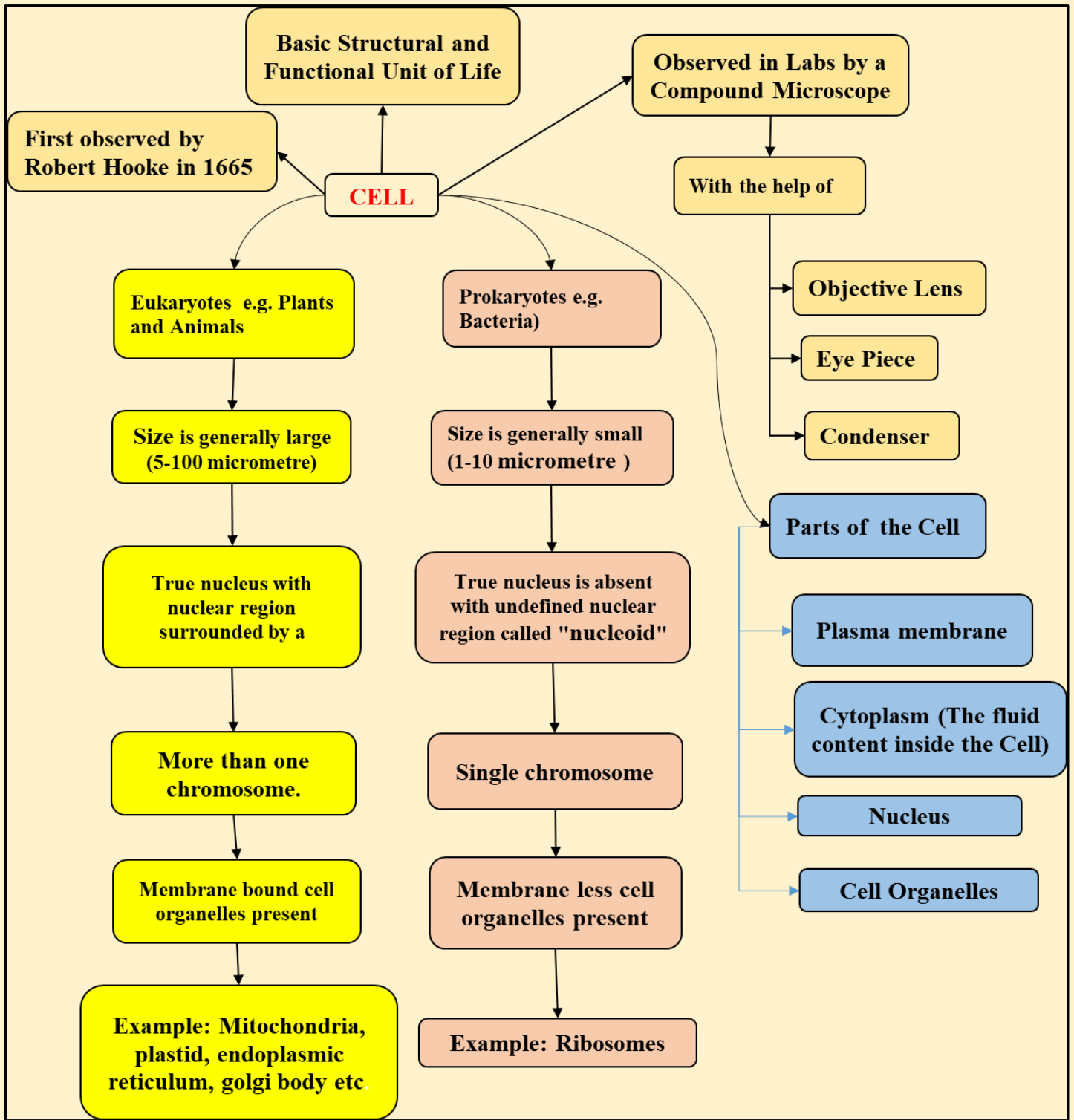
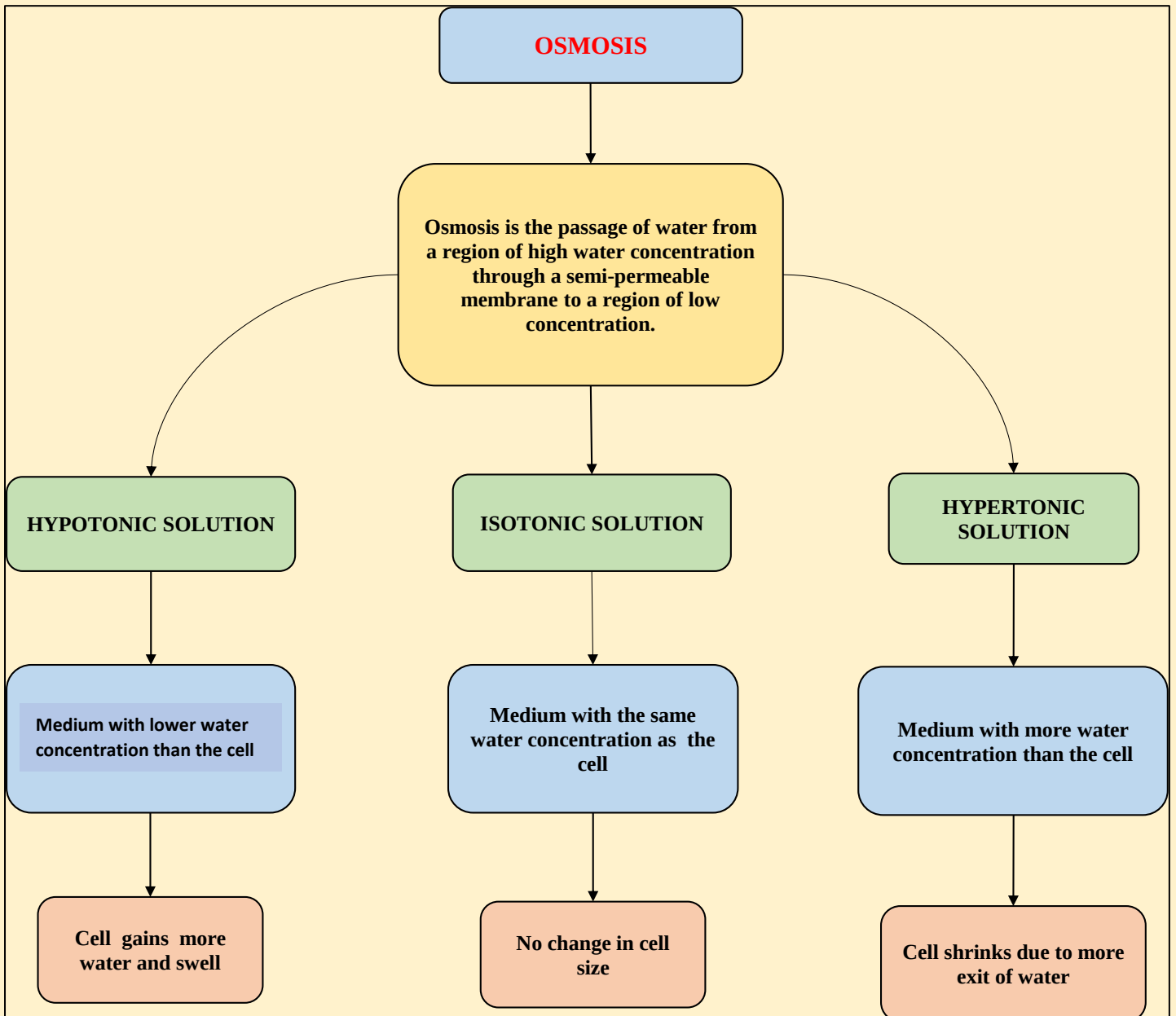
