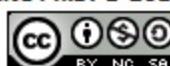


Cell Biology 1

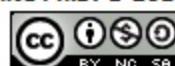
- iClicker 29A
- Membranes
- Cells
- iClicker 29B

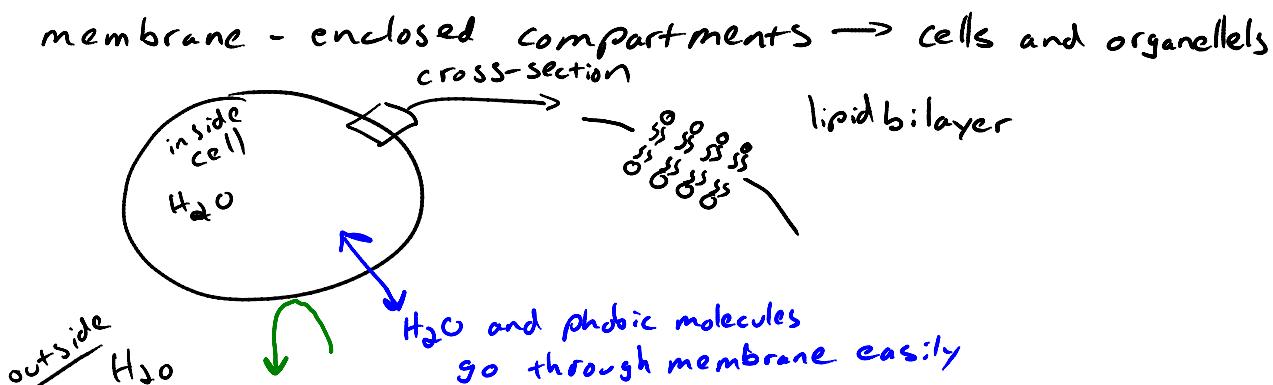
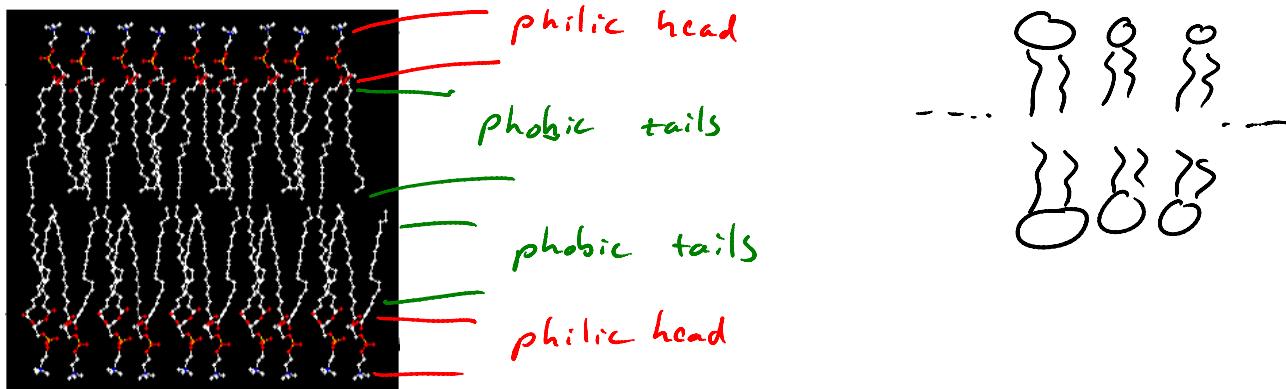
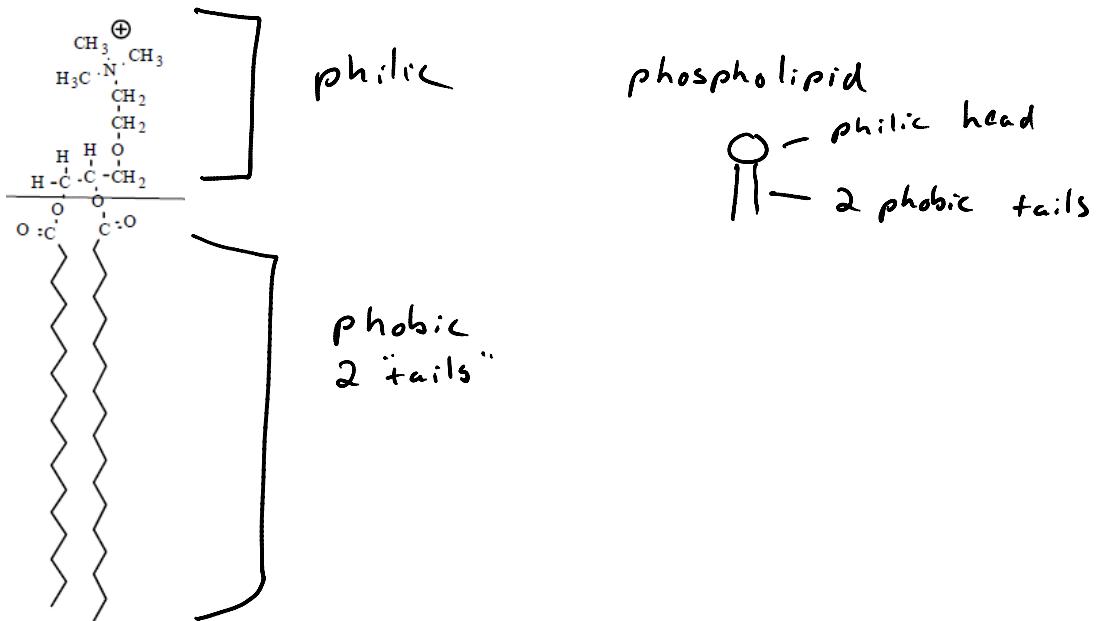
- Due in Lab this week
 - Lab report #9
 - Pre-lab #10

