Plant Physiology / lec 1

Plant knows more than the definition of features as: -
- Its multicultural organism.
- Its non – motile.
- Eukaryotic cells.
- Has cell wall comprised of cellulose.
- Its autotrophic

The plant belongs to the plant kingdom {Plantae}, which include: -
1- Angiosperms (Flowering Plant)
2- Gymnosperms plant.
3- Mosses .
The division of the modern varieties of fungus TO (Red algae) and (Green algae).

What is Plant Physiology? is defined as the science that deals with the functions and events that occur within the plant cells. which included: metabolic processes , water relations , mineral nutrition , growth and development , Movement , growth , transport .

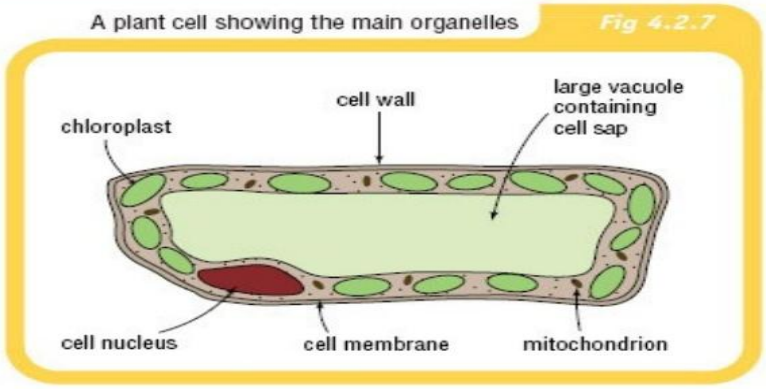
physiological and Biochemical Processes occur in certain combinations: -
* gaseous exchange: - gets in Stomata .
* Water transport: - (the phloem).
* photosynthesis: - gets in (Chloroplast).
* transmission of ions: - get across plasma membranes .
* RESPIRATION IN PLANTS : - gets in the Mitochondria.

Cell: - it is a unit of the construction and function of all living organisms .

Animal Cell **Plant Cell**

	Animal Cell	Plant Cell
Cell wall	Absent	Present (formed of cellulose)
Shape	Round (irregular shape)	Rectangular (fixed shape)
Vacuole	One or more small vacuoles (much smaller than plant cells).	One, large central vacuole taking up 90% of cell volume.
Centrioles	Present in all animal cells	Only present in lower plant forms.
Chloroplast	Animal cells don't have chloroplasts.	Plant cells have chloroplasts because they make their own food.
Cytoplasm	Present	Present
Ribosomes	Present	Present
Mitochondria	Present	Present
Plastids	Absent	Present
Endoplasmic Reticulum (Smooth and Rough)	Present	Present
Golgi Apparatus	Present	Present
Plasma Membrane	Only cell membrane	Cell wall and a cell membrane
Microtubules/ Microfilaments	Present	Present
Flagella	May be found in some cells	May be found in some cells
Lysosomes	Lysosomes occur in cytoplasm.	Lysosomes usually not evident.
Nucleus	Present	Present
Cilia	Present	Most plant cells do not contain cilia.

. Draw a plant cell, and label all of the part



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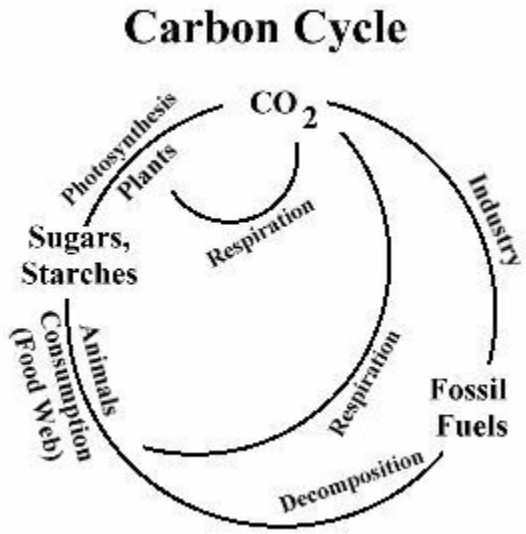
The Carbon Cycle Steps



1-Carbon enters the atmosphere as **carbon dioxide** from respiration and combustion .

2-Carbon dioxide is absorbed by plants to make **carbohydrates** in photosynthesis then put off oxygen.

3-Animals feed on the plants. Thus passing the carbon compounds along the food chain. Most of the carbon these animals consume however is exhaled as **carbon dioxide.** This is through the process of respiration. The animals and plants then eventually die.

4-The dead organisms (dead animals and plants) are eaten by **decomposers (m.o)** in the ground. The carbon that was in their bodies is then returned to the atmosphere as carbon dioxide. In some circumstances the process of decomposition is **prevented**. The decomposed plants and animals may then be available as **fossil fuel** in the future for combustion.