

Chapter 02

Plant Tissues

Dermal tissues:

- Dermal tissue or the Dermis usually consists of a single layer of cells.

Dermal tissues are divided into three different types.

- Epidermis - the outermost layer
- The stomatal guard cells
- Epidermal hairs

The walls of dermal tissue are comparatively thicker than meristematic cells.

In desert plants, it may be even more thick and waxy.

Stomata:

In the epidermis of a leaf or in the outermost layer of leaf, small pores are seen. They are called stomata.

- They are enclosed by two kidney-shaped cells, called guard cells.
- The guard cells have thick inner wall and thin outer wall.

You might have seen long-hair-like parts. When you have plucked a plant, the long hair-like part is called the root hair.

Have you ever seen a sticky substance on the trunk or branches of trees like Acacia, Neem?

This sticky substance is called gum or latex and is secreted from the dermal layer of the stem.



In big trees, the dermal tissue forms several layers above the epidermis. It is called bark.



Functions of dermal tissues:

- Absorption of water and minerals through root and root hairs.
- Gaseous exchange and Transpiration through stomata.
- Photosynthesis that is carried out by certain green cells.

The dermal tissue also protects the plants from loss of water, mechanical damage like breaking and splitting of branches and invasion by parasitic and disease causing organisms.