



INDIAN SCHOOL AL WADI AL KABIR



Class: VI	DEPARTMENT: SCIENCE 2022-2023	DATE: 14.09.2022
WORKSHEET NO: 6 WITH ANSWERS	TOPIC: GETTING TO KNOW PLANTS	NOTE: A4 FILE FORMAT
NAME OF THE STUDENT	CLASS & SEC:	ROLL NO.

**I. VERY SHORT ANSWER (1M):**

1. Name the part of a flower which becomes a fruit.

**[Ovary]**

2. Name the tiny pores on the surface of a leaf.

**[Stomata]**

3. What are herbs?

**[Herbs are small plants having a soft and tender stem.]**

4. Define Petiole.

**[The stalk of a leaf by which it is attached to the stem is called petiole.]**

5. What is lamina?

**[The broad green flat part of a leaf is called lamina.]**

6. Define leaf venation.

**[The design made by veins in a leaf is called leaf venation.]**

7. What are the two types of Leaf venation?

**[Parallel venation and reticulate venation]**

8. Name the green pigment present in the leaves of a plant.

**[Chlorophyll]**

9. What is a midrib?

**[There is a thick vein in the middle of the leaf called midrib.]**

10. List two main functions of a leaf.

**[Photosynthesis; Transpiration.]**

11. Name the parts of a pistil.

**[(i) Stigma; (ii) Style; (iii) Ovary]**

12. What are ovules?

**[Ovules are small bead-like structures inside the ovary.]**

13. List the parts of stamen.

**[(i) Anther; (ii) Filament.]**

For the question numbers 14, 15 and 16, two statements are given- one labelled Assertion (A) and the other labelled Reason (R).

Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below

- i) Both A and R are true and R is correct explanation of the assertion.
- ii) Both A and R are true but R is not the correct explanation of the assertion.
- iii) A is true but R is false.
- iv) A is false but R is true

14. Assertion (A): The minerals dissolved in water move up in stem along with water.

Reason (R): The stem bears leaves, flowers and fruits.

**i) Both A and R are true but R is not the correct explanation of the assertion.**

15. Assertion (A): Plants help in maintaining moisture conditions in the environment.

Reason (R): Plants release a lot of water into the air through the process of transpiration.

**ii) Both A and R are true and R is correct explanation of the assertion.**

16. Assertion (A): The parts of a typical flower are sepals and petals only.

Reason (R): The parts of stamen are filament and anther.

**iii) A is false but R is true.**

## **II. PASSAGE BASED QUESTIONS:**

Read the following passage and answer the questions.

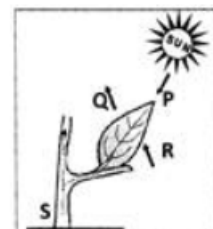
Leaves prepared their food in the presence of sunlight and a green coloured substance present in them. For this, they use water and carbon dioxide from air. This process is called photosynthesis. Oxygen is given out in this process. The food prepared by leaves ultimately gets stored in different parts of plant as starch. Stem supplies leaf with water. The water and minerals go to leaves and other plant parts attached to the stem, through narrow tubes inside the stem. The leaf uses the water to make food. The leaves also lose water through transpiration.

I. Study the diagram given below which labelled arrow represents the movement of oxygen?

- a. P      **b. Q**      c. R      d. S

II. In which of the following processes do plants lose water in the form of water vapour through the leaves?

- a. **Transpiration**      b. Respiration      c. Photosynthesis      d. Transportation.



- III. Which of the following is not taken by the leaf to prepare food?  
 a. Sunlight      b. Carbon dioxide      **c. Oxygen**      d. water.
- IV. The narrow tubes present in which among the following part transports water from the roots to leaves?  
 a. fruit      **b. stem**      c. flower      d. bud
- V. The food produced by the leaves is stored in the form of  
 a. Minerals      b. Proteins      c. Vitamins      **d. starch.**

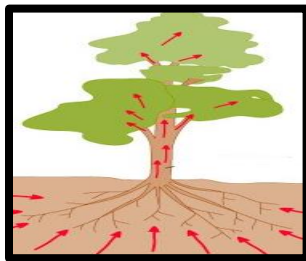
**III.CASE STUDY BASED QUESTIONS:**

*Read the following passage and answer the questions.*

1] Take a white flower with a part of its stem. In a glass of water, add a few drops of red ink. Put the flower with its stem in the glass undisturbed for 12 hours. You will see that the white flower is not white anymore.