- Register your iClicker!
by Dec. 14 th



- Exam 3 – Molecular and Cell Biology
 - Last name A-E in McCormick Cafe
 - Last name F-Z here in Lipke





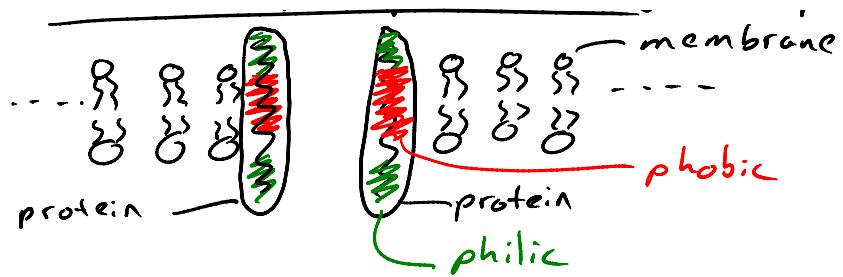
philic molecules and "large" molecules can not pass through membrane

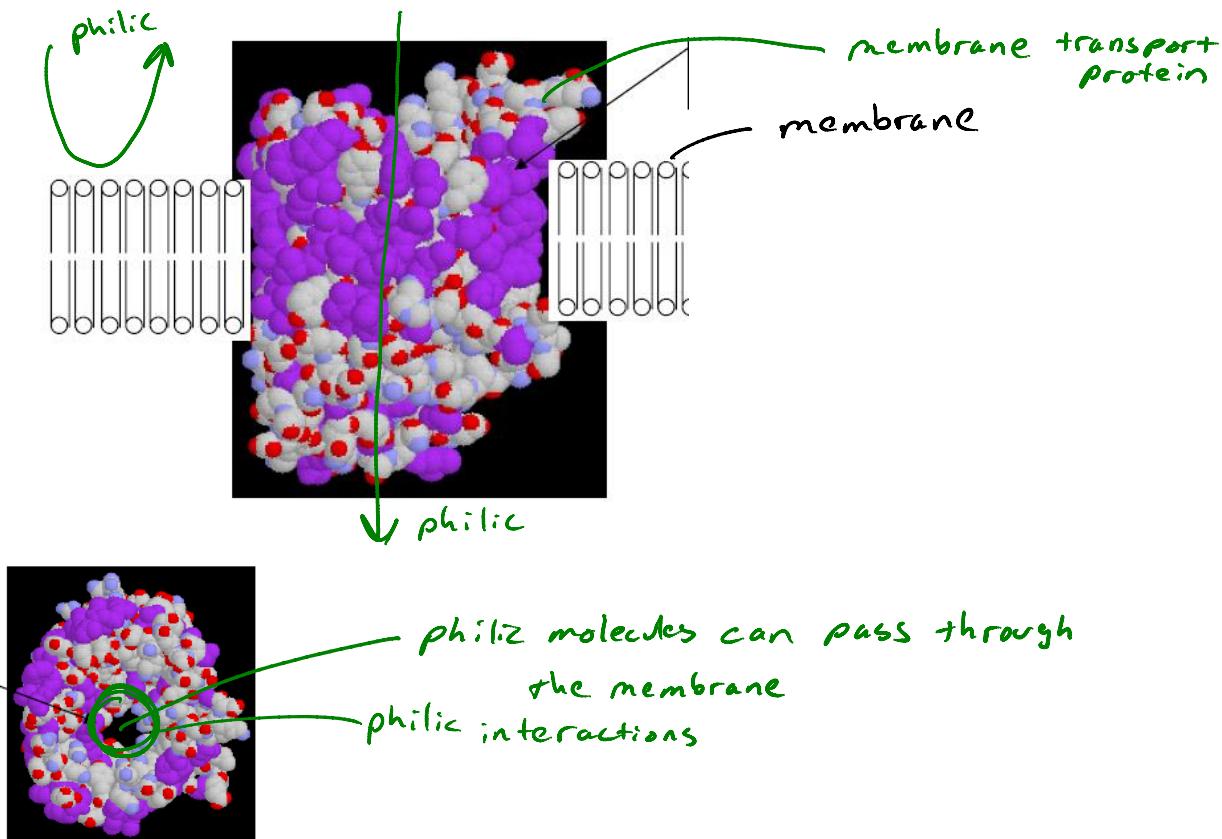
what if cell wants to move something philic through membrane?