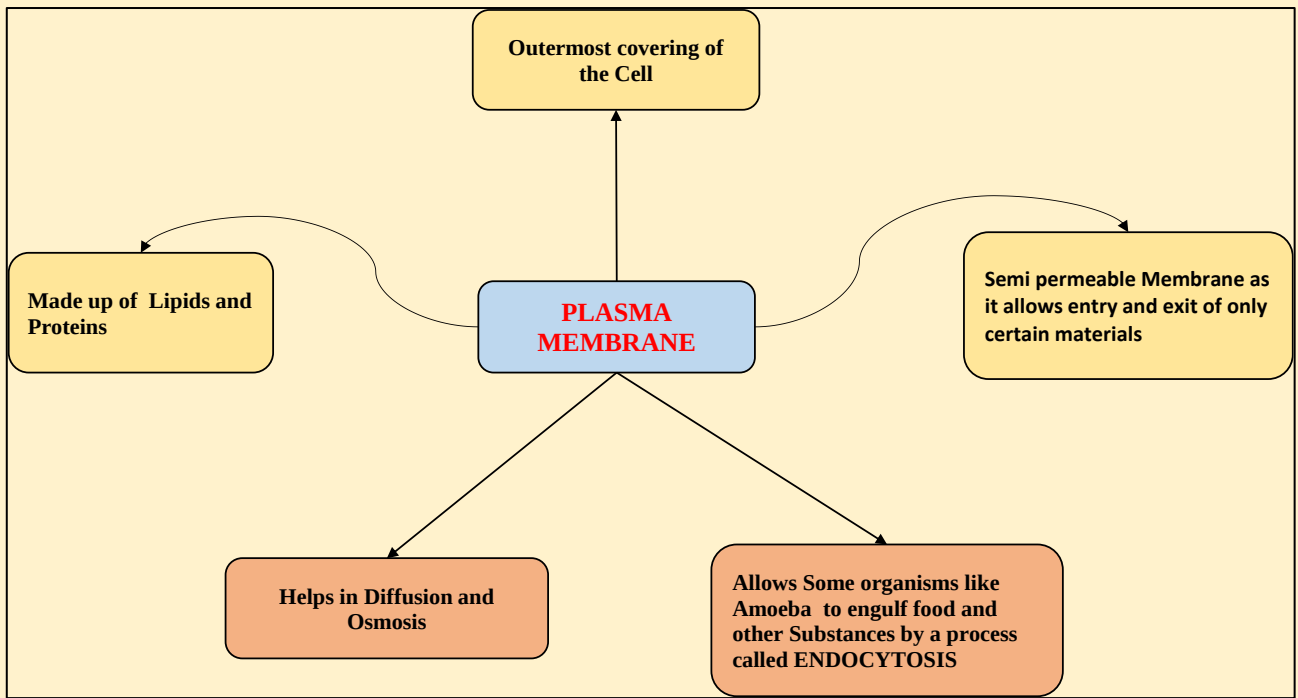
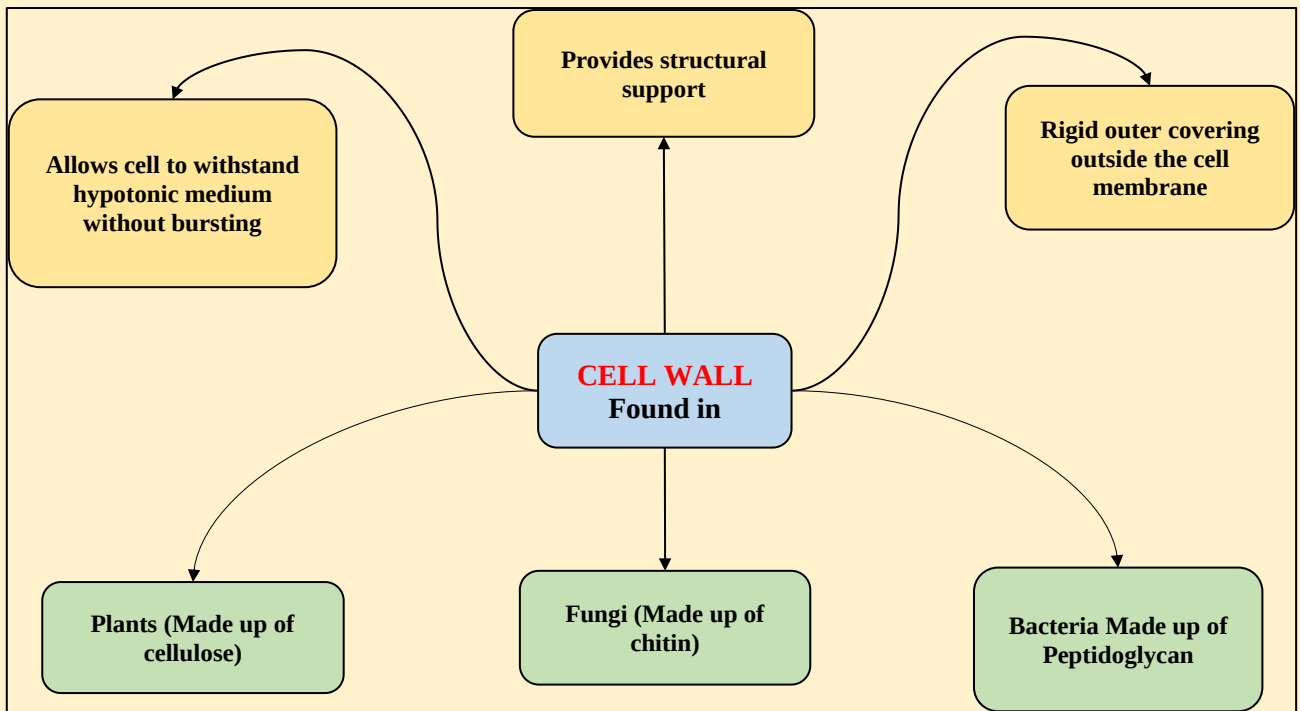


