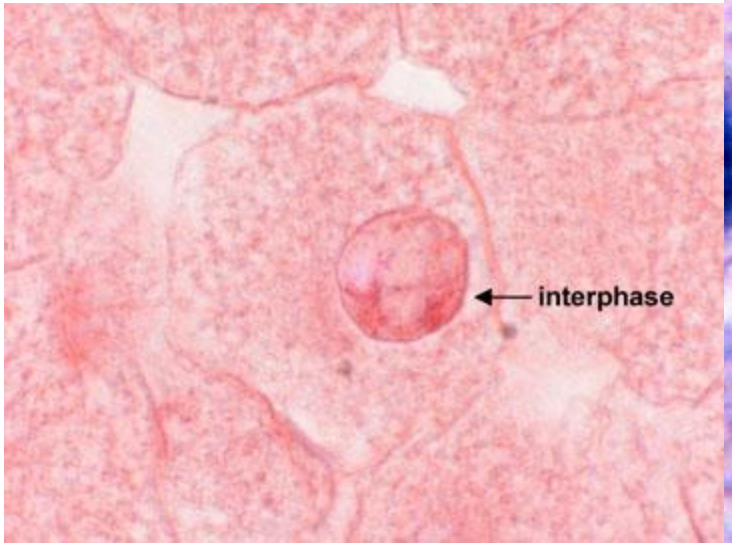


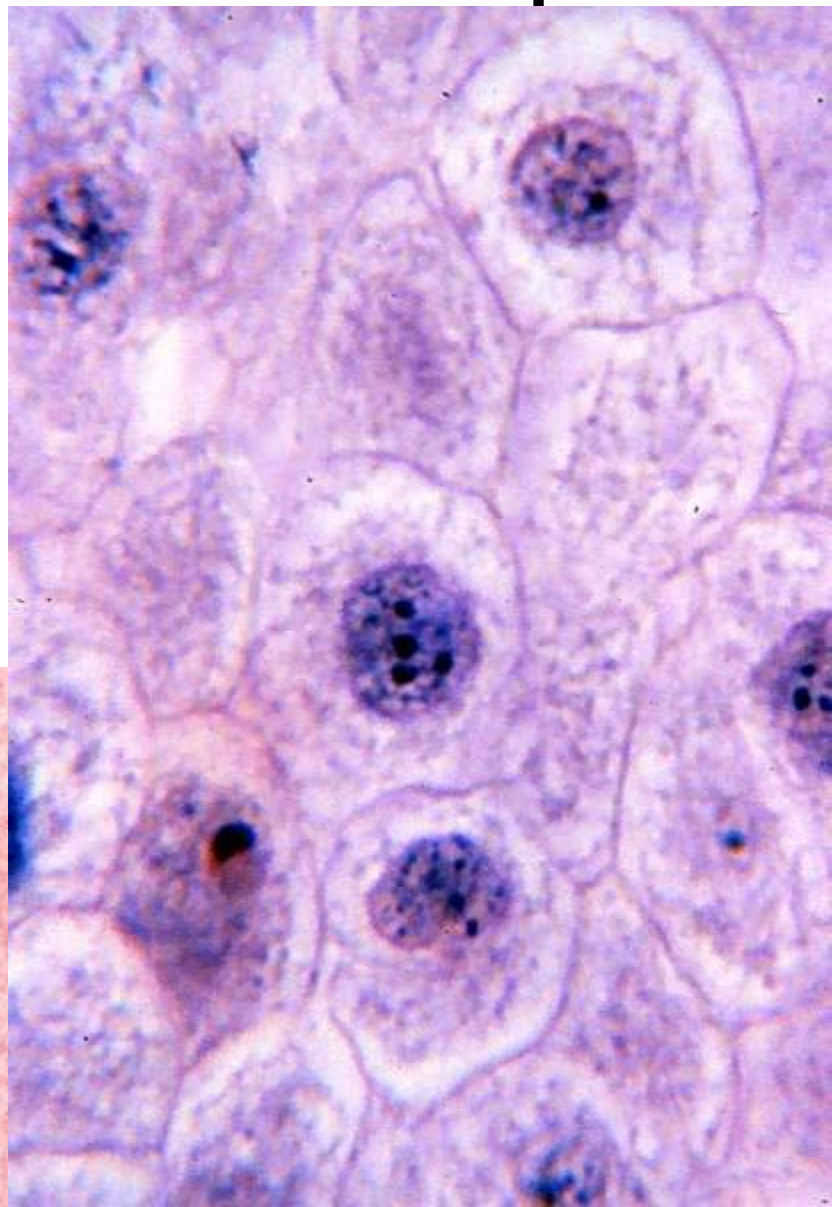


- Les chromosomes arrivent aux pôles de la cellule. Le fuseau disparaît. Une membrane nucléaire se forme autour de chaque ensemble de chromosomes et un nucléole apparaît dans chaque nouveau noyau. La membrane se pince au centre de la cellule. Eventuellement, deux cellules-filles sont formées et se séparent l'une de l'autre.

