



SUBJECT: BIOLOGY

CHAPTER: 1

CHAPTER NAME: TRANSPORTATION IN PLANTS.

PERIOD-1

CHANGING YOUR TOMORROW

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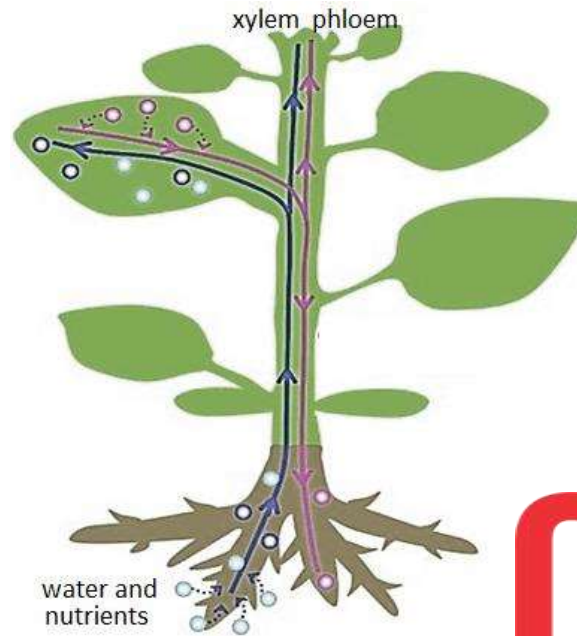
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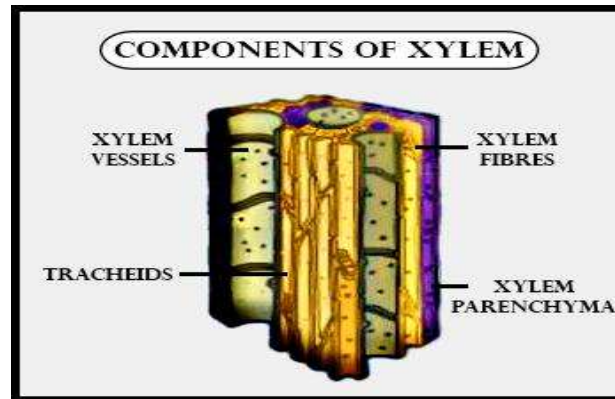
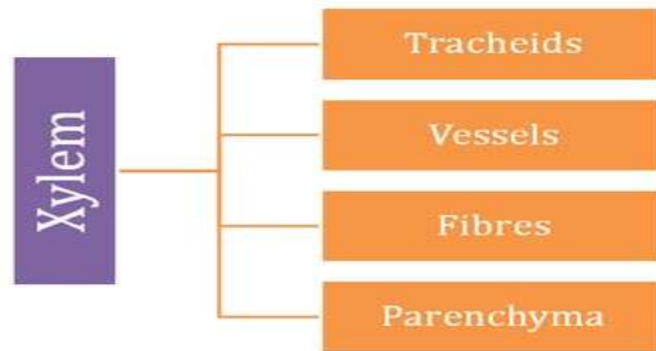
Transportation.

- **Transportation** is the process that involves the movement of water and necessary nutrients to all parts of the **plant** for its survival.
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- **“Transportation** is a vital process in **plants**.
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Xylem.

- **Xylem** originates from the Greek word “xylon” that means wood.
- **Carl Nägeli** coined the word xylem.



<https://www.youtube.com/watch?v=x-RXyzXP7II>

Tracheids

- Dead, tube-like cells with a tapering end. They are present mostly in gymnosperm and lower angiosperm. They have a thick lignified wall and lack protoplasm. Their main function is water and mineral transportation.



Vessels.

- : They are present in angiosperms. These are a long cylindrical structure having tube-like appearance. The walls are lignified and have a large central cavity. They are also dead and lack protoplasm. They have many cells called vessel members which are interconnected through a perforation in common walls. Mostly involved in the conduction of water, minerals and give mechanical supports.

fibre

- **Xylem Fibre:** Dead cell with lignified walls and a central lumen. Involved in water transportation and provide mechanical support.



parenchyma.

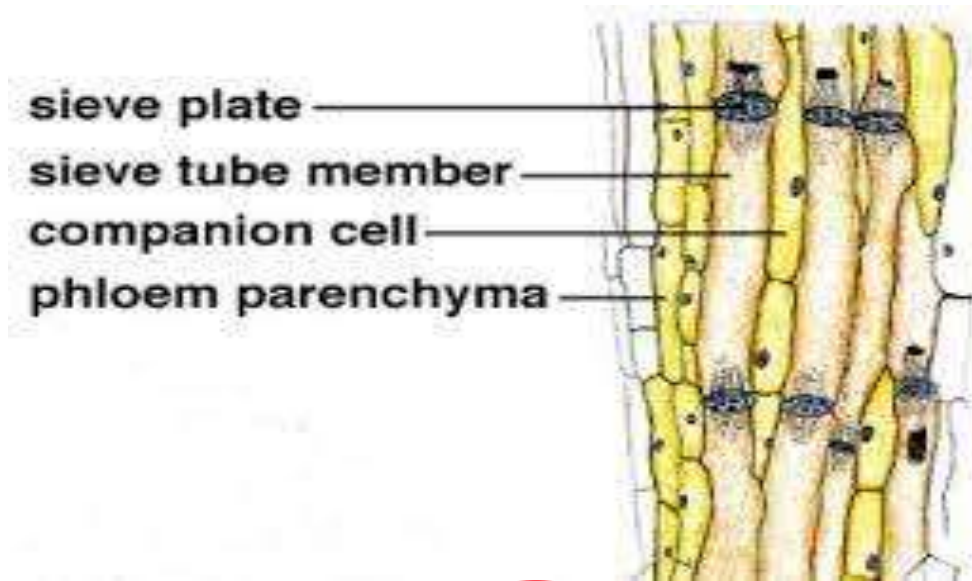
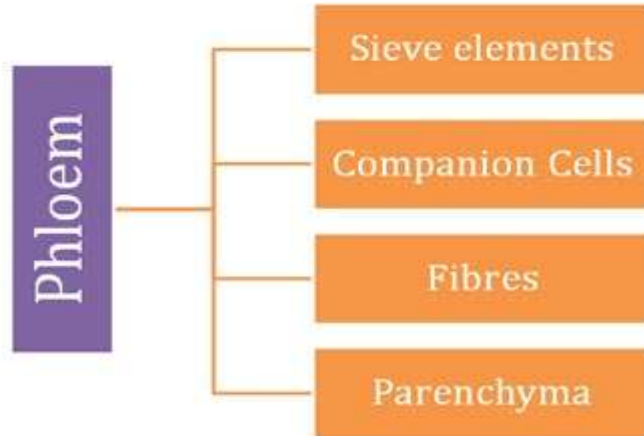
- **Xylem Parenchyma:** Only living cells of xylem and store starch and fat. They assist in the short distance transportation of water.

Functions of the xylem

- The function of the xylem is water transport from roots to the other parts of the plant.
- Xylem also provides mechanical strength.
- Tracheids and vessels are the main elements for conducting water.
- Xylem fibres provide mechanical support and
- xylem parenchyma stores food materials and tannins and also conducts water radially.
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phloem

- Phloem is a living tissue in vascular plants which conducts the soluble organic compounds synthesized during photosynthesis downwards from the leaves.



Home Assignments.

- Exercise Question No-3 and Long Answer Question No-9

THANKING YOU
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