3. THE FUNDAMENTAL UNIT OF LIFE

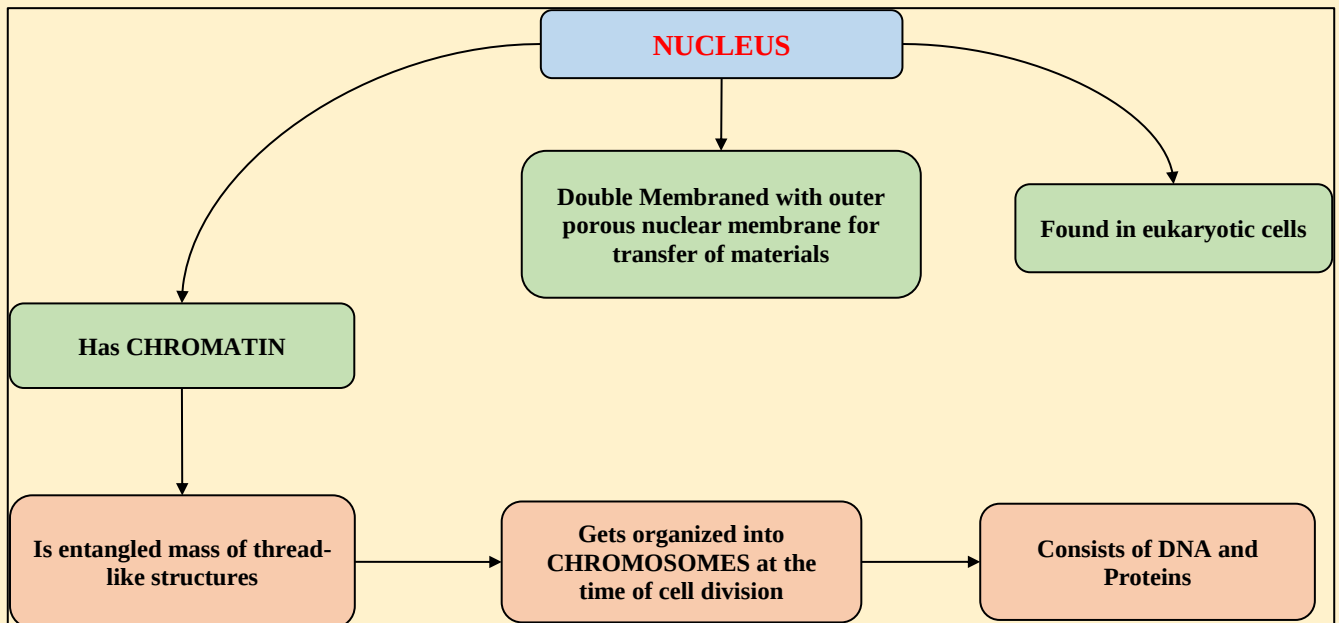


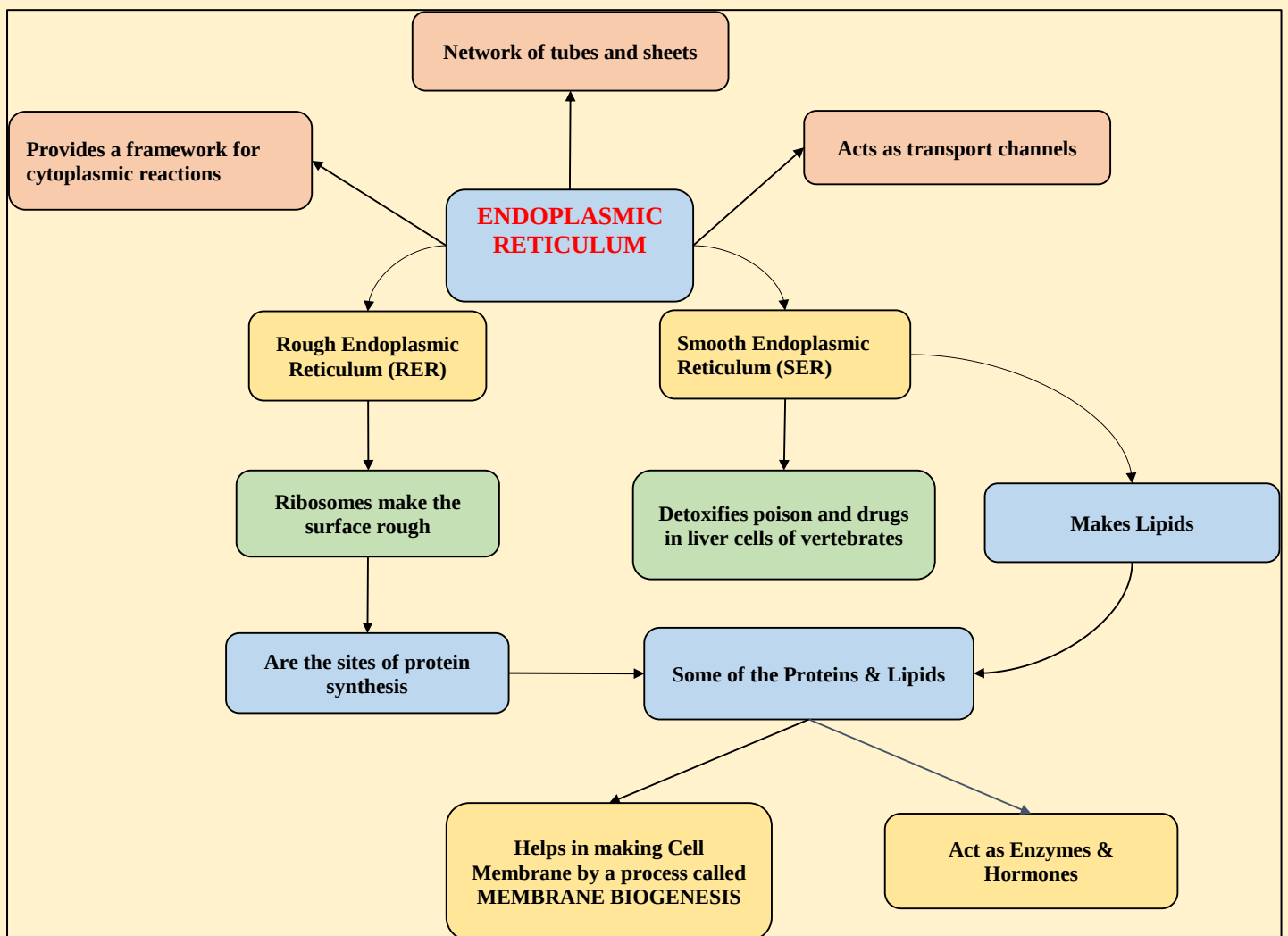
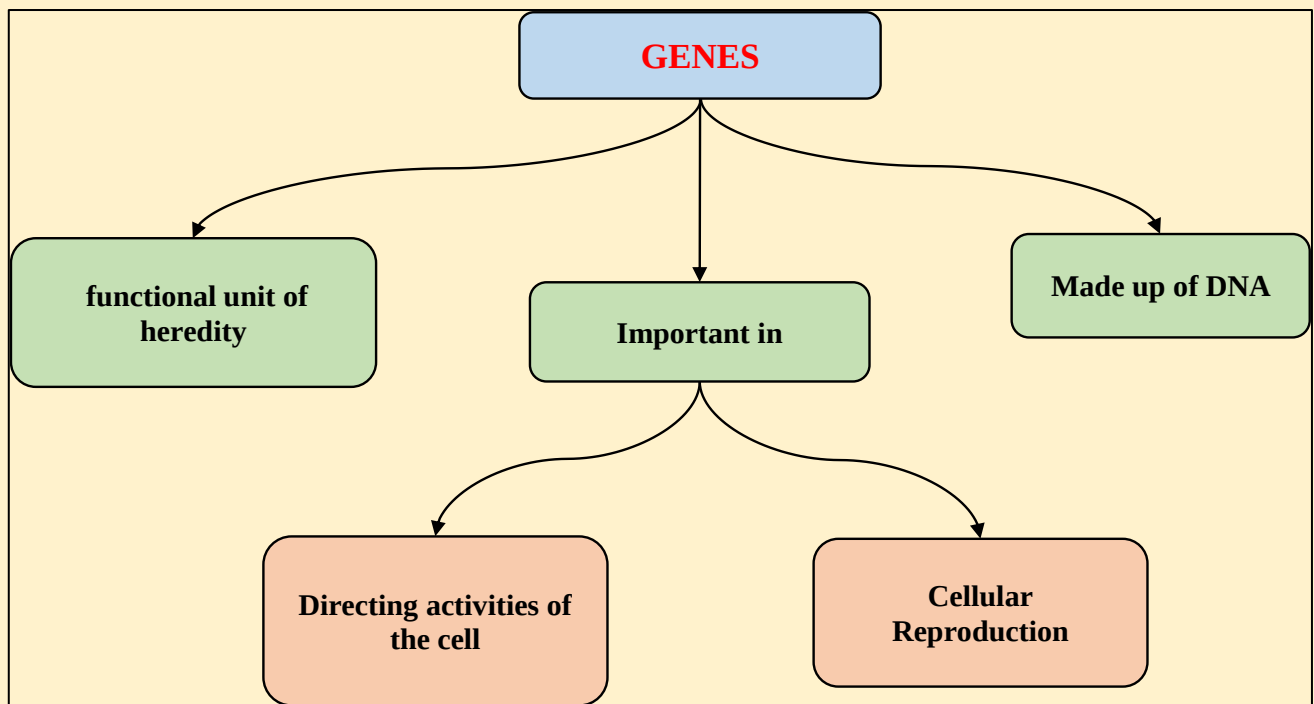


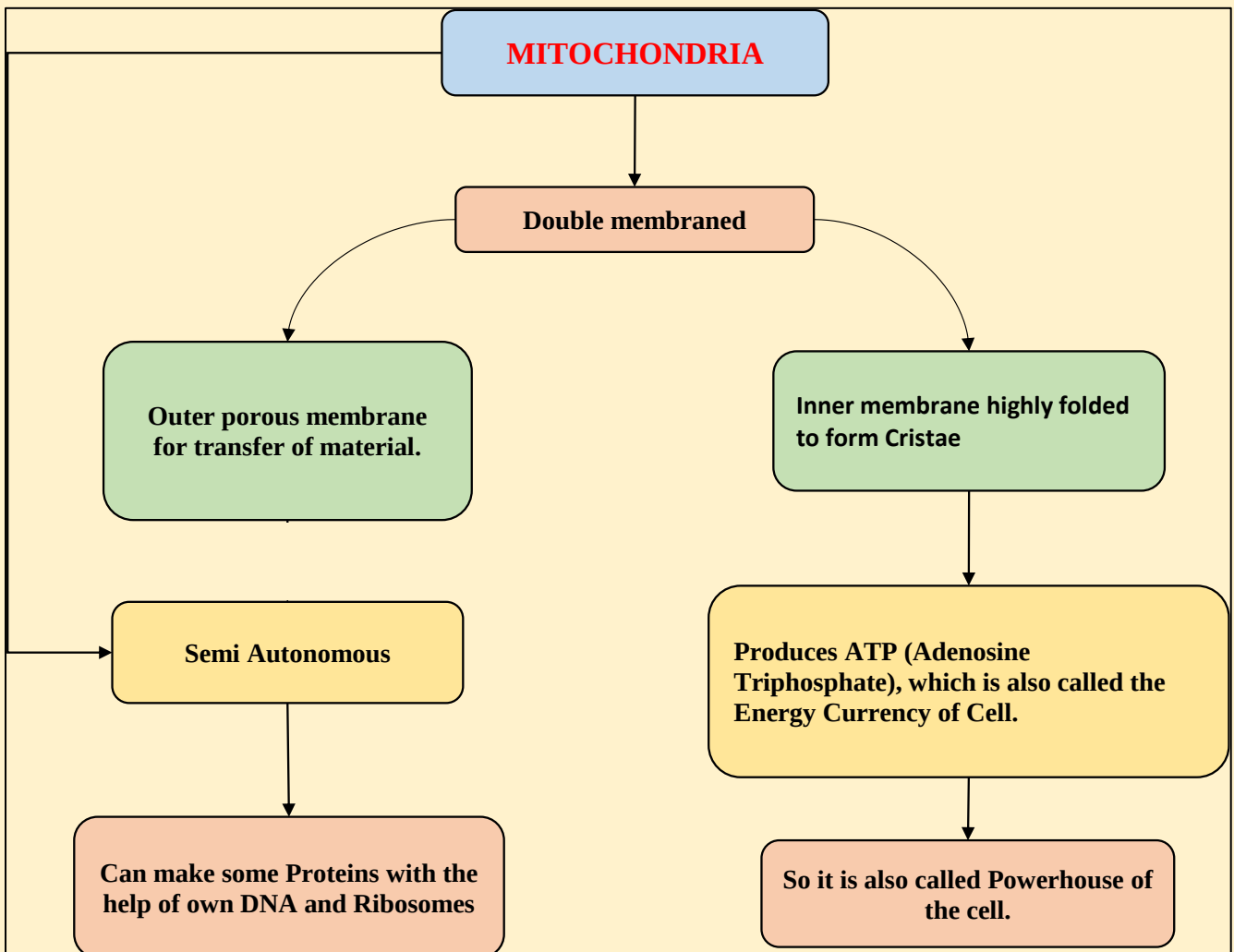
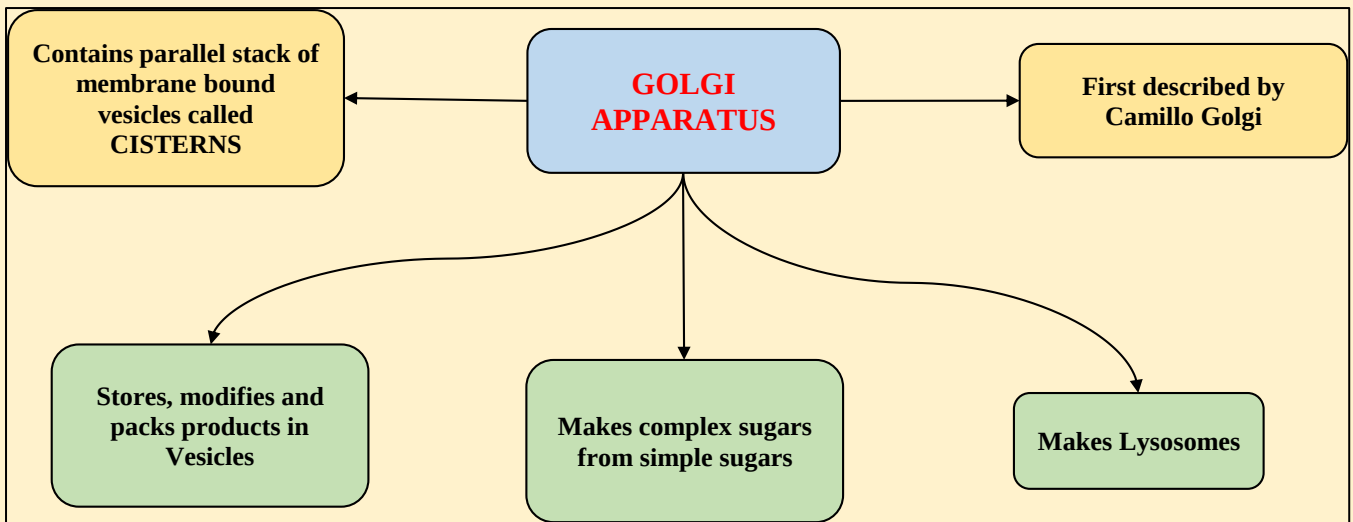