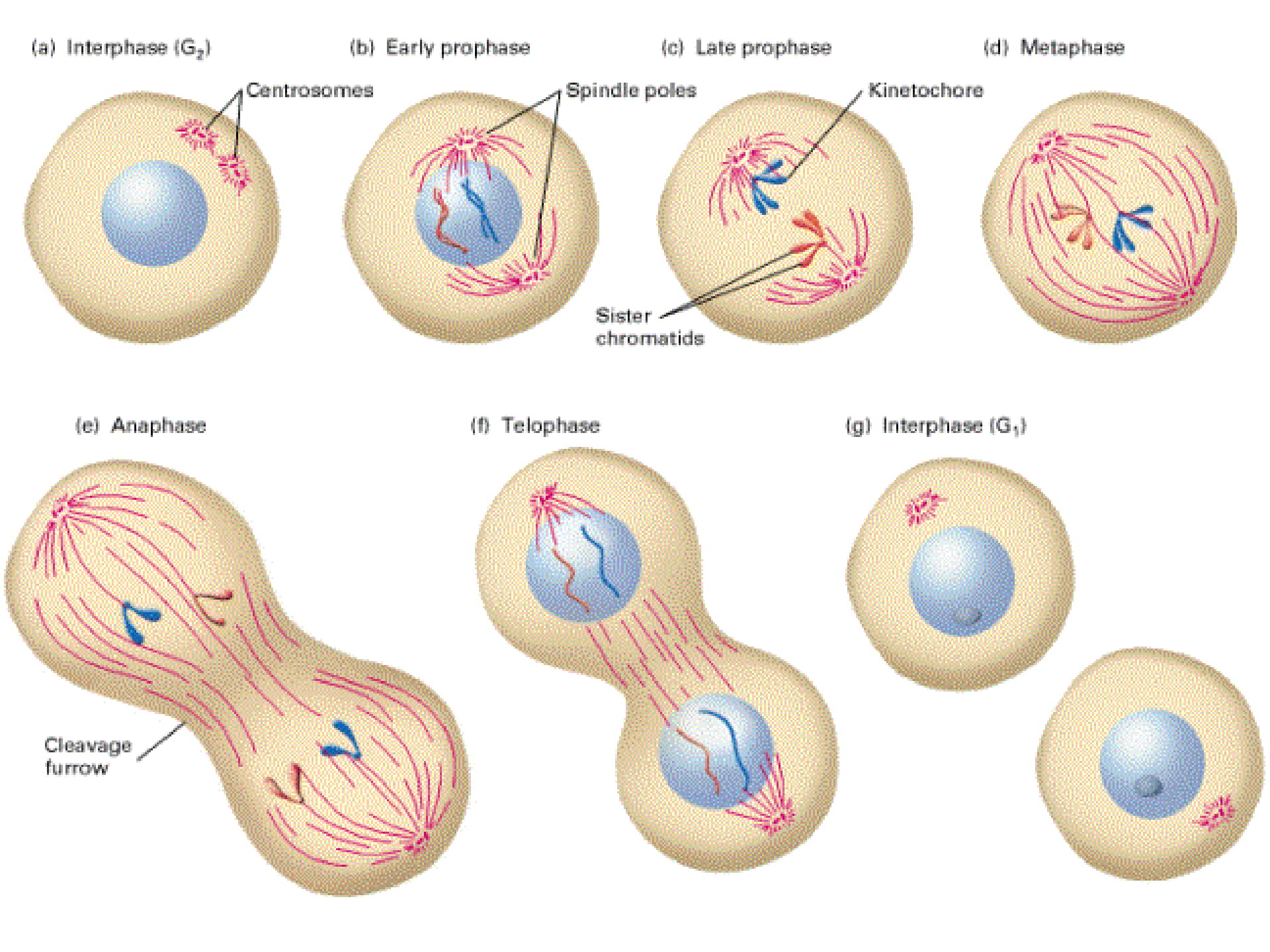
Cinquieme phase: l'interphase





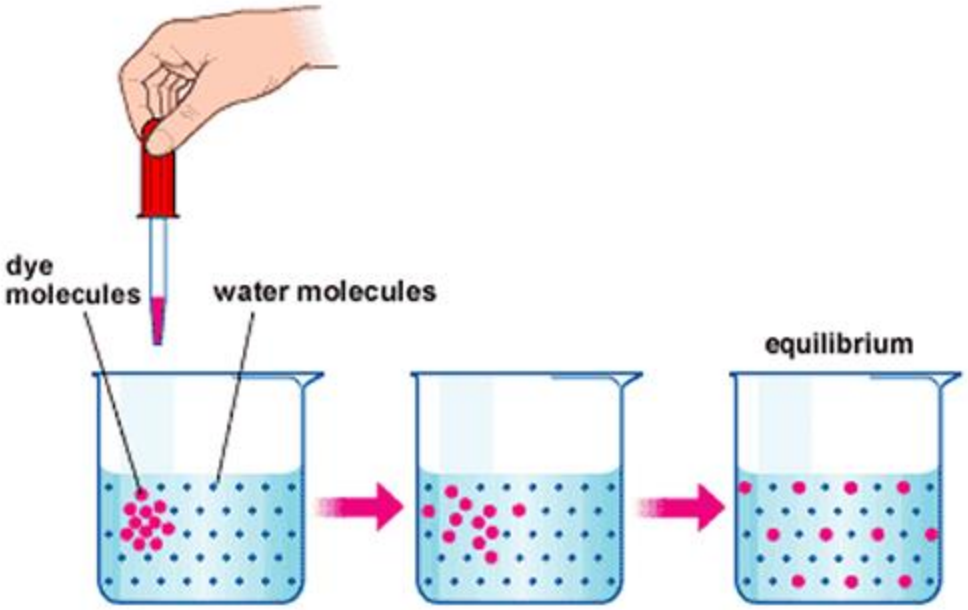


- Les chromosomes se deboublent. Ce mode de division permet de produire 2 cellules filles identiques a la cellule mere et ayant le mome nombre de chromosomes. De meme, les nucleoles et la membrane nucleaire sont moins visibles.


(a) Interphase (G_2)
Centrosomes
(b) Early prophase
Spindle poles
(c) Late prophase
Kinetochore
Sister chromatids
(d) Metaphase
(e) Anaphase
Cleavage furrow
(f) Telophase
(g) Interphase (G_1)

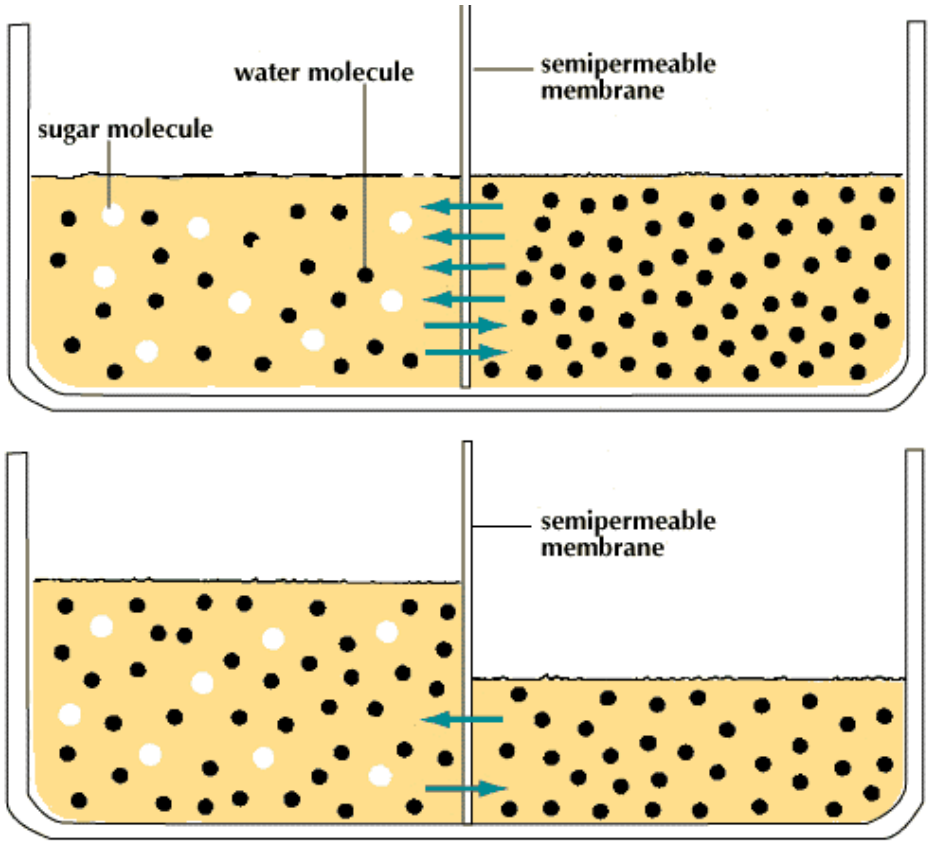
diffusion

- Le soluté se déplace d'une région de haute concentration vers une région de faible concentration. (gaz ou liquide)

