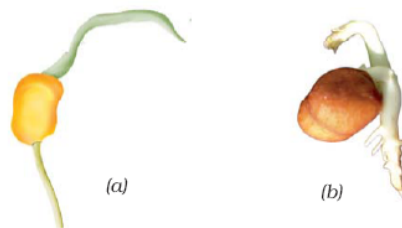


MODULE 6 :

You have seen that there are different kinds of stems and leaves. Do the roots also show a variety?

Let us find out.

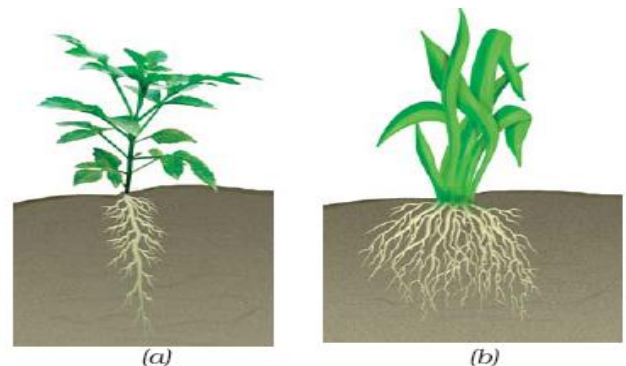
- Study the Fig (a) and (b) carefully.
- Now, look at the roots of the gram plants you have pulled out from the cotton wool
- Do they look like the roots shown in Fig (a) or those in Fig (b)?



1. How about the roots of the maize plant?
2. Write 'gram' or 'maize' near to the figure after matching the roots with the figures.
3. In what way are the roots of gram and maize similar? In what way are they different?
4. There seem to be two different types of roots, isn't it? _____ (yes / no) _____

Are there also other types of roots? Let us find out by doing this activity .

- Go to an open ground where many weeds are growing.
- Dig out a few weeds, wash the soil off the roots and observe them.
- Do you find that all the weeds that you have dug out have either the kind of roots shown in Fig. (a) or as in Fig. (b)?



OBSERVATION:

For roots of the kind shown in the above Fig (a) -----→ the main root is called tap root and the smaller roots are called " lateral roots " .

Plants with roots as shown in above Fig (b) -----→ do not have any main root. All roots seem similar and these are called " fibrous roots " .

1. Separate the weeds you have collected in to (a) those that have tap roots and (b) those that have fibrous roots. Look at the leaves of the plants in Group (a).
2. What kind of venation do they have? What kind of venation do you see for plants of Group (b)?
3. Do you notice that leaf venation and the type of roots in a plant are related in a very interesting way? In Table , can you match the type of leaf venation and the type of roots for some plants you have studied in all the activities so far?

Difference between tap root and fibrous root:

<i>Tap root</i>	<i>Fibrous root</i>
1. Tap root has only one main and long root. The smaller roots that grow from the main root are called <i>lateral roots</i> .	Fibrous roots do not have a main root. All roots seem similar.
2. Tap root goes deep into the soil.	They do not go deep into the soil.
3. Tap roots are found in plants which have <i>reticulate venation</i> in their leaves.	These are found in plants which have <i>parallel venation</i> in their leaves.

Types of roots and types of leaf venation:

Name of the plant	Type of leaf venation	Type of Roots

- We have learnt that roots absorb water and minerals from the soil and the stem conducts these to leaves and other parts of the plant.
- The leaves prepare food. This food travels through the stem and is stored in different parts of a plant.
- We eat some of these as roots— like carrot, radish, sweet potato, turnip and tapioca. We also eat

many other parts of a plant where the food is stored.

Do you agree that stem is like a two way street? Write down what goes up the stem and what comes down _____



Question: Write the difference between tap root and fibrous root.