- glucose
- amino acids

membrane transport proteins \rightarrow protein "hole" in membrane

— membrane

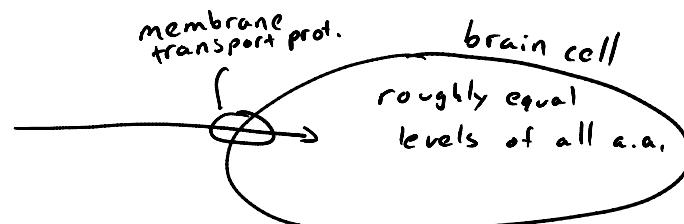




Example: PKU \rightarrow build up of phe in blood causes brain damage

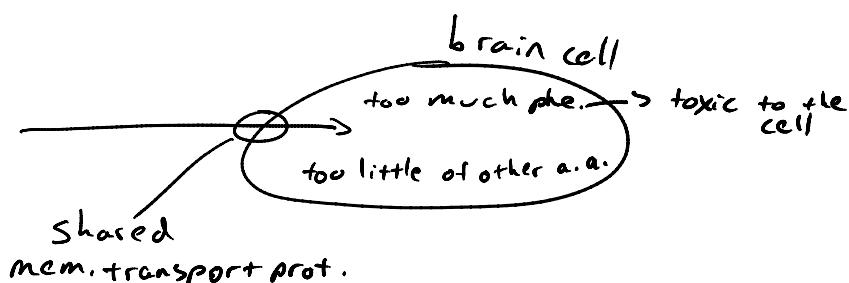
① normal phe mechanism (don't have PKU)

blood
roughly equal levels of
phe, trp, ile, etc.
(big & phobic)

