THE INFECTIOUS BIOFE

(Opportunity for Excellence)

Name:

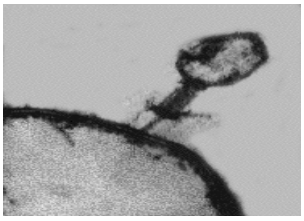
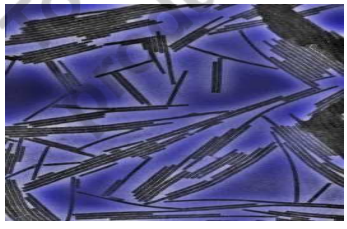
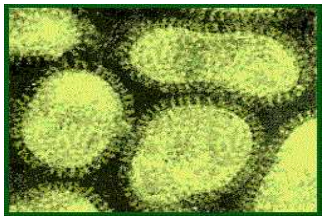
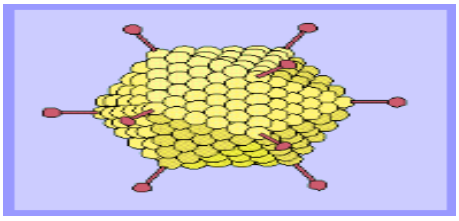
Due:

Please describe three "things" that spread infectious disease. Use the globe below to describe the dangers that infectious diseases can, and have caused throughout human history?

Please draw a virus and bacteria in the boxes below.

Virus, please label, Protein Coat or Capsid, RNA/DNA, and spikes.	Bacteria – You know what should be labeled by now.

Please label the type of virus in the space below under the picture

Please use the Eukaryotic cell below to show the size scale of the cell compared to a <u>bacteria</u> and a <u>virus</u>,

Please animate and describe with some text viral reproduction in the boxes below

How are a computer virus and a real virus similar?

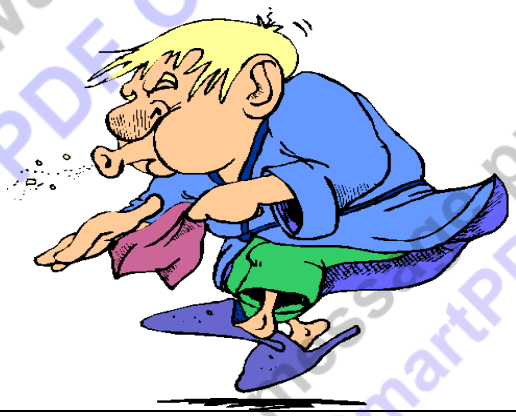
How is the life cycle of this virus different from the viruses above?

Are viruses living or non-living? Please explain using the criteria for what makes something living?

Describe symptoms of a sickness such as the flu, and the reasons for that symptom based on your immune system response. If lost, describe the immune system and how it works.

Symptoms

Reason for symptom
(Immune Response)



Please show ways humans can contract infectious diseases by infecting the smiley face below. No STD's please! In what ways have humans created defenses against these diseases?

What is the connection between the HIV virus and AIDS? Please include what the acronyms stand for?

_____

_____

_____

_____

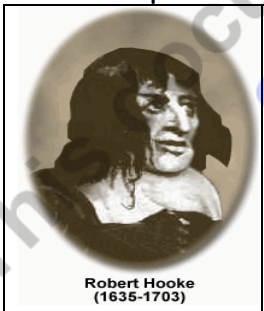
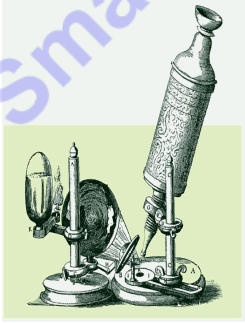
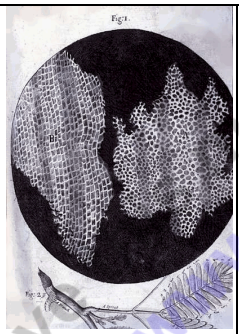
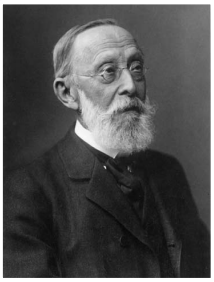
What is your plan to make sure that you do not contract the HIV virus and other STD's.