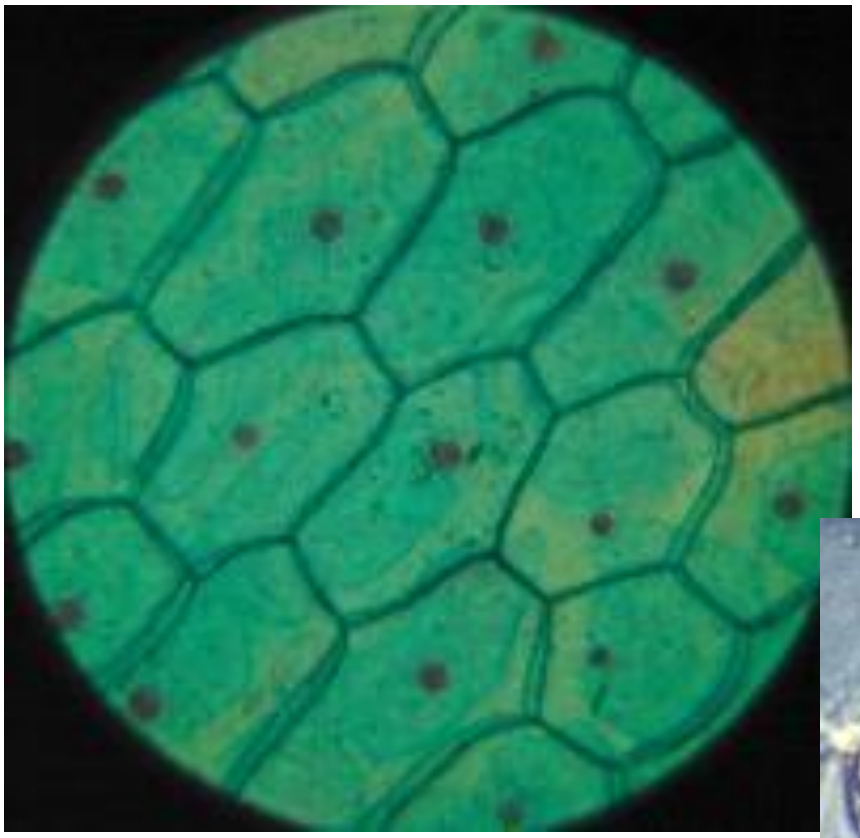


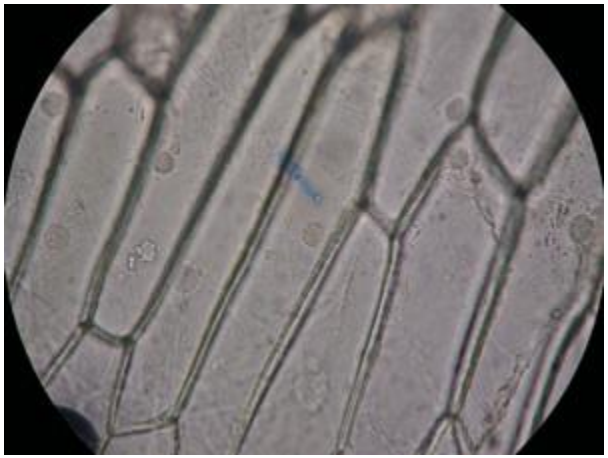
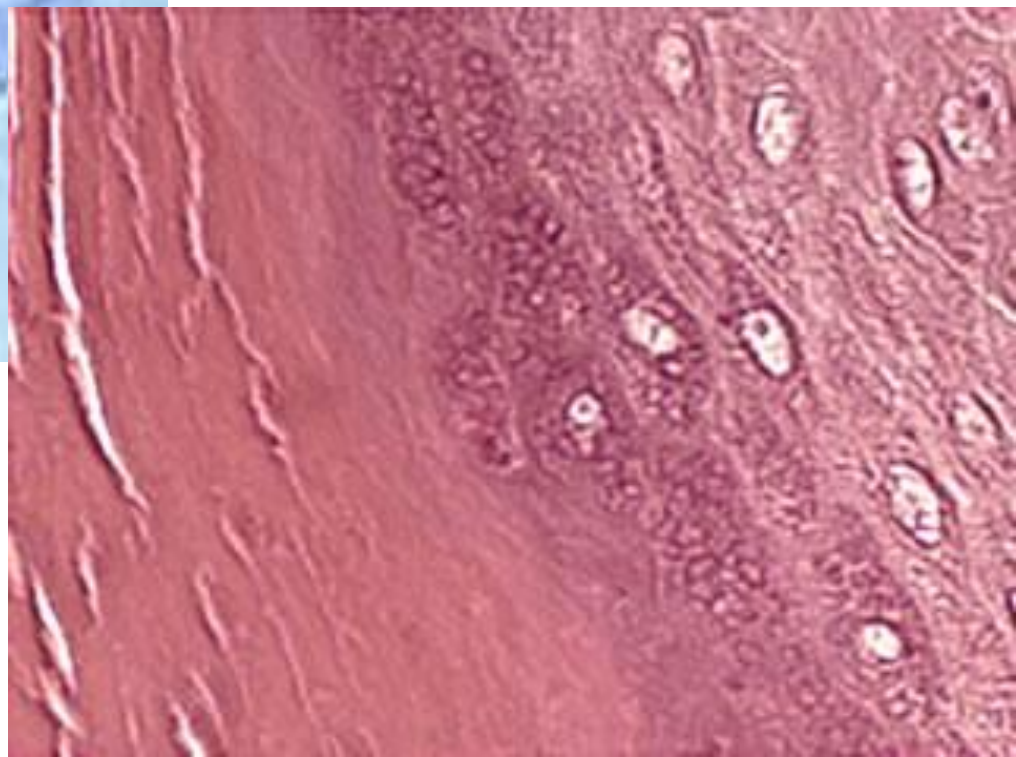
osmose

- Mouvement de l'eau à travers une membrane. L'eau se déplace d'une région de faible concentration de soluté vers une région de forte concentration du même soluté.



cellule d’oignon





cellule de la bouche