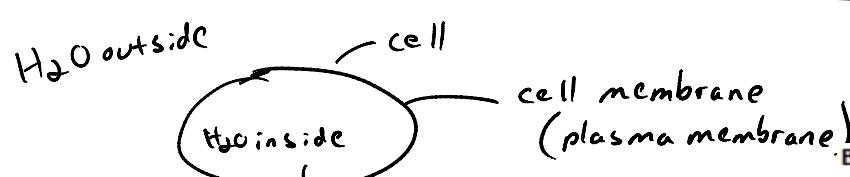


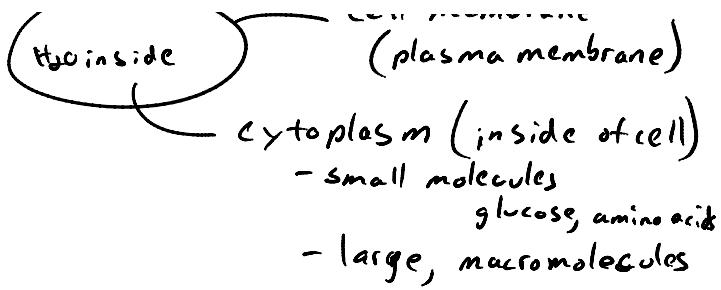
② have PKU \rightarrow 20X normal level of phe. in blood

blood
roughly equal a.a.
except phe \rightarrow 20X

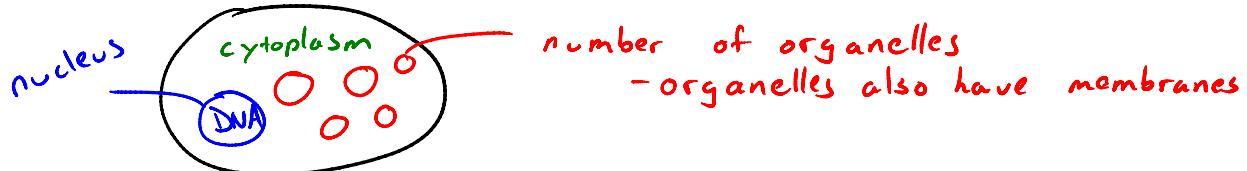


Basic cell



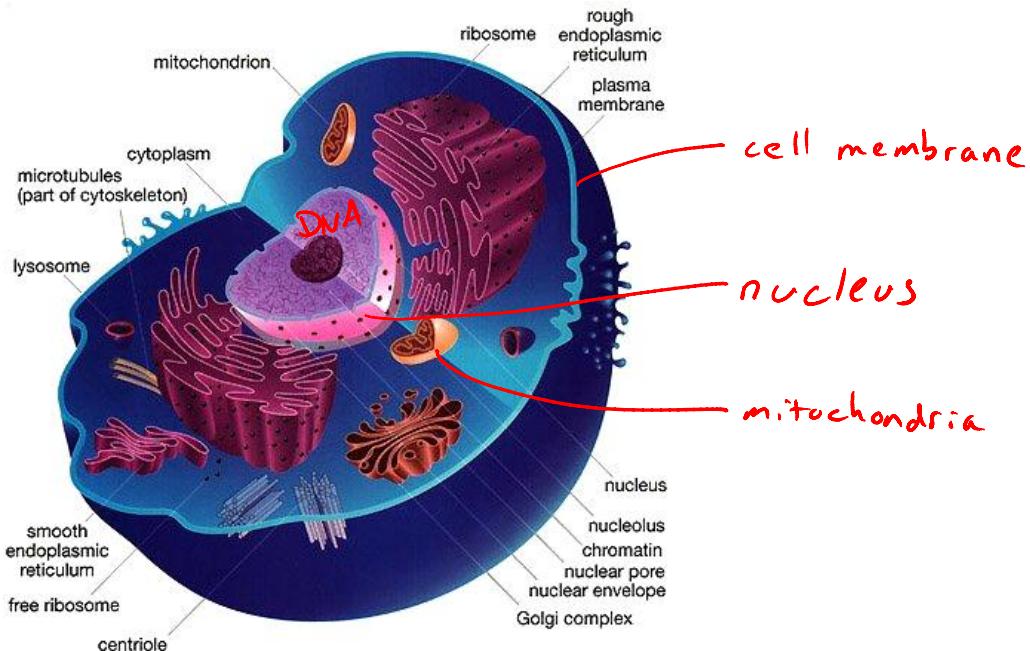


eukaryotic cell → have a nucleus



nucleus has a nuclear membrane

Organelles



Organelles

mitochondria

- "ATP factory"
- glycolysis happens in the cytoplasm
- Kreb's cycle and electron transport happen in mitochondria
- mitochondria pump in ADP + Pi
Pump out ATP

note: mitochondria have DNA

nucleus - contains DNA

nucleolus → produces ribosomes in the nucleus

ribosomes - make protein

golgi apparatus - secretion of cell products

lysosome - macromolecules are hydrolyzed (digested)

