

Board – CBSE

Class – 6

Topic – Getting to Know Plants

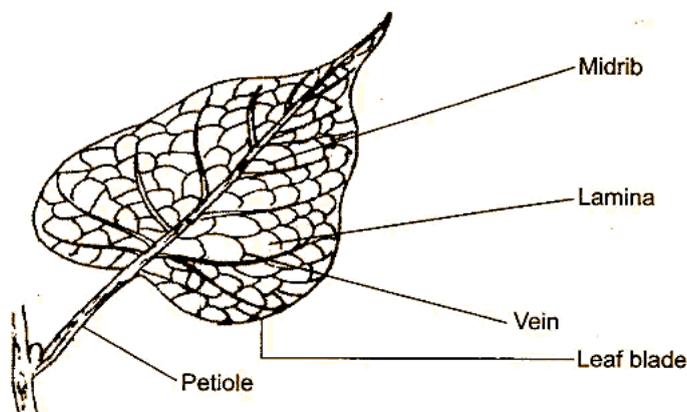
1. Correct the following statements and rewrite them in your notebook.
 - (a) Stem absorbs water and minerals from the soil.
 - (b) Leaves hold the plant upright.
 - (c) Roots conduct water to the leaves.
 - (d) The number of sepals and petals in a flower is always equal.
 - (e) If the sepals of a flower are joined together, its petals are also joined together,
 - (f) If the petals of a flower are joined together, then the pistil is joined to the petal.

- Ans.
- (a) Roots absorb water and minerals from the soil.
 - (b) Roots hold the plant upright.
 - (c) Stem conducts water to the leaves.
 - (d) The number of petals and sepals in a flower is usually equal.
 - (e) If the sepals of a flower are joined together, its petals are not necessarily joined together.
 - (f) If the petals of a flower are joined together, then the pistil is not necessarily joined to the petal.

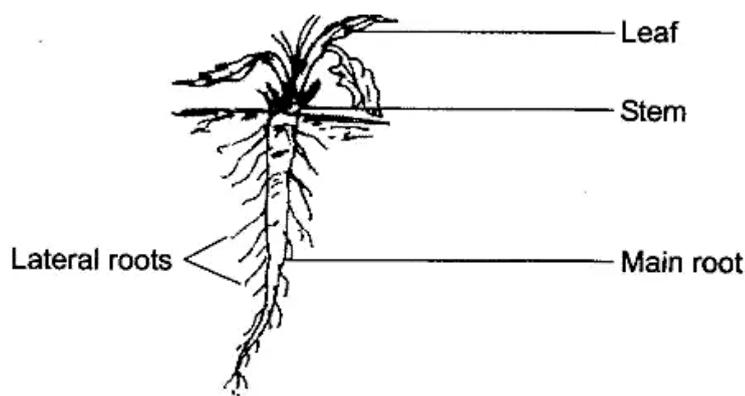
2. Draw (a) a leaf, (b) a tap root and (c) a flower, you have studied for Table 7.3 of the textbook.

Ans.

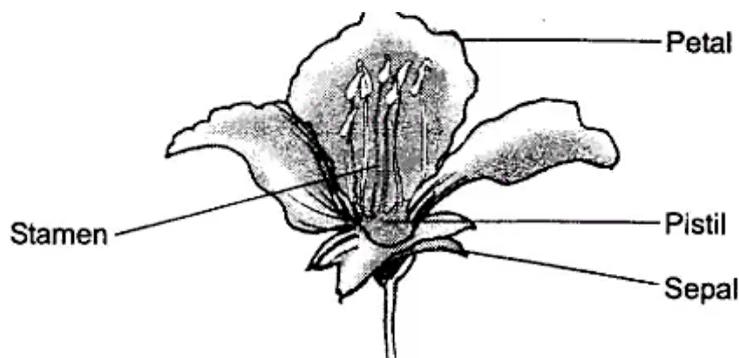
(a) Leaf



(b) Tap root



(c) Flower



3. Can you find a plant in your house or in your neighbourhood which has a long but a weak stem? Write its name. In which category would you classify it?

Ans. Yes, we found a money plant in our house. It is a climber.

4. What is the function of a stem in a plant?

Ans. A stem performs the following functions:

(i) The stem and its branches hold leaves to get maximum sunlight.