1)_____

2)_____

3)_____

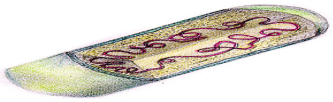
Please use the pictures below to record some history associated with cells and early microscopes.

 Robert Hooke	 Early Microscope	 First Cell Diagram	 Anton van ?	 Rudolf?	 ?

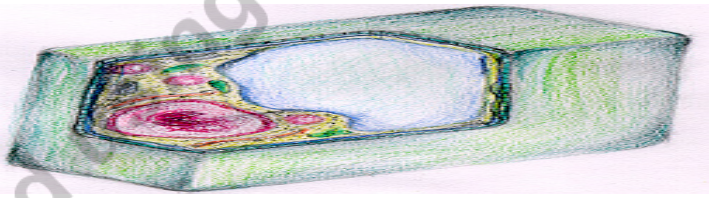
What is the modern cell Theory?

Please describe the differences between these two pictures in the margins.

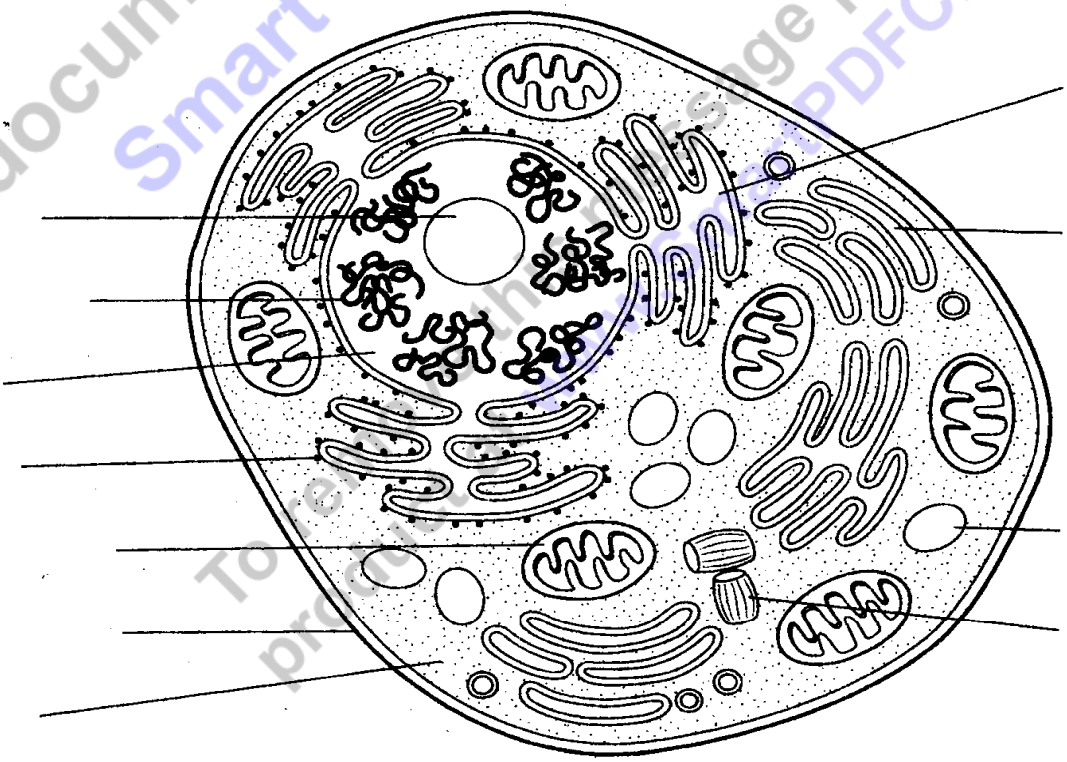
Sketch of Bacteria



Sketch of Plant Cell



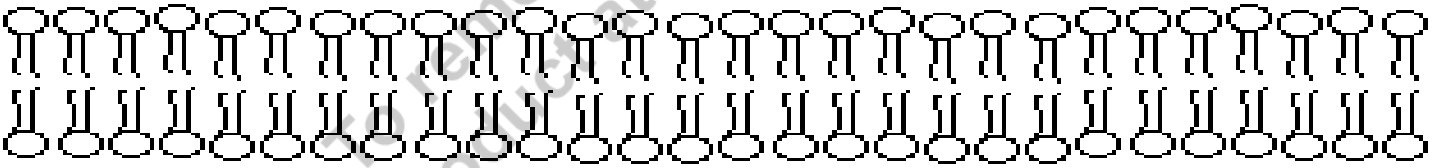
Please label the organelles of the following cell. Is it a plant cell or an animal cell, explain after you title it?



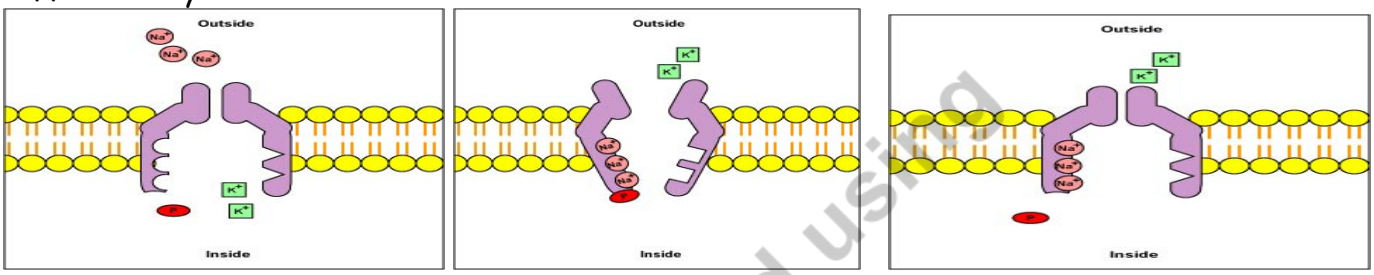
Please draw a plant cell in the space below. Besides the nucleus, provide just the organelles not mentioned in the animal cell. Include the changes in the vacuole and tell the job of the vacuole?

Why is the plasma membrane made up of a phosolipid bilayer?

Please create water molecules to show osmosis through the following plasma membrane.



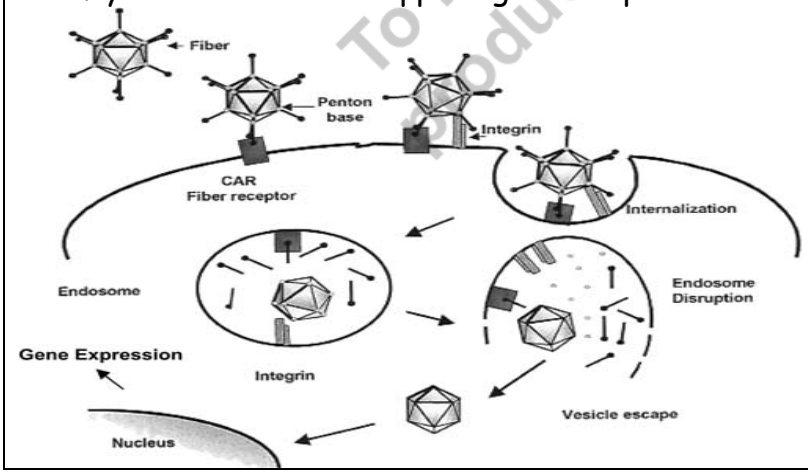
Does the sodium potassium pump below use active or passive transport? Use your knowledge of diffusion in your answer?



Please create a step by step process of both endo and exocytosis in a cell. Is it active or passive transport? Make the endocytosis phagocytosis, and exocytosis pinocytosis?

Endo				
Exo				

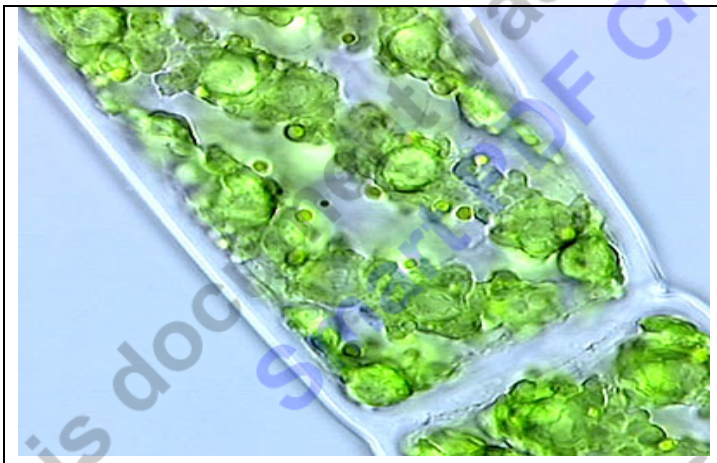
Briefly discuss what is happening in this picture.

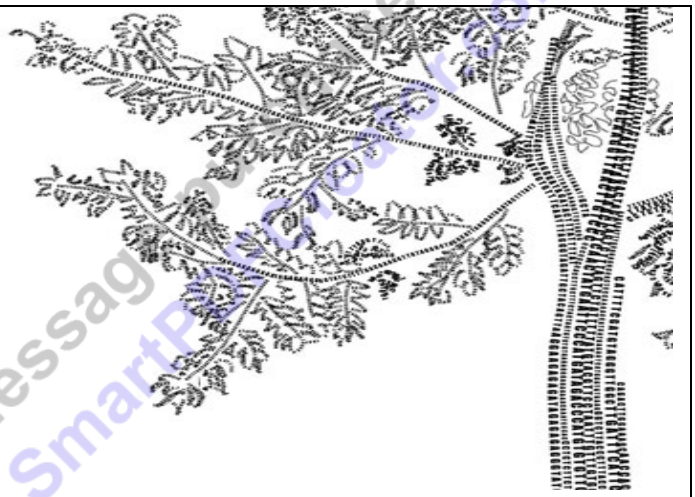


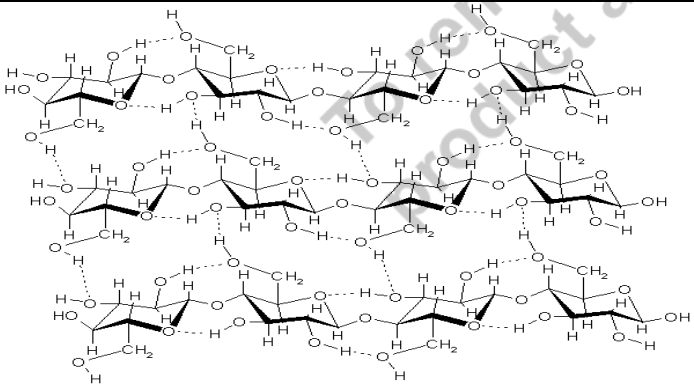
Please draw and describe the following solutions and their effect on a cell.

Hypertonic Cell	Hypotonic Cell	Isotonic

Please describe the pictures below. Hint! They are all the same organelle found in plants and bacteria.







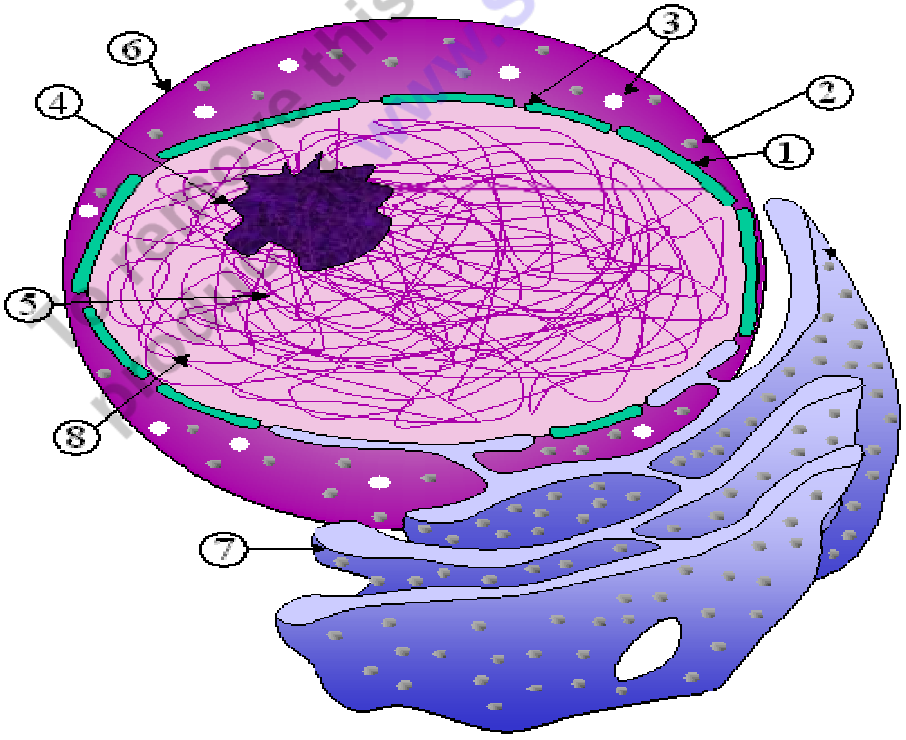
Bacteria

Please sketch and then describe the following organelles.

Smooth Endoplasmic reticulum	Cytoplasm
Cytoskeleton	Centrioles

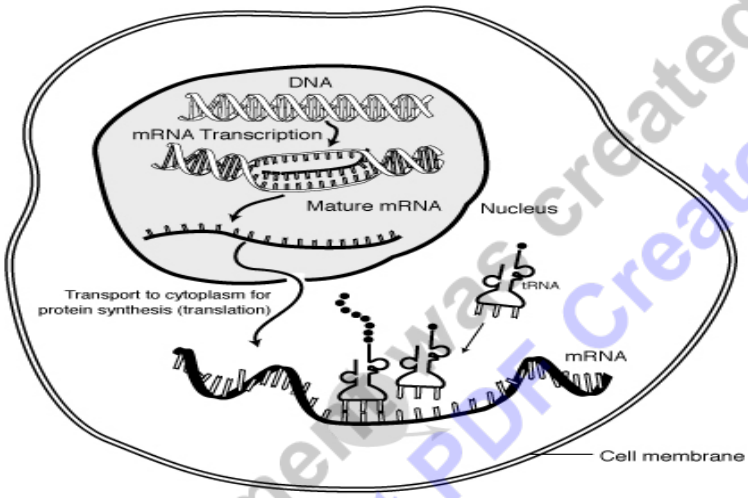
Please describe in some detail the organelles below. Answer the questions in the line

1) Label 1-7
2) What is the job of 4? _____
3) What is made at 5 that travels through 3?_____
4) What is the job of 3? _____
5) Why is 7 shaped the way it is?_____
6) What happens at 7?_____
7) What is held inside 6?_____



Please use the illustration below to describe Protein synthesis on the right and answer these important questions. Remember, DNA -> RNA-> Protein

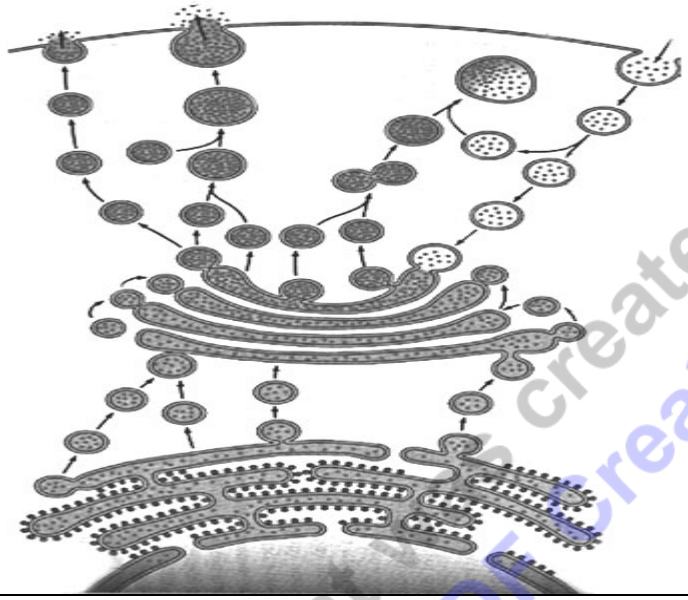
Where is the RNA transcribed?
Where does it travel?
Which organelle translates the RNA?
How does it do this (just the basics)?



Please fill in the blank with the correct organelle.

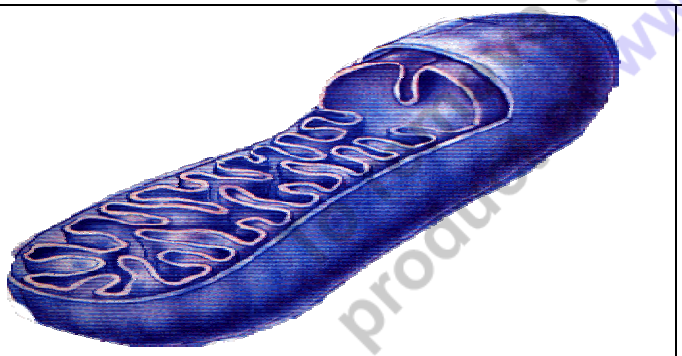
1) This organelle is the powerhouse of the cell _____
2) Packages proteins and sends them throughout the cell_____
3) This organelle would be the clean up crew of a town_____
4) Recycles waste _____
5) This organelle stores food and waste_____
6) Protein making factories for the cell_____
7) Serves as cells transport system and allows ribosomes to attach_____
8) Composed of microtubules that support the cell_____
9) Photosynthesis occurs here_____
10. Composed of DNA and found in the chromatin_____
11.) Inside nucleus and makes RNA to make proteins_____
12.) Allows certain materials into and out of the nucleus_____
13.) This the control center of the cell_____.
14.) This is the fluid inside the cell that contains a chemical soup_____

Describe the flow of materials (molecules) in the following pictures. Please name the three organelles present and their job. What process is seen at the top?