peroxisome - specialized metabolic functions
ex processing H₂O₂

endoplasmic reticulum

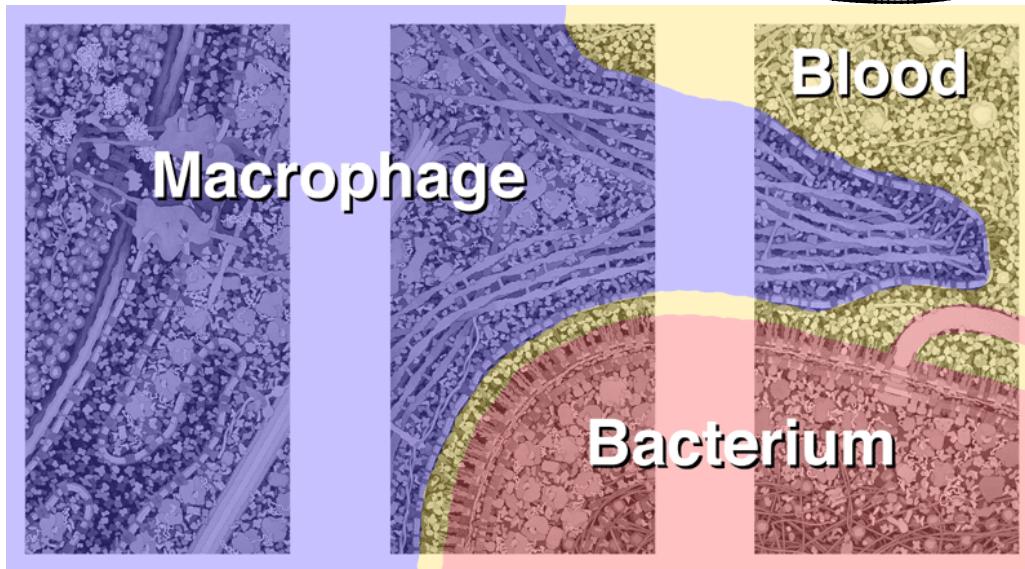
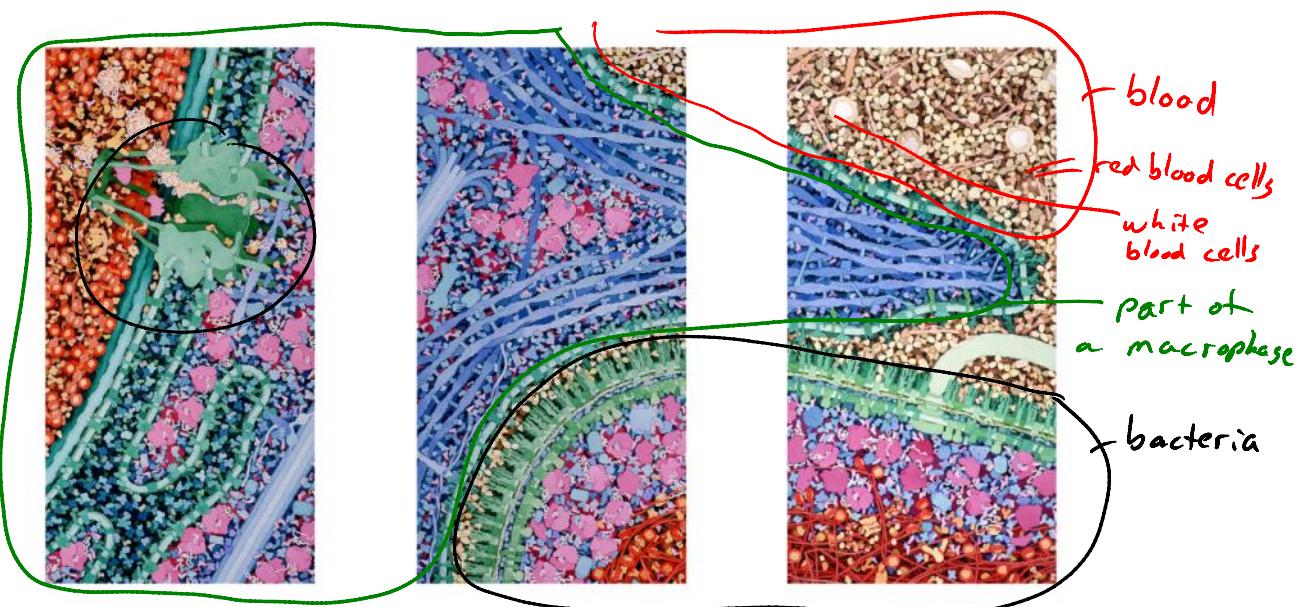
- smooth → no ribosomes
- rough → has ribosomes attached