(ii) It transports water from roots to different parts of the plant.

(iii) It transports food from leaves to different parts of the plant.

(iv) It bears leaves, flowers and fruits.

5. Which of the following leaves have reticulate venation?

Wheat, tulsi, maize, grass, coriander (dhania), china rose.

Ans. Tulsi, china rose.

6. If a plant has fibrous roots, what type of venation are its leaves likely to have?

Ans. Parallel venation.

7. If a plant has leaves with reticulate venation, what kind of roots will it have?

Ans. Tap root.

8. Is it possible for you to recognise the leaves without seeing them? How?

Ans. We cannot exactly recognise the leaves without seeing them. We may be able to have some idea by touching and smelling them.

9. Write the names of the parts of a flower in sequence, from outside to inside.

Ans. The names of various parts of a flower from outside to inside are:

(i) Sepals

(ii) Petals

(iii) Stamens

(iv) Pistil

10. Which of the following plants have you seen? Of those that you have seen, which one have flowers?
Grass, maize, wheat, chilli, tomato, tulsi, pipal, shisham, banyan, mango, jamun, guava, pomegranate, papaya, banana, lemon, sugarcane, potato, groundnut

Ans.

S. No.	Name of the plant	Whether seen	Whether have flowers
1.	Grass	Yes	Yes
2.	Maize	Yes	Yes
3.	Wheat	Yes	Yes
4.	Chill	Yes	Yes
5.	Tomato	Yes	Yes
6.	Tulsi	Yes	Yes
7.	Pipal	Yes	Yes
8.	Shisham	Yes	Yes
9.	Banyan	Yes	Yes
10.	Mango	Yes	Yes
11.	Jamun	Yes	Yes
12.	Guava	Yes	Yes
13.	Pomegranate	Yes	Yes
14.	Papaya	Yes	Yes
15.	Banana	Yes	Yes
16.	Lemon	Yes	Yes
17.	Sugarcane	Yes	Yes
18.	Potato	Yes	Yes
19.	Groundnut	Yes	Yes

11. Name the part of the plant which produces its food. Name this process.

Ans. Leaves produce food for the plant. This process is called photosynthesis.

12. In which part of a flower you are likely to find the ovary?

Ans. We find an ovary in the pistil. It is the lowermost part of the pistil.

13. Name two flowers, each with joined and separated sepals.

Ans. Flowers with joined sepals:

(i) Datura

(ii) Loki

Flowers with separate sepals:

(i) Gurhal

(ii) Mustard

VERY SHORT ANSWER TYPE QUESTIONS

14. List few plants found around your house.

Ans. Mango, neem, grass, chilli, palak and banyan tree.

15. Are all the plants same in size?

Ans. No, all plants are of different sizes.

16. What are the major parts of plants?

Ans. Stem, root, leaves and flowers.

17. How many kinds of plants are there?

Ans. There are three kinds of plants:

(i) Herbs

(ii) Shrubs

(iii) Trees

18. Name two plants that belong to herbs.

Ans. (i) Tomato

(ii) Potato

19. Give two examples of shrubs.

Ans. (i) Lemon

(ii) Orange

20. Give two examples of trees.

Ans. (i) Mango

(ii) Neem

21. Define petiole.

Ans. The part (stalk) of a leaf by which it is attached to the stem is called petiole.

22. What is lamina?

Ans. The broad green flat part of the leaf is called lamina.

23. What are veins?

Ans. The lines on the leaf are called veins.

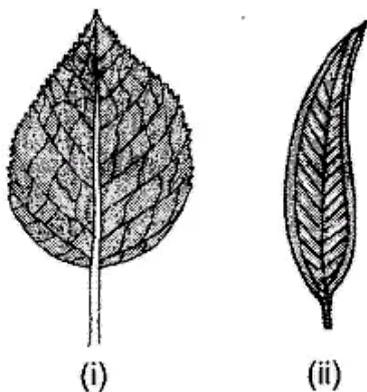
24. What is midrib?

Ans. A thick vein in the middle of the leaf is called midrib.

25. What is leaf venation?

Ans. The design made by veins in a leaf is called leaf venation.

26. How many types of leaf venation are there?



Ans. There are two types of leaf venation:

(i) Reticulate venation

(ii) Parallel venation

27. What is transpiration?

Ans. The process by which water comes out from the leaves in the form of vapour is called transpiration.