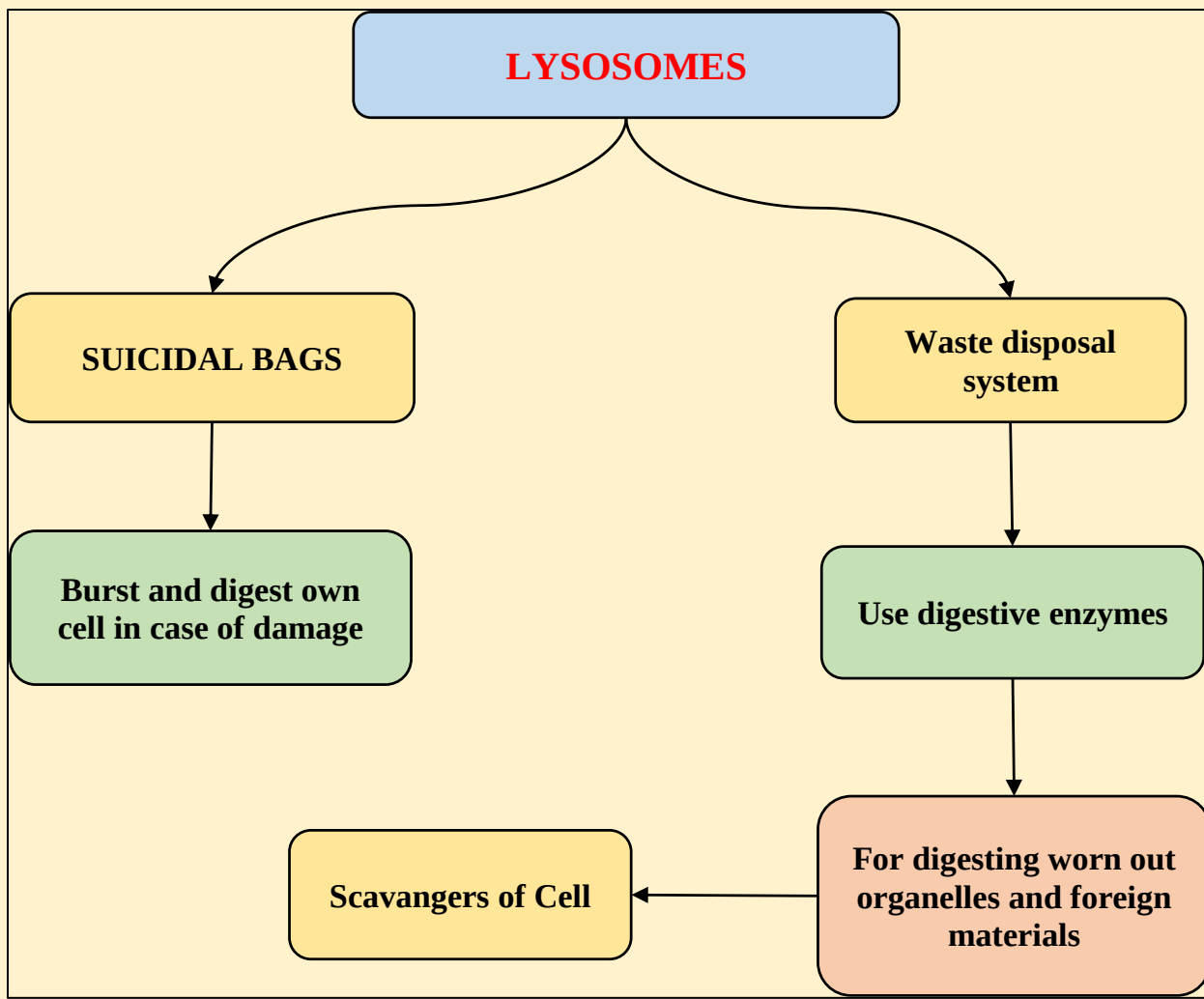
PLASMOLYSIS

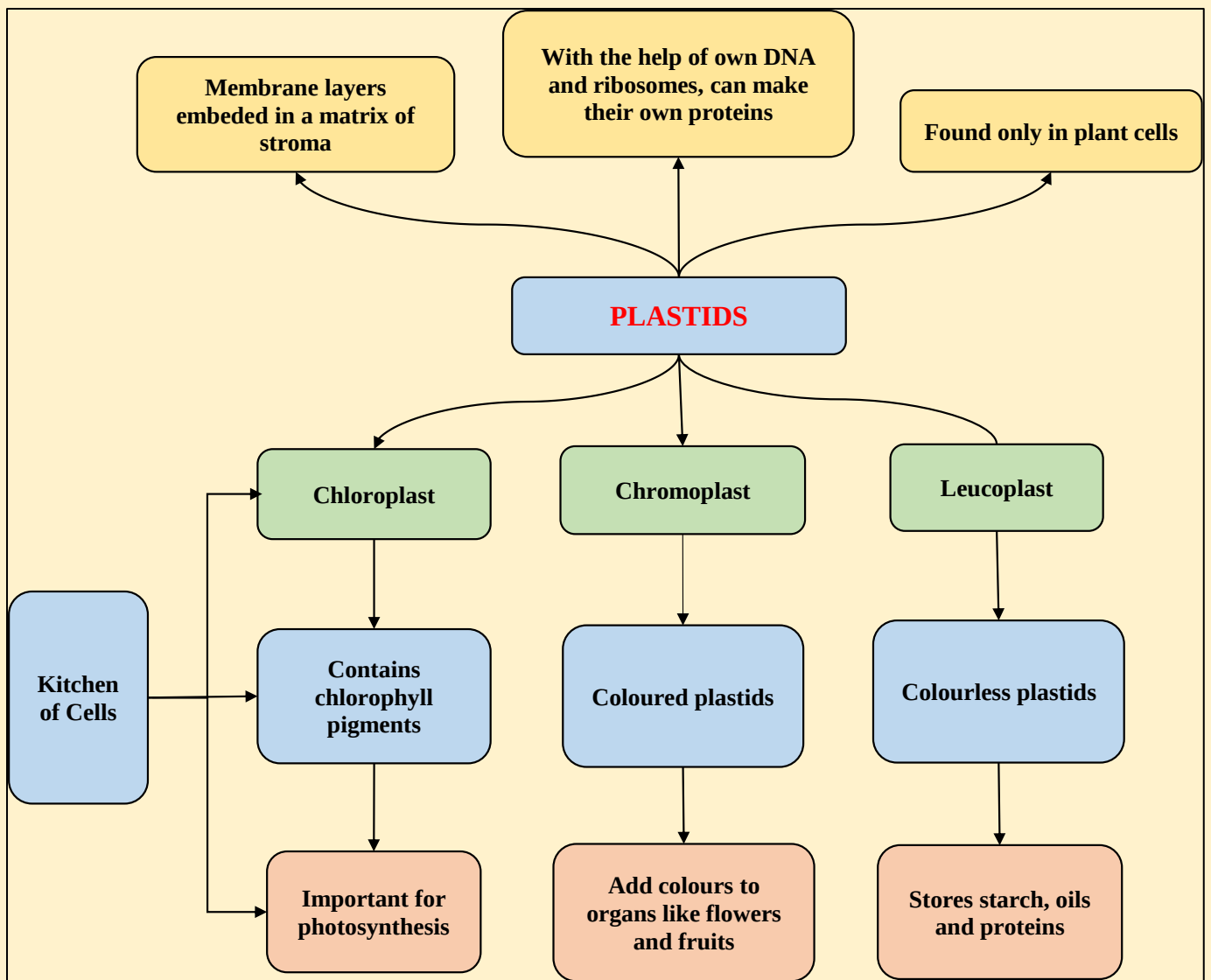
- Is the shrinkage of contents of the cell away from the cell wall due to loss of water when a living plant cell is placed in a hypertonic solution.