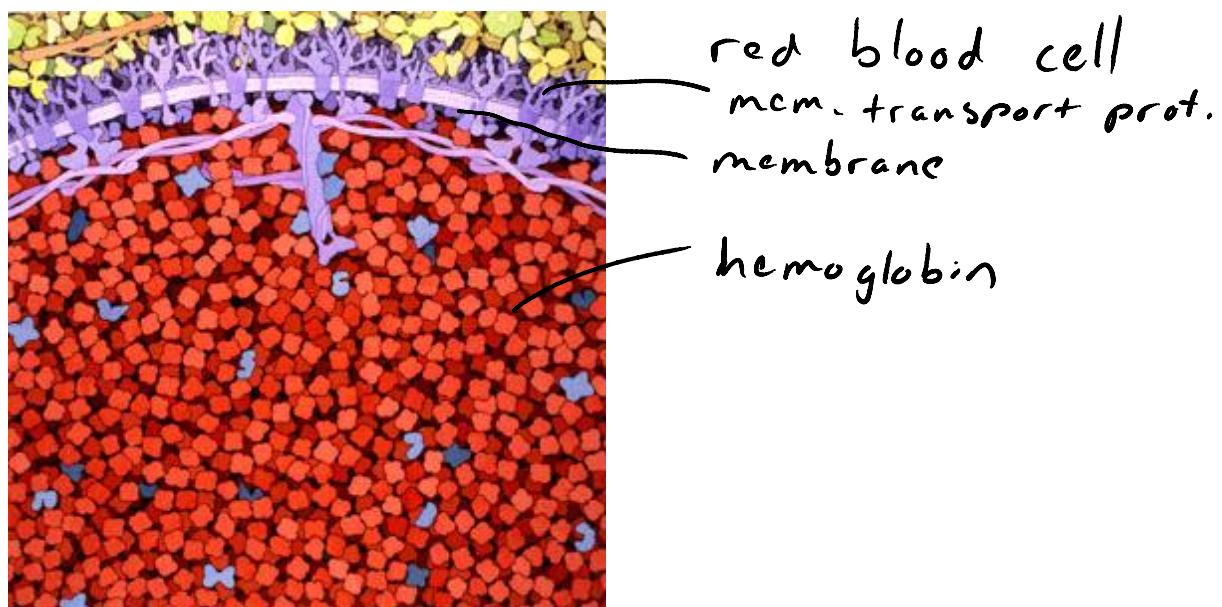
ER - membrane synthesis

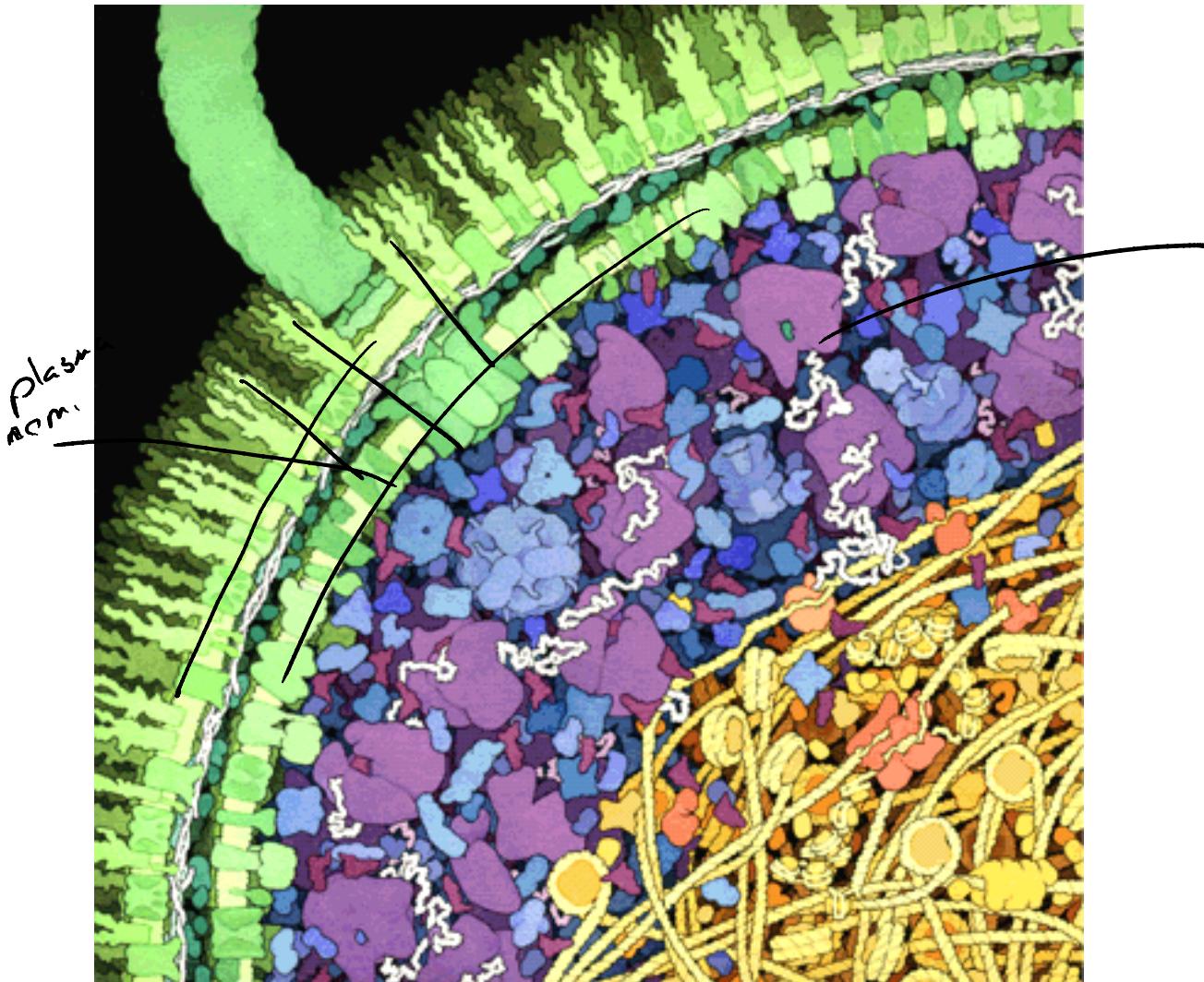
ER - membrane synthesis
- protein synthesis

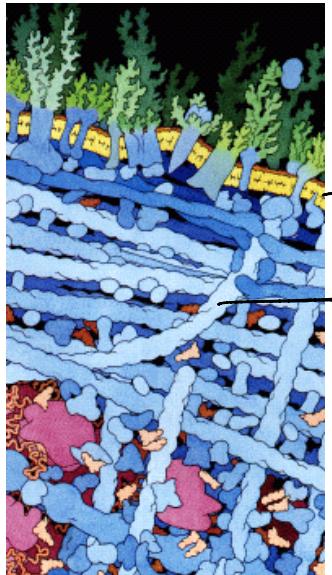
Cytoskeleton (has no membrane)

