

# [Plant tissue](https://assignbuster.com/plant-tissue/)

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? A t vascular plant ( A mature l l t (any plant other than mosses and  l t th th d liverworts), contains several types  li t) ti lt of differentiated cells. These are  of differentiated cells These are grouped together in tissues. Some  grouped together in tissues Some tissues contain only one type of  tissues contain only one type of cell. Some consist of several.

cell Some consist of several ? M Meristematic ? P t ti Protective ? P Parenchyma h ? S l Sclerenchyma h ? Collenchyma ? Xylem ? Phloem Meristematic M i t ti ? The main function f meristematic of meristematic tissue is mitosis. The cells are small,  thin walled, with  thin? walled with no central  vacuole and no  l d specialized features. p f Meristematic tissue is located in ? the apical meristems at the growing  p points of roots and stems. f ? the secondary meristems (lateral  buds) at the buds) at the nodes of stems (where of stems (where  branching occurs), and in some  plants, plants ? meristematic tissue, called  the cambium that is found within cambium, that is found within  mature stems and roots. The cells produced in the meristems h ll d d h soon become differentiated into one  or another of several types h f l Protective P t ti ? Protective tissue covers the surface of  f f leaves and the living cells of roots and  stems.

Its cells are flattened with their  top and bottom surfaces parallel. db f ll l Protective tissues are usually present  Protective tissues are usually present in the outermost layer of the plant  in the outermost layer of the plant body such as leaves, stem and roots. Parenchyma P h ? The cells of parenchyma are large, hin? walled, and usually have a large  central vacuole. They are often  partially separated from each other  and are usually stuffed with  d ll t ff d ith plastids. ? I In areas not exposed to light,  t d t light colorless plastids predominate and  f food storage is the main function. g f The cells of the white potato are  parenchyma cells.

? It forms, for example, the t th cortex and pith of  d ith f f stems, the cortex of  roots, the mesophyll of  lleaves, the pulp of fruits,  th l f f it and the endosperm of  seeds. Collenchyma C ll h ? These cells provide mechanical  p support for the plant. They are most  often found in areas that are growing  rapidly and need to be strengthened. dl d d b h d The petiole ( stalk ) of leaves is usually  The petiole (“ stalk”) of leaves is usually reinforced with collenchyma. reinforced with collenchyma Sclerenchyma S l h ? The walls of these cells are very thick and built up in a uniform layer around the entire margin of the cell. Often,  uniform layer around the entire margin of the cell Often the cell dies after its cell wall is fully formed.

Sclerenchyma cells are usually found associated with  l h ll ll f d d h other cells types and give them mechanical support. ? Sclerenchyma is found in stems and also in leaf veins. ? Sl Sclerenchyma also makes up the hard outer covering of  h l k th h d t i f seeds and nuts. Xylem X l ? Xylem cells transport water and minerals absorbed by the roots from the soil. They  transport them to leaves where glucose is  t t th t l h l i prepared during photosynthesis.

prepared during photosynthesis ? The hard xylem is usually on the inner The hard xylem is usually on the inner  side of the plant tissue. Phloem Phl ? In vascular plants, phloem is the living tissue that carries  organic nutrients (k i t i t (known  as photosynthate) in particular glucose photosynthate), in particular, glucose,  a sugar, to all parts of the plant where  g p f p needed. In trees, the phloem is the  innermost layer of the bark.