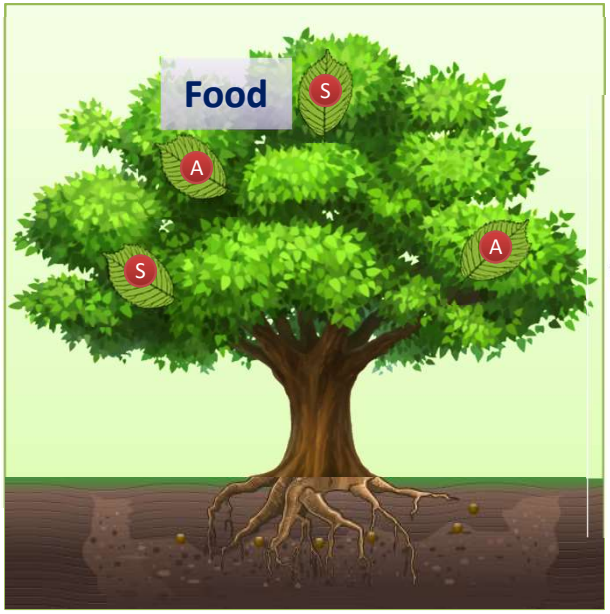
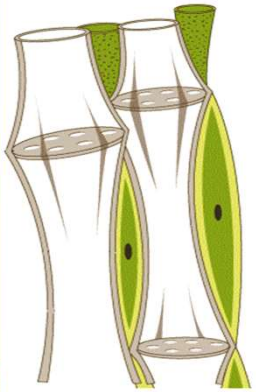
Vascular tissue

2. Phloem :

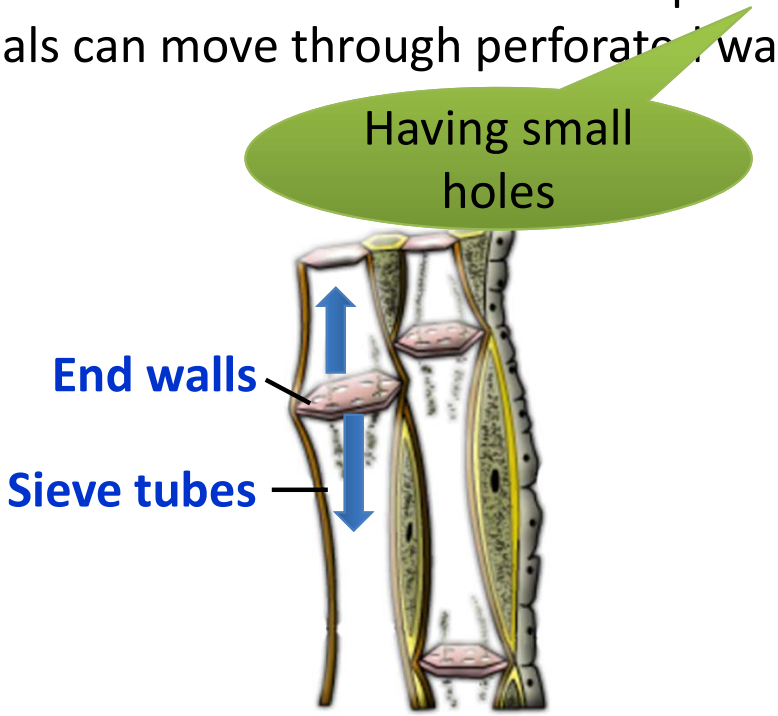
- Phloem transports food i.e. sugars and amino acids from leaves to other parts of the plants such as stems and roots.
- It is made up of 4 types of cells :





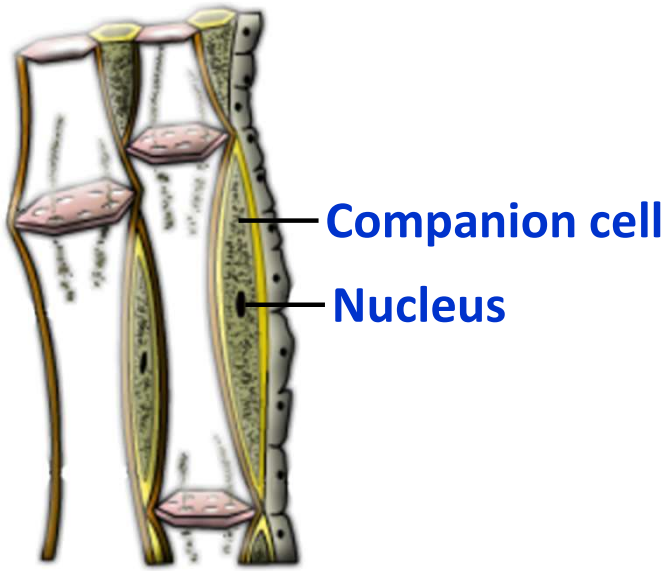
i. Sieve tubes :

- They are tubular cells with perforated walls and arranged end to end.
- The end walls of the sieve tubes have perforated walls.
- Materials can move through perforated walls from one adjacent cell to another.



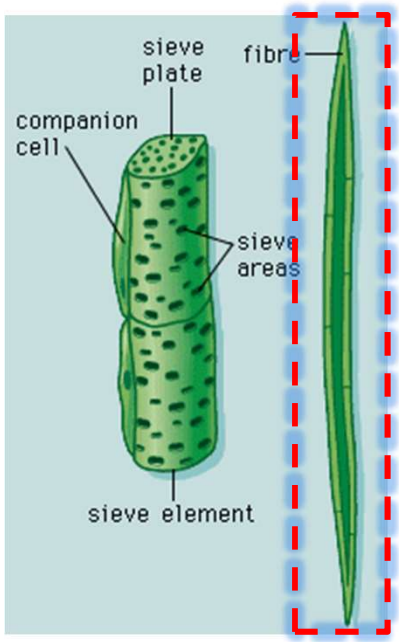
ii. Companion cells :

- These are the cells that surround the sieve tube elements.
- Companion cells are living and keep their nuclei and other organelles through out their life time.
- Companion cells are believed to control the activity of sieve tube elements.



iii. Phloem fibres :

- These are elongated tapering cells, which are found particularly in the stem.
- The cell walls are thickened.
- It gives mechanical strength to the plant.
- Phloem fibres are dead cells.



iv. Phloem parenchyma :

- These cells are alive and filled with cytoplasm.
- The cell walls are thin.
- These cells form the packing tissue between all the other types of cells.
- Phloem parenchyma stores compounds such as starch.