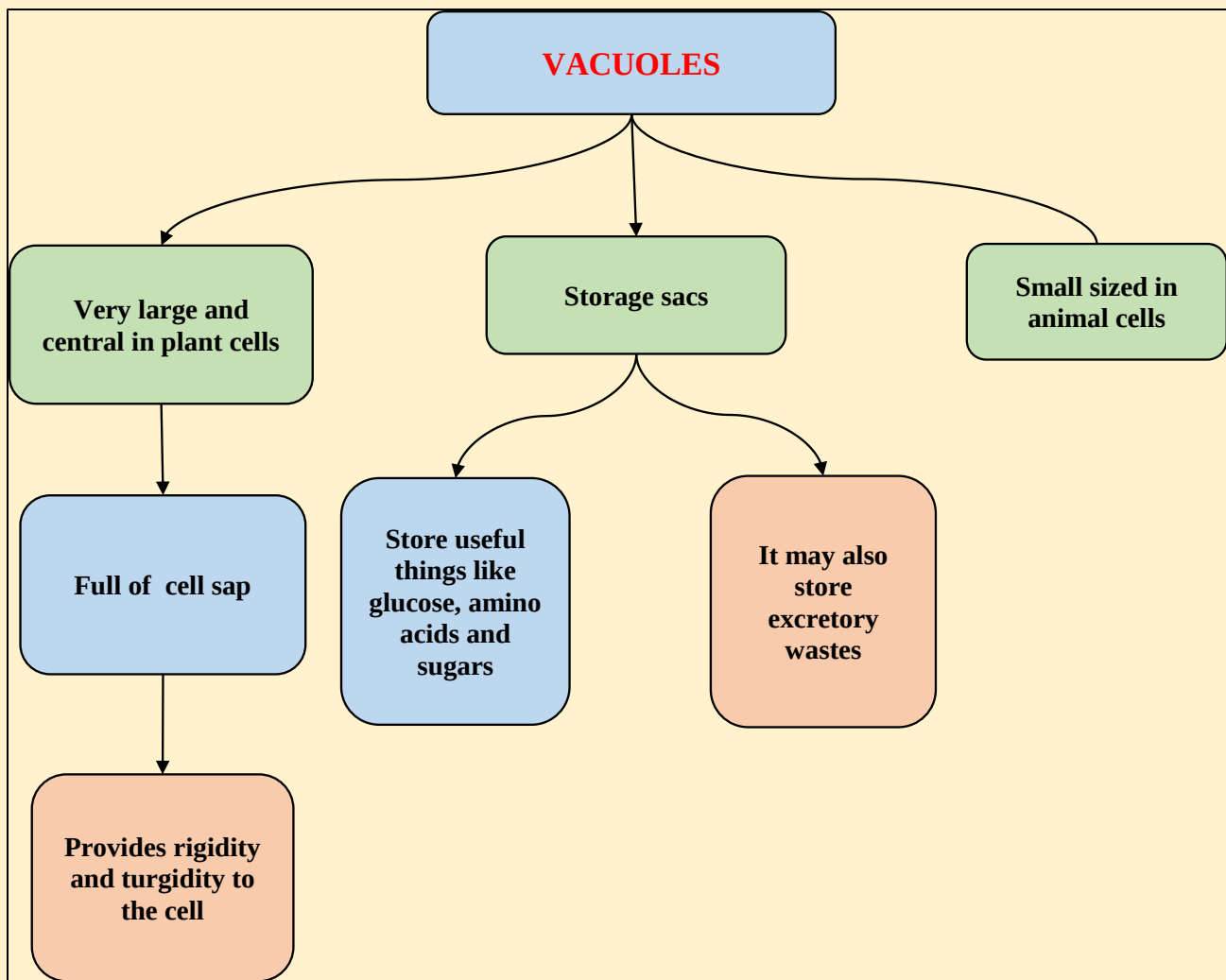






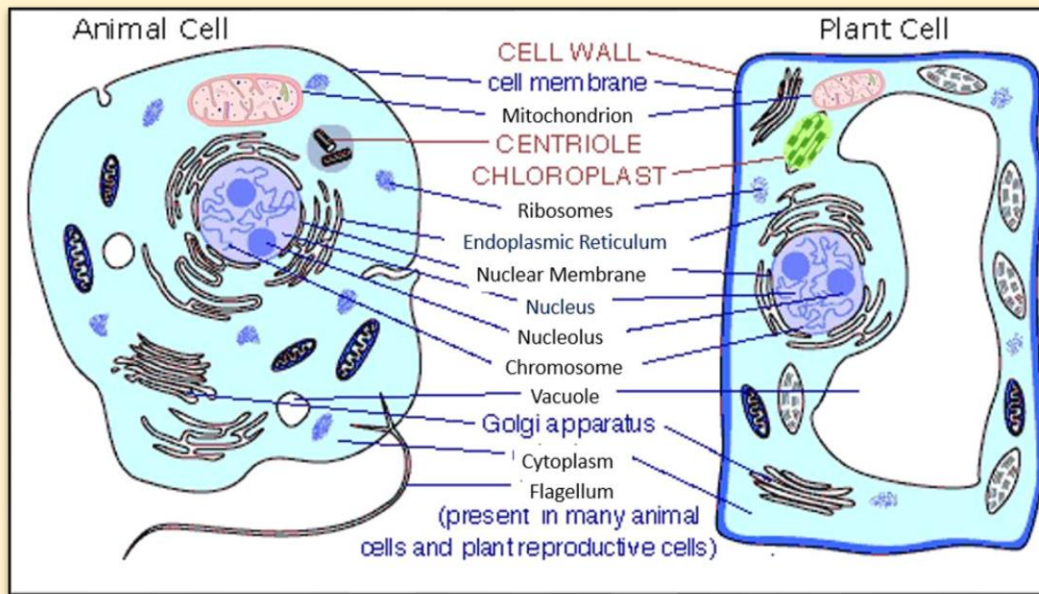




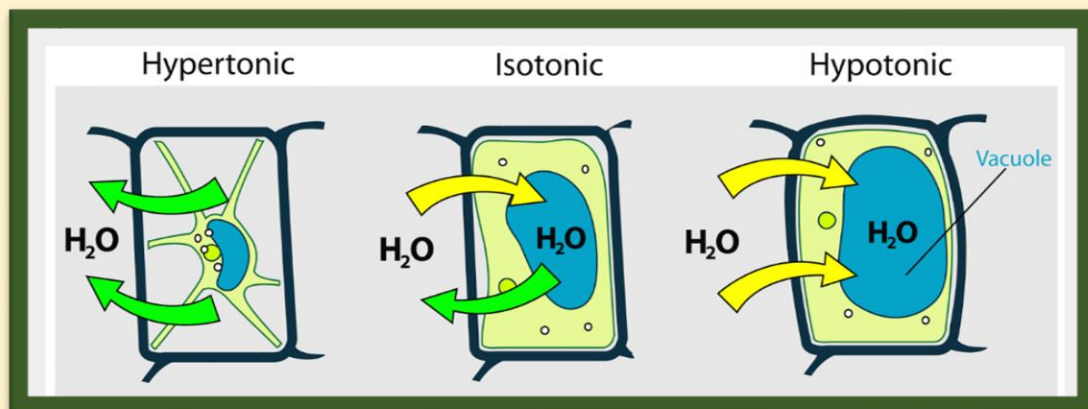


Important Diagrams

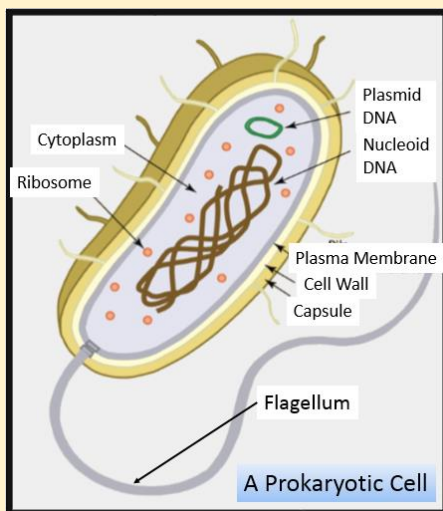
Eukaryotic Cells



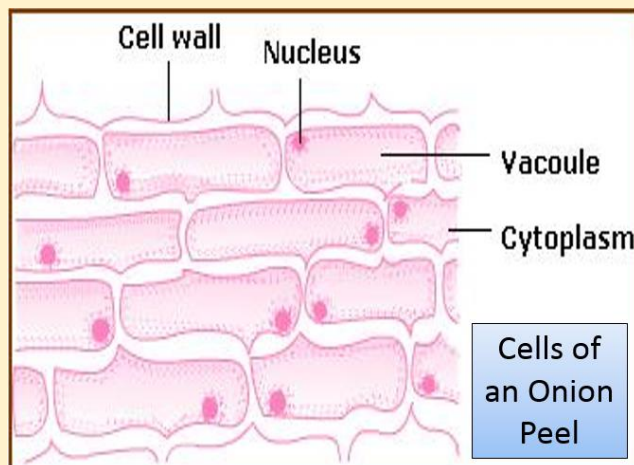
Osmosis



A Prokaryotic Cell



Cells of an Onion Peel



QUESTION BANK

CELL –The Fundamental unit of Life

Very Short Answer Questions (1 Mark)

- Q1. Which organelles other than nucleus contain their own DNA?
- Q2. Why do plants have large sized vacuoles?

Short Answer Questions (2 Marks)

- Q3. Draw the diagram of a prokaryotic cell.
- Q4. Give two points of difference between a plant cell and a bacterial cell.

Short Answer Questions (3 Marks)

- Q5. Write the names of the three kinds of plastids found in plants along with their location.
- Q6. Explain your observations in the following with reason involved in the process
- a) Salt is added to onion pieces.
 - b) Dried raisins are kept in water for some time.
 - c) A plant cell is boiled and then a drop of concentrated salt solution is added to it.

Long Answer Questions (5 Marks)

- Q7. Draw a plant cell and label the following parts which
- a) Help the cell to withstand hypotonic external medium without bursting.
 - b) Packages materials coming from the endoplasmic reticulum
 - c) Determines the function and development of the Cell.
 - d) Membrane system which makes Proteins and Fats of the Cell.
 - e) Act as power houses of the Cell and makes ATP.
- Q8. A fruit is green when unripe but become beautifully coloured when ripe. How does this change occur?

Answers

Ans 1. Mitochondria and Plastids