- microtubules
- microfilaments
- intermediate filaments





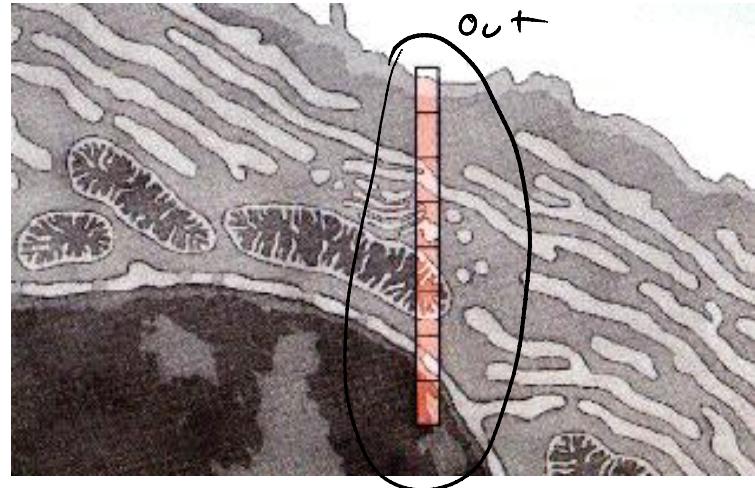




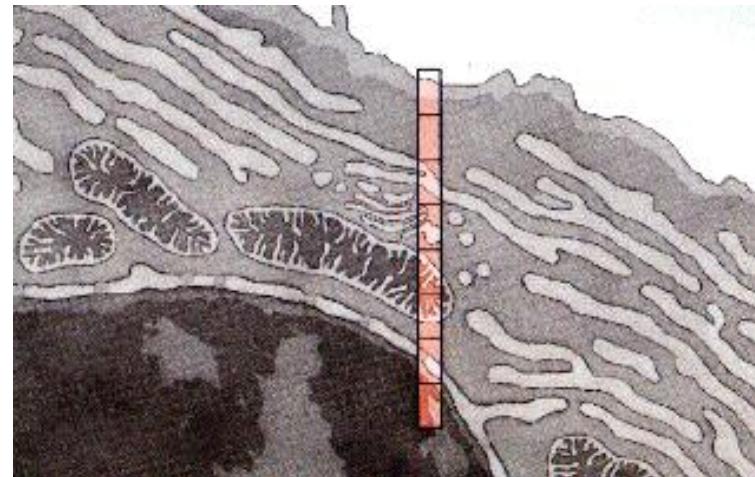
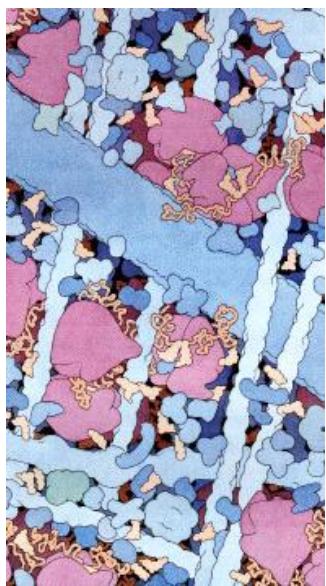
out

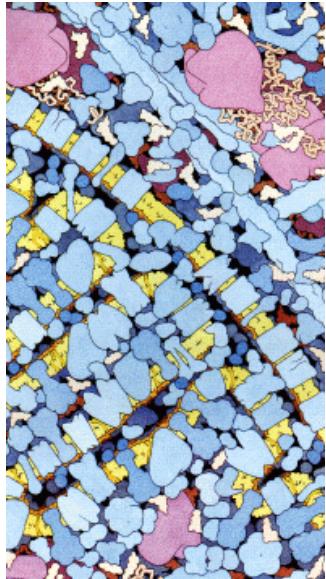
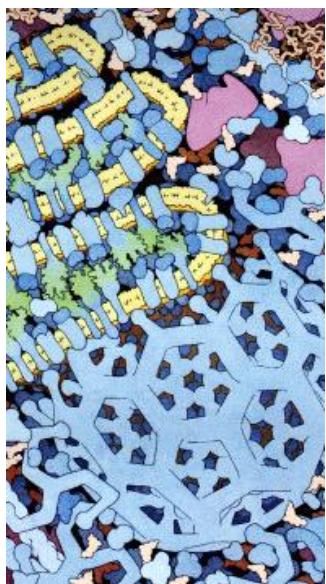
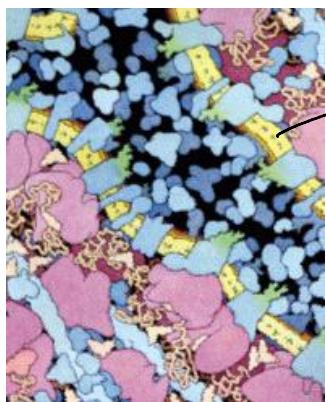
mem.

Cyto -
skeleton



out





organelle
mem.