28. Name the process by which leaves can prepare their food.

Ans. This process is called photosynthesis.

29. What are the raw materials for photosynthesis?

- Ans. (i) Sunlight
(ii) Water
(iii) Carbon dioxide
(iv) Chlorophyll

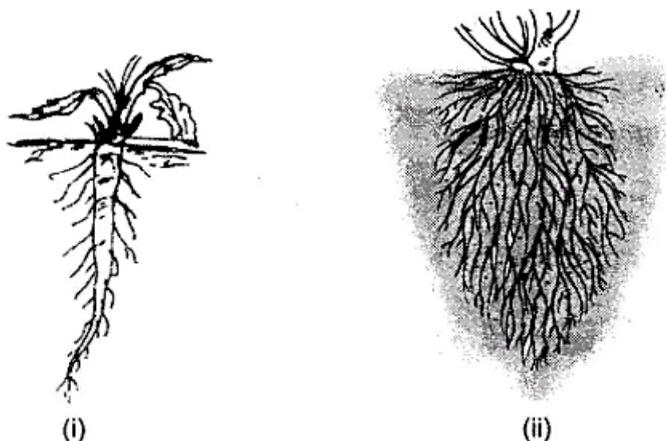
30. Where does the photosynthesis take place in plants?

Ans. It takes place in the leaves.

31. Name the part of the plant which helps in holding the plant in the soil.

Ans. Roots.

32. Name the types of roots shown in the Fig. 7.7.



Ans. (i) Tap roots (ii) Fibrous roots

33. What are tap roots?

Ans. The roots in which one root is the main root and other lateral roots grow on it are called tap roots.

34. Give names of two plants which have tap roots.

Ans. Gram and mustard.

35. Name two plants which have fibrous roots.

Ans. (i) Wheat plant (ii) Maize plant

36. What are lateral roots?

Ans. The smaller roots that grow on the main tap root are called lateral roots.

37. What are fibrous roots?

Ans. The roots which do not have any main root but all the roots are similar are called fibrous roots.

38. Does the stem prepare food for any plant?

Ans. Yes, there are some plants whose stems prepare food, e.g. cactus.

39. Name the prominent parts of a flower.

Ans. The prominent parts of a flower are petals, sepals, stamens and pistil.

40. What are sepals? What are their functions?

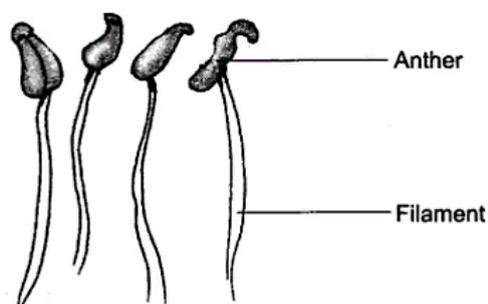
Ans. The small green coloured leaf-like structures are called sepals. It protects the flower when it is in stage of bud.

41. What are petals? Why are they generally coloured?

Ans. The coloured big leaf-like structures present in flower are called petals. Petals are coloured so as to attract insects for pollination.

42. What are stamens?

Ans. When we remove sepals and petals from the flower then we see some filaments in the flower which are called stamens. These are the male part of the flower.



43. Name various parts of stamen.

Ans. There are two parts of a stamen:

(i) Anther (ii) Filament.

These are the male part of the flowers.

44. What is pistil?

Ans. The innermost part of a flower is called pistil. These are the female part of the flowers.

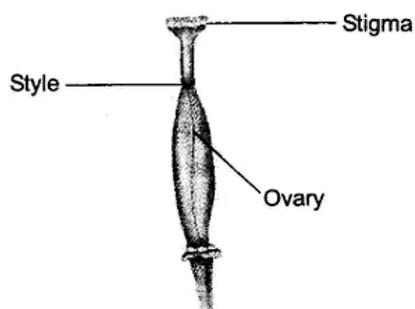


Fig. 7.9 Pistil

45. Name the various parts of pistil.

Ans. There are three parts of pistil:

- (i) Stigma (ii) Style (iii) Ovary

46. What are ovules?

Ans. These are small bead-like structures inside the ovary.