- I. What will be the colour of the flower after 12 hours?  
 a. Half red and half blue  
**b. Red**  
 c. Blue  
 d. No change
- II. What is the inference of the experiment?  
**a. Stem conducts water.**  
 b. Root carries water.  
 c. Leaf produces food.  
 d. Leaf stores food.
- III. Which of the following substances are transported by the arrows shown in the given plant?  
 i) Water      ii) Carbon dioxide      iii) Mineral salts  
 a. (i)      b. (i) & (ii)      **c. (i) & (iii)**      d. (ii) & (iii)



blue ink in glass B and left the setup undisturbed for 8 hours.

She wants to know what would be the colour of the flower?

- a. No change
- b. Red
- c. Blue
- d. Half red and half blue.**



2] Rima kept some soaked gram seeds for sprouting. But she forgot about this. On fifth day she suddenly remembered and opened the container having seeds. She found that small leaves along with white sprouts have grown out of the seed.

I. What does the white structure of sprout give rise to?

**[White structure of the sprout give rise to root of the plant.]**

II. What kind of root system is found in gram plant?

**[Taproot.]**

3] Rakesh while walking in his terrace garden found many types of bees wandering around the flowers. He thought that these insects are spoiling his flower and immediately took out the insect collecting net to get rid of them. On seeing this Rakesh's elder brother stopped him from doing this and said that these bees are flower's friends.

I. What do these bees get from the flowers?

**[Bees get pollen and nectar from the flowers.]**

II. Why Rakesh's elder brother call these bees as 'flower's friend'?

**[Bees help in transfer of pollen grains from anther to stigma. Thus, it helps in pollination.]**

III. What is pollination?

**[Pollination is the transfer of pollen grains from anther to stigma of a flower.]**

#### **IV. a) SHORT ANSWER TYPE QUESTIONS (2 M):**

1. What are lateral roots?

**[The smaller roots that grow on the main tap root are called lateral roots.]**

2. What is transpiration?

**[Transpiration is the loss of water from the aerial parts of the plant in the form of vapour.]**

3. Why are leaves generally green?

**[The green colour of leaves is because of the presence of chlorophyll.]**

4. What are shrubs?

**[Shrubs are medium-sized plants with a hard and woody stem branching out near the base.]**

5. Write the functions of sepals and petals.

**[Functions of sepals: Sepals protect the inner parts of flower when it is a bud.**

**Function of petals: Petals attract the insects which are the agents of pollination by colour and fragrance.]**

6. Name the reproductive part of a plant. What are the specialised reproductive parts in it?

**[Flower is the reproductive part of a plant. Stamen is the male reproductive part of the flower. Pistil is the female reproductive part of the flower.]**

7. The sapling of a tree can/ cannot be considered as herb. Justify the statement.

**[The sapling of a tree cannot be considered as a herb since herbs are the plants that have short length with tender stem and leaves.]**

8. Potatoes do not produce starch. Yet, they are full of it. Justify.

**[Potato is an underground stem which is modified to store starch produced by the plant during photosynthesis.]**

9. Rohit tries to pull out a grass and a rose plant from the soil. Which one will he be able to pull out more easily and why?

**[He will be able to pull out grass more easily as compared to rose plant because fibrous roots are found in grass which does not go down much deep in soil.]**

#### **IV. b) SHORT ANSWER TYPE QUESTIONS (3 M):**

1. How do you identify the root system of a plant without pulling it out of soil?

**[By looking at the venation of the leaves, we can identify the root system of plants. Plants with leaves having parallel venation have fibrous root and leaves having reticulate venation have taproot.]**

2. What are the main functions of roots?

**(i) Roots absorb water and minerals from the soil.**

**ii) Roots help in holding the plant firmly in the soil.**

3. Transpiration lead to loss of water in plants. Yet, it is a useful process, both for the plant and the environment. Justify.

