

Permanent Tissues

Characteristics

- Differentiated cells with loss of division capability.
- Cell wall comparatively thicker than meristematic tissues
- Typically contains large vacuoles(maintains turgor pressure inside cell)
- Nucleus small and peripheral (allows space for vacuole and other cell Organelles)
- Cytoplasm dense
- Various shapes like oval, round, elongated or rectangular.
- Presence of Intercellular spaces
- Have functional specificity.

Can permanent tissues never divide?

Permanent tissues can regain their ability to divide and revert to a meristematic state through a process called dedifferentiation, a process that allows cells in permanent tissues to re-enter the cell cycle and develop into new meristematic tissue, such as secondary meristems.

Simple Permanent Tissues

Composed of a single type of cell and are responsible for basic functions like support, storage, and photosynthesis

Parenchyma:

- Living cells at maturity
- Relatively thin cell wall compared to other permanent tissues
- Lots of Intercellular spaces are there to help in gaseous exchange
- Can be spherical, oval, elongated, or polygonal with a large central vacuole.

Location:

Leaves, Stems and roots, Fruits, Other soft tissues like flowers, petioles etc.

Function:

Storage, Gaseous exchange, Support, Wound healing, Secretion