Ans 2. This is because a vacuole not only stores many important substances but also contains cell sap that gives turgidity to the cell.

Ans 3. Refer important diagrams.

Ans 4. Plant cell is an eukaryotic cell with true nucleus and membrane bound organelles, while bacterial cell is a prokaryotic cell with a primitive nucleus called Nucleoid and without membrane bound organelles.

Ans 5.

1. Chloroplast found in leaves and stems.
2. Leucoplast found in roots.
3. Chromoplast found in flowers and fruits.

Ans 6. a. Water comes out because the medium outside the onion becomes hypertonic due to salt.

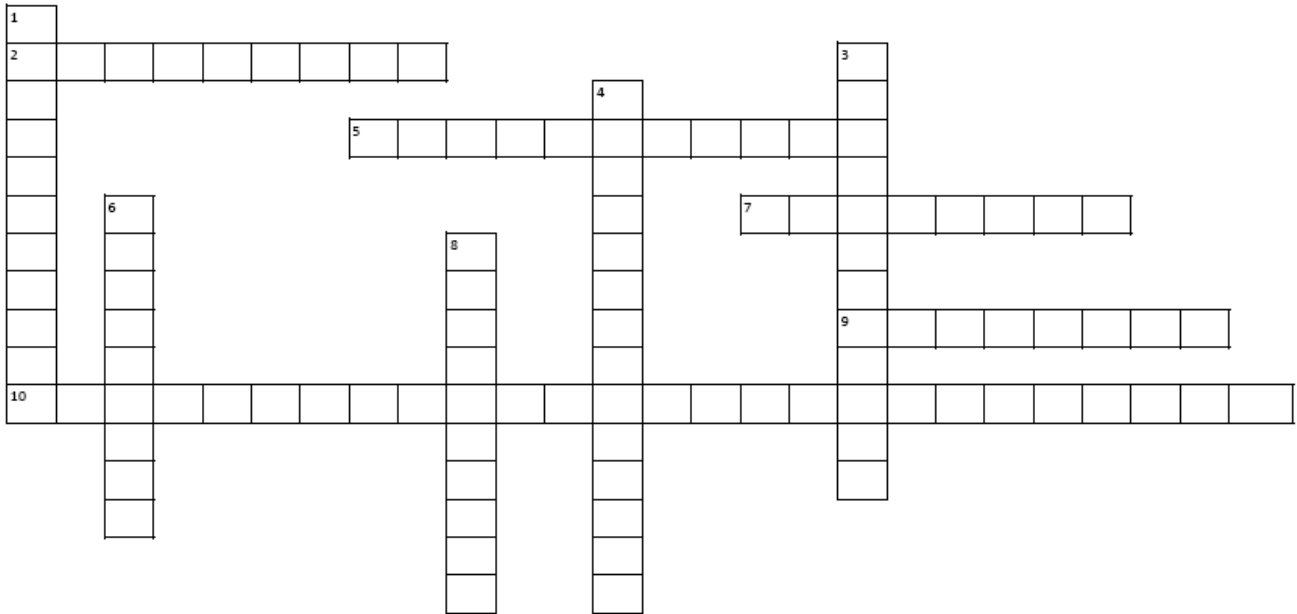
b. They swell up due to entry of water from external hypotonic medium by a process called osmosis.

c. On boiling the cells of the leaves gets killed so no change will occur.

Ans 7. Refer to important diagrams.

Ans 8. a. An unripe fruit is green due to the presence of green chloroplasts in its skin. Towards ripening of the fruit, the chloroplasts are converted into chromoplasts which give the fruit an attractive colour.

PUZZLE



Across

- 2 Suicidal bags of the Cell
- 5 Important in Photosynthesis
- 7 Storage Sacs
- 9 Primitive nucleus of Prokaryotes
- 10 Forms Lipid in a Cell

Down

- 1 Shrinkage of contents of the cell away from the cell wall due to loss of water in a plant Cell.
- 3 Power house of cell
- 4 Helps in Storage, modification & packaging of products.
- 5 Sites of Protein Synthesis
- 8 Stores Starch, Proteins & Oil in plant

WORD BANK: VACUOLES, SMOOTHENDOPLASMICRETICULUM, RIBOSOMES, PLASMOLYSIS, NUCLEOID, MITOCHONDRIA, LYSOSOMES, LEUCOPLAST, GOLGI APPARATUS, CHLOROPLAST.