**[The loss of water vapour from the plant cools down the plant when the weather is hot and helps the plant to absorb water and minerals from the soil. Transpiration is very important for maintaining moisture conditions in the environment. ]**

4. Will a leaf taken from a potted plant kept in a dark room for a few days turn blue-black when tested for starch? Give reasons for your answer.

**[No, it will not turn blue-black because all the starch present in the leaf would have been used up by the plant. And due to the non-availability of sunlight, no starch would be synthesised in the leaves.]**

5. Do you think that the creeping habit in a pumpkin is desirable? Why?

**[The creeping habit in pumpkin is desirable. Because of weak stem and huge fruit, it is not possible for pumpkin to grow on trees. The big fruit cannot be supported when it climbs. Therefore, pumpkin is always a creeper and it is desirable for better growth of the fruit.]**

6. What are the functions of flower?

**[It is used for reproduction and results in the formation of fruits and seeds. Seeds on germination give rise to new plants.**

**It is the source of food for many insects.**

**Flowering plants are grown in gardens and in homes because of the bright colour and fragrance of the flowers. Therefore, they beautify the surroundings and provide aesthetic value.]**

#### **V. LONG ANSWER TYPE QUESTIONS (5M):**

1. Can the stem of a plant be compared with a street with two-way traffic? Give reason. Solution.

**[Yes, the stem of a plant can be compared with a street with two-way traffic. It is because in the stem, water and mineral move in an upward direction and food moves in a downward direction. The stem transports water and minerals from the root to leaves and other parts of the plant (upward).The food prepared by the leaves travels through the stem to different parts of plant and roots (downward).]**

2. Boojho wanted to test the presence of starch in leaves. He performed the following steps.

(i) He took a leaf and boiled it in water.

(ii) He placed the leaf in a petri dish and poured some iodine over it. He did not get the expected result. Which step did he miss? Explain.

**[After boiling the leaf in water, it has to be boiled in alcohol so that chlorophyll is removed and the green colour of the leaf comes out. Boojho did not boil the leaf in alcohol to remove the chlorophyll and therefore, he did not get the expected result (i.e. change in color of the leaf).]**

3. Do all flowers have the same parts and are they arranged in the same way?

**[The flowers of different species of plants are different. The number of petals and sepals are different in different flowers. Some of the flowers have stamens and some flowers have only pistil, others have both. Sepals may be connected with petals in some cases; but in other cases, these may be separated. Thus, the properties of flowers are different.]**

4. Observe the picture of an activity given in the picture carried out with leaves of plants and polythene bag.



Answer the following.

(a) Which process is demonstrated in the activity?

**[The process of transpiration is being demonstrated in the given activity.]**

(b) When will this activity show better results on a bright sunny day or a cloudy day?

**[The activity will show better results on a bright sunny day because the rate of transpiration increases in the presence of sunlight.]**

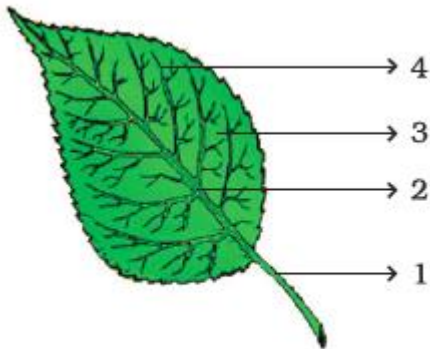
(c) What will you observe in the polythene bag after a few hours of setting up the activity?

**[After a few hours, small drops of water will be seen inside the polythene bag.]**

(d) Mention any one precaution you must take during this activity.

**[(i) The set-up must be airtight. (ii) Polythene bag must be dry. (iii) The twig must be fresh with 10-12 leaves.]**

5. Observe Fig. 7.3 and attempt the questions that follow it.



**Fig. 7.3**

(a) Label the parts 1, 2, 3 and 4 in the diagram.

**[Part 1 – Petiole, Part 2 – Midrib, Part 3 – Lamina, Part 4 – Veins]**

(b) What type of venation does the leaf have?

**[The leaf has reticulate venation. In reticulate venation, veins form a network like an appearance.]**

(c) What type of venation is seen in grass leