

The Stem

The axis of plant that originates above the hypocotyl of the embryo in the seed.

- It consists of nodes, internodes and appendages, e.g. leaves, buds, flowers and fruit from the node.
- some stems are specialized for storage, reproduction and other purposes.
- variation in the stem provides many useful taxonomic characters for identification

PARTS OF STEM:

- nodes - points on the stem where a leaf develops
- internode - the section between two successive nodes
- buds - undeveloped structures

CLASSIFICATION OF BUDS

- Terminal bud - found at the tip of the stem which is responsible for elongation;
- Lateral bud - those arising from the sides that determine the position of the branches; developed at the axis of the leaf, hence, called axillary buds
- Adventitious buds - developed at any point on the stem - sometimes developed on roots

CLASSIFICATION OF BUDS based on STRUCTURE DEVELOPMENT :

- branch buds
- leaf buds
- flower buds
- lenticels - corky postules found in older stems , functions for gas exchange in the absence of stomata
- stomata - present only in young stem
- trichomes - present only in young stem
- leaf scar - marks left on the stem by leaves that have naturally fallen off
- bundle scar - scars left on the stem by strands of food and water conducting tissues passing from the stem to the leaf.

The falling of leaves is a natural phenomenon, it is the result of the formation of abscission layer of special cells at the base of the petiole, the point where it is attached to the stem. It cuts the leaves off without injury to the stem.

3 TYPES OF STEM

- dicotyledonous woody
- dicotyledonous herbaceous
- monocotyledonous