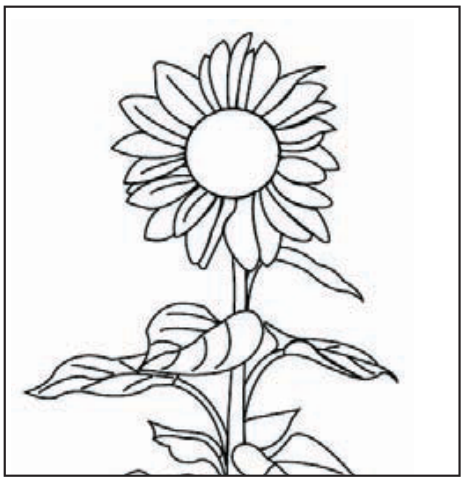
Unit 5 Identifying the Plants

Label the plant organ in the given picture and fill appropriate colour in the organs.



Let us observe the surrounding plants. You can observe that some plants are short in size. Let us make a list of these type of plants.

_____

_____

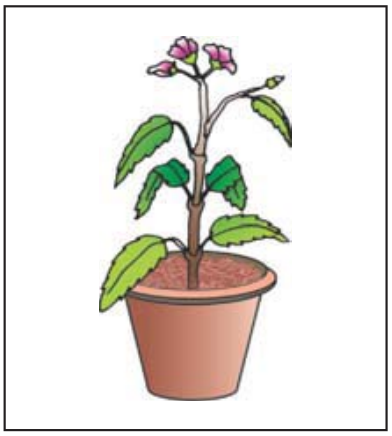
_____

Herbs :

Plant with less than 4-6 feet height is called herb.

- Stem of the plant is generally soft and weak. e.g. _____
- These are short lived plants :

  e.g. Wheat, Jowar (*Sorghum*), Pearl millet (Bajara), *Vinca*, Marigold, Egg plant (Brinjal), Tomato



- Prepare a list of such plants.

_____

_____

Exceptional examples :

- Plant like Tulsi (*Oscimum*) live for more than one year.
- Many herbs give colourful flowers.

  e.g. _____

Shrub :

Plants with 4-6 feet height are considered as shrubs.

Stem of shrub is thicker than that of herb.

e.g. _____

- Life span of shrub is greater than that of herb.

  e.g. Pomegranate, China Rose (Shoe-flower), Custard apple, Guava, Heena, Oleander (Narium).

- Branches of shrub develop from its stem at a remarkable distance from the soil.

Tree :

Plants with more than 4-6 feet height are called trees.

e.g. Neem tree, Banyan tree, Ficus (Pipal tree) tree.

- Trees live for a long time.

  e.g. _____

- Stem of the tree is very strong.

  e.g. _____

- Trees with a big canopy provide shade.

  e.g. _____

Climbers :

Plants with weak stem cannot stand erect. These plants are called creepers.

e.g. _____

- Some plants spread their body on the land. They give big fruits.

  e.g. _____

- Some creepers take support of its surrounding and climb on that support.

  e.g. _____

Clasify the surrounding plants into the following table :

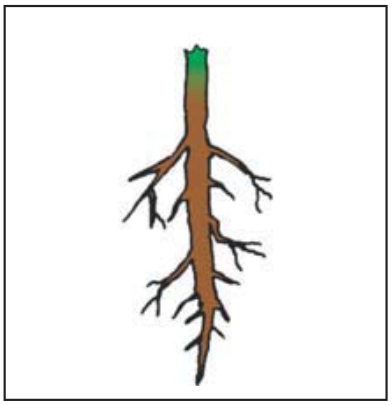
Herb	Shrub	Tree	Creeper

- As we find variations in the height and volume of different plants, in the same way plants show variation in their organs.

Collect information from the book 'Plant world' from your school library.

We find some useless plants growing in our surrounding. With the help of discussion with your teacher, find out them and bring some plants with roots if your teacher permits.

- ☞ Observe the roots of the plant, which you have pulled up.
- ☞ Can you say that the roots shown in the diagram can be pulled or not ?
- ☞ Generally these type of roots anchors plant to deep soil / shallow soil.
- ☞ It possesses a main root and many branches arising from the main root. Such root system is called tap root system.



Which plants show tap root system ?

_____

_____

_____

Can we pull these roots easily / not which are shown in the diagram ?

Generally this type of root anchors plant into deep soil / shallow soil.

It does not have any main root but have many thin, small roots.

These roots are called fibrous root system.

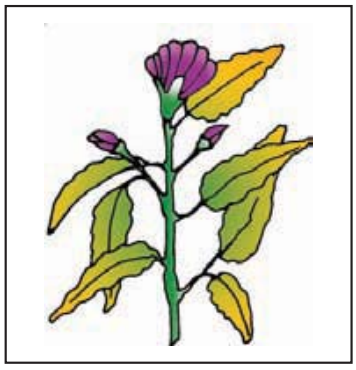
- Which plants show fibrous root system ?

On the basis of this activity you can classify the types of root systems :

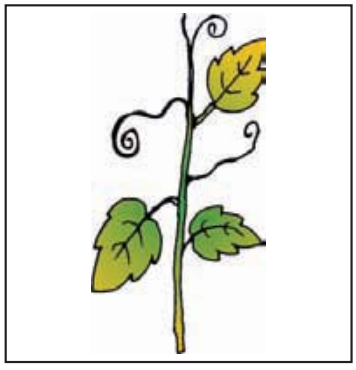
(1)

(2)

Types of stem :



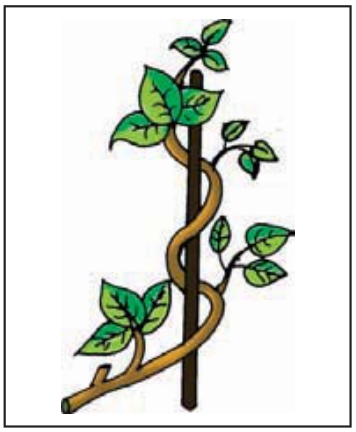
(1) Erect stem : Most of the plants posses erect stems.
e.g. : Rose, Neem.



(2) Climbing stem : Some plants take support of some other plants and climb on them.
e.g. : Grape climber, Sweet pea

Some plants produce specific spring like tendrils to climb the support.

e.g. Grape climber, Bitter gourd



In some plants stem itself twines around the support.

e.g. Twiner of Kidney bean

(3) **Creeper stem :** You may have seen Cynodon growing on open land. Its stem run parallel to ground and develops roots at a certain distance. This type of stem is known as creeper stem. Hydrocotly (Bramhi) is also such type of plant.

Have you seen any other plant showing creeping stem ?

(4) **Underground stem :** Observe potato, ginger and colocasia. Do you find nodes on it ? Thus, it is a stem. This type of stem is grown under the soil, which is known as underground stem.

Leaf :

Types of leaf :

When you observe plants in your surroundings, you will find that some of them have simple, independent and big leaves. While some plants show small and oppositely arranged leaflets.

If leaf is divided into small leaflets, then the leaf is known as compound leaf. And if it is not divided into leaflets it is called simple leaf.

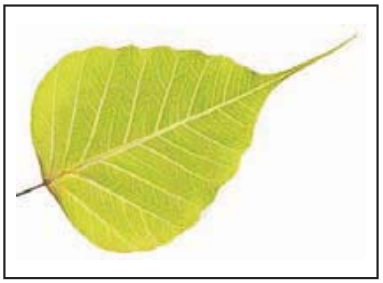
Simple leaf :

Which plants show simple leaves ?

Compound leaf :

Which plants show compound leaves ?

Pluck two to three leaves of a plant. Observe the lateral and dorsal sides of that each leaf. Make a impression of the leaf on a paper by putting that paper on leaf and by rubbing slanting pencil on it.



Thread like structure found in a leaf is called veins and the arrangement of veins is called venation.

Some leaves show reticulate impression. This type of venation is known as reticulate venation.

- Which plants show reticulate venation ?

In impression of some leaf we can't find a reticulate structure. Here veins are arranged in parallel fashion. Such arrangement is known as parallel venation.

- Which plants show parallel venation ?

Cut all those leaves you have collected for previous activity. Are you able to cut all leaves in same pattern ?

- Which type of venation is found in the leaves which cut unevenly ?

- Which type of venation is found in the leaves which can be cut parallel ?

Which type of venation is found in leaves of dicot plants ?

Which type of root system is found in those plants ?

Which type of venation is found in leaves of monocot plant ?

Which type of root system is found in those plants ? (monocot)

Plants like tulsi (Oscimum), neem, ginger, Adhatoda (ardusi), jamun, turmeric, garlic, onion, nut meg, carom seeds / thyme (ajwain) etc. are very useful as medicines.

Prepare a list of medicinally useful plants by collecting information from elders, family members, doctors, teachers etc. and find it from books found in school library too.

Sr. No.	Name of medicinal plant	Useful part	Effective in which disease	How to use it ?

Collect more information from the book 'Plant World'.

Q.1 Prepare a leaf-book of simple leaves.

Q.2 Prepare a leaf-book of compound leaves.

Q.3 Prepare a leaf-book of leaves with parallel venation.

Q.4 Prepare a leaf-book of leaves with reticulate venation.

Q.5 Give an example of a herb showing compound leaf.

Q.6 Prepare list of herbs, shrubs, trees and twiners/creepers/climbers.

Herb	Shrub	Tree	Creeper/climber/ twiner

5th June is celebrated as 'World Environment Day'.