SHORT ANSWER TYPE QUESTIONS

47. What are weeds?

Ans. The unwanted plants that grow in the fields with the main crops or in their surroundings are called weeds.

Weeds are the plants which are not grown by the farmers. For example, grass.

48. Classify plants and give an example of each.

Ans. On the basis of various characteristics most of the plants can be classified into three categories:

(i) Herbs, e.g. tomato

(ii) Shrubs, e.g. lemon

(iii) Trees, e.g. mango

49. What are herbs? Give two examples.

Ans. The plants with green and tender stems are called herbs. They are usually short and may have no or less branches. For example, tomato, potatoes.

50. What are shrubs? Give two examples.

Ans. The plants which have a hard but not a very thick stems are called shrubs. Such plants have the stem branching out near the base. For example, lemon, rose plants.

51. What are trees? Give two examples.

Ans. The plants which are very tall and have hard and thick brown stems are called trees. The stems have branches in upper part and much above the ground. For example, mango, neem.

52. What are creepers? Write an example.

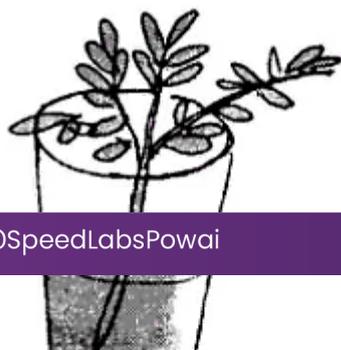
Ans. The plants with weak stems that cannot stand upright and spread on the ground are called creepers. Various types of grasses are the examples of creepers.

53. What are climbers?

Ans. The plants that take support of neighbouring structures and climb up are called climbers. They have weak stem. For example, grapes, money plant, beans.

54. Explain an activity to show that stem conducts water and other substances.

Ans. Take some water in a glass. Add a few drops of red ink to the water. Cut the stem of a herb plant from its base. Put it in the glass as shown in figure. We will see that some parts of the stem become red. This activity shows that the stem conducts water.



55. Explain the structure of a leaf with the help of a labelled diagram.

Ans. There are two main parts of a leaf:

(i) Petiole: The part of the leaf by which it is attached to the stem is called petiole.

(ii) Lamina: The broad, green part of the leaf is called lamina.

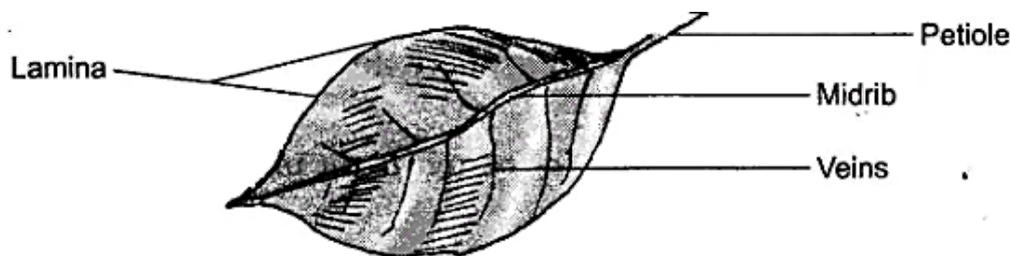


Fig. 7.11 A leaf

The lamina contains the following parts:

(i) Veins: There are various types of lines on the leaf. These lines are called veins

(ii) Midrib: There is a thick vein in the middle of the leaf. This vein is called midrib.

56. Explain the main functions of leaf.

Ans. There are following two main functions of leaf:

(i) Transpiration: The extra water comes out of the leaves in the form of vapour. This process is called transpiration.

(ii) Photosynthesis: The process by which leaves prepare their food from water and carbon dioxide, in the presence of sunlight and a green-coloured substance, is called photosynthesis.

57. What are unisexual and bisexual flowers?

Ans. Unisexual flower has either male (stamen) or female (pistil) parts.

Bisexual flowers have both male and female whorl in the flowers, i.e., they have both stamen and pistil.

58. Name a plant that eats insect.

Ans. Pitcher plant.

59. Pitcher plant has green leaves which can prepare food by photosynthesis then why does it eat insects?

Ans. To get nitrogenous compounds which it cannot absorb from the soil.

60. Name a plant that has an underground as well as aerial (above the ground) root system.

Ans. Banyan tree.