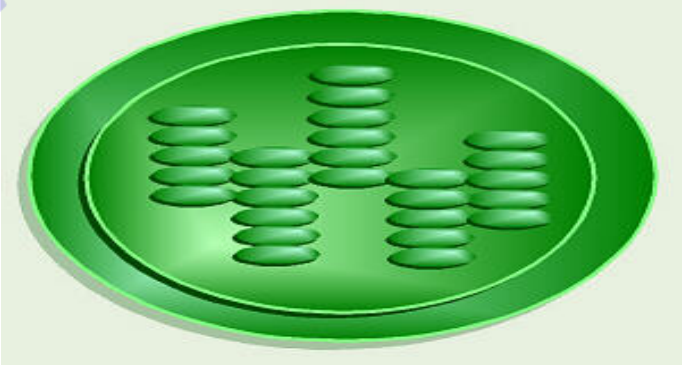


Please describe the following two organelles below and answer the questions

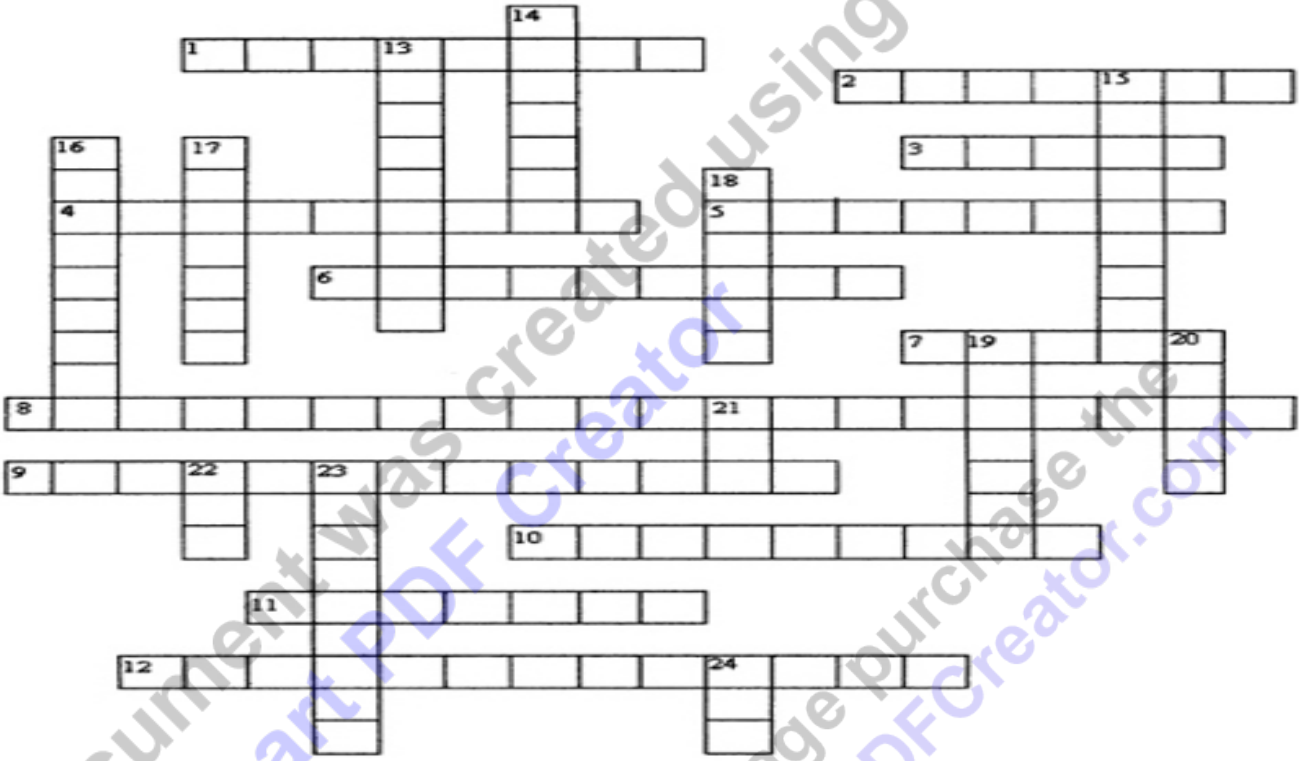
1) Name each organelle? Can you name more…
2) Which organelle is only in plants?
3) Which organelle is found more in animal cells?
4) What goes into and out of #1 during photosynthesis?
5) What goes into and out of #2 during cellular respiration?
6) How is number 1 connected to number 2 in plant cells?
7) Why do both 1 and 2 have folds and membranes?



1



2



Across

1. Gives plant cells firm regular shape.
2. This molecule is combined in a special way to form glycogen.
3. Bodies which pinch off vesicles at end.
4. Site of protein manufacture.
5. Keeps cell contents separate from external environment.
6. Strong substance that makes up cell walls.
7. Spaces between cells are called __Inter_____ cellular spaces.
8. Network of membranes attached to the nucleus.
9. That which is outside the cell.
10. Complex mix of proteins, water and other substances which houses the cell organelles.
11. Substance produced by ribosomes.
12. Power-house of the cell. (End with ion)

Down

13. Vesicles containing enzymes.
14. Large fluid filled space found in plant cells.
15. Structure in cell with particular function.
16. Composed of DNA and (found in nucleus).
17. Structures reponsible for cell transport.
18. ER without ribosomes looks _____ under the microscope.
19. Organelle which contains instructions for cell function.
20. ER with ribosomoes looks _____ under the microscope.
21. Nucleic acid found in ribosomes.
22. Abbreviation for rough endoplasmic reticulum.
23. Organelle found in animal cell which plays a role in division.
24. Nucleic acid found in nucleolus.

Cellular organelle recitation Quiz 1-20.

1)	2)	3)	4)	5)
6)	7)	8)	9)	10)
11)	12)	13)	14)	15)
16)	17)	18)	19)	20)
*21)	*22)	*23)	Total:	