61. Why do we see dew drops on leaves in the early morning?

Ans. At night the water lost by leaves does not get evaporated and gets collected on the leaves in the form of dew drops.

62. Why are petals colourful?

Ans. The colourful petals attract insects for pollination.

63. Why do white flowers bloom at night?

Ans. White colour attracts night insects for pollination.

64. What do you mean by a complete and incomplete flower?

Ans. The flower with all whorls, i.e., sepals, petals, stamen and carpel in it is a complete flower. If any one of these is absent in a flower it is called an incomplete flower.

65. Leaves need oxygen and carbon-dioxide (for photosynthesis). How do they get these gases?

Ans. Leaves take in these gases from the atmosphere through small pores present on them called stomata.

66. How can one destarch the leaves of a potted plant without plucking them?

Ans. By keeping it in the dark for 2-3 days.

67. What is the relation between leaf venation and the type of roots?

Ans. The plants having tap root have reticulate venation. The plants having fibrous roots have parallel venation.

68. Name the male part of a flower. Write names of its parts and draw a diagram.

Ans. The male part of a flower is called stamen. It has two parts: (i) Filament and (ii) Anther.

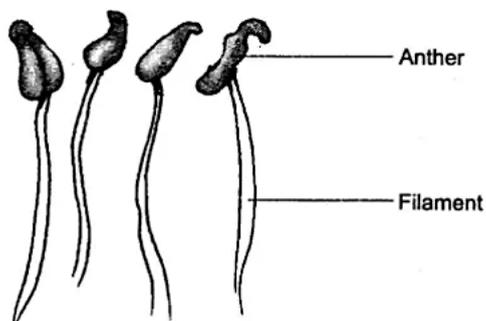
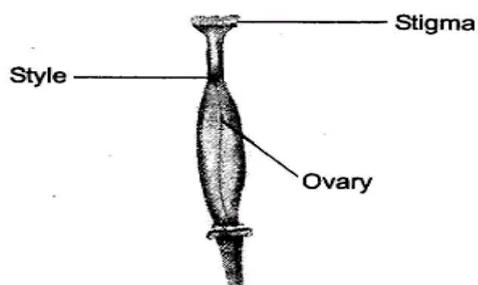


Fig. 7.12 Parts of a stamen

69. Name the female part of a flower. Write names of its parts and draw a diagram.

Ans. The female part of a flower is called pistil. It has three parts: (i) Stigma, (ii) Style, and (iii) Ovary.



70. Differentiate between tap root and fibrous root.

Ans.

Tap root	Fibrous root
1. Tap root has only one main and long root. The smaller roots that grow from the main root are called lateral roots.	Fibrous roots do not have a main root. All root stems are 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 reticulate venation in their leaves.	These are found in plants which have parallel venation in their leaves.

LONG ANSWER TYPE QUESTIONS

71. What do you mean by leaf venation? Explain various types of leaf venation with examples.

Ans. Leaf venation: The design made by veins in a leaf is called leaf venation. There are the following two types of leaf venation:

(i) Reticulate venation: If the design of veins makes a net-like structure on both the sides of midrib then it is called reticulate venation. For example, mango leaf, gram leaf.

(ii) Parallel venation: If the veins are parallel to each other or to midrib this such type of venation is called parallel venation. For example, wheat leaf, barley leaf.

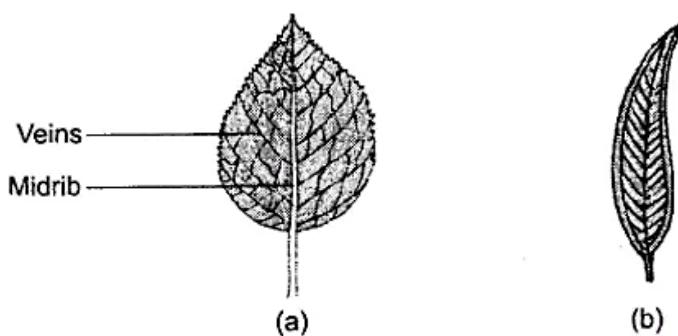


Fig. 7.14 Leaf venation—(a) Reticulate and (b) Parallel

72. Explain the structure of a typical flower with the help of a diagram.

Ans. A typical flower contains the following parts:

(i) Stalk: The part by which a flower is attached to the branch is called stalk.

(ii) Sepals: The small green leaf-like structures of the flower are called sepals,

(iii) Petals: The big coloured leaf-like structures are called petals. Different flowers have petals of different colours.

(iv) Stamen: It is the male part of the flower. It has two parts: (a) Filament and (b) Anther.

(v) Pistil: The innermost part of a flower is called pistil. It has three parts: (a) Stigma, (b) Style and (c) Ovary. It is the female part of the flower.

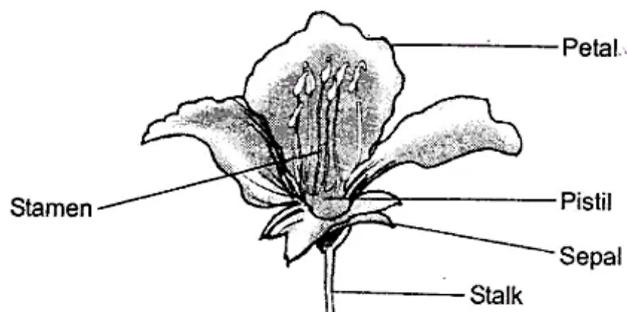


Fig. 7.15 Parts of a flower

73. Explain an activity to test the presence of starch in a leaf.

Ans. Take a leaf in a test tube and pour in the spirit till it completely covers the leaf. Now put the test tube in a beaker with water. Heat the beaker till all the green colour from the leaf comes out into the spirit in the test tube. Take out the leaf and wash it with water. Put it on a plate and pour some iodine solution over it. The iodine solution is brown in colour but when it comes in contact with starch it turns blue-black. The iodine solution will turn blue-black when dropped on the leaf, this confirms the presence of starch in the leaf.

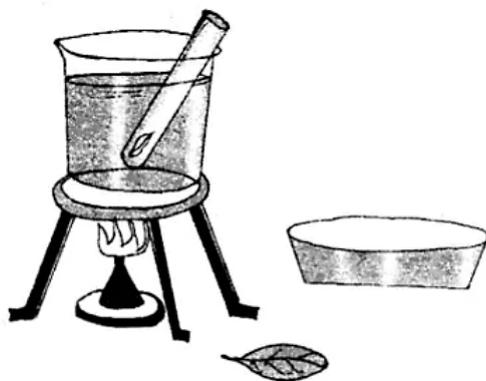


Fig. 7.16 Starch test

74. Explain that sunlight is essential for photosynthesis.

Ans. Take a potted plant having green leaves. Place it in a dark room for a day or two so that all the starch present in leaves is used by the plant. Now cover a portion of the leaf with black paper and keep the plant in the sun for a day. Pluck the leaf, remove the black paper and test it for the starch. We see that only that part of the leaf becomes blue-black which was open to sun. The covered part does not become blue-black. This shows that no starch is formed because it gets no sunlight.

75. Explain the important functions of root.

Ans. The following are the functions of root:

- (i) They help to absorb water from the soil.
- (ii) The roots help in holding the plants firmly in the soil.
- (iii) They are said to anchor the plant to the soil.

76. Explain various kinds of roots with the help of an example.

Ans. There are following two types of roots:

- (i) Tap roots: The roots which have one main root and other smaller lateral roots are called tap roots. For example, mustard plant, gram.
- (ii) Fibrous roots: The roots which have no main root but all the roots appear similar are called fibrous roots. For example, maize, wheat.

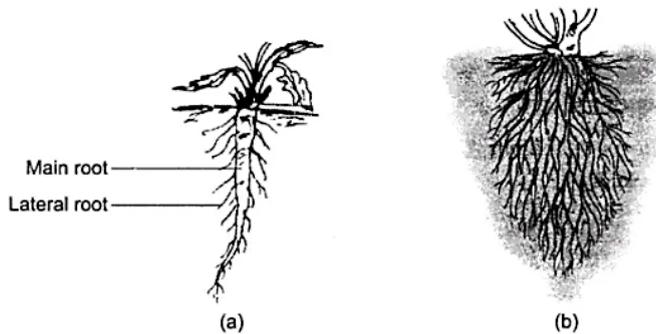


Fig. 7.17 (a) Tap root and (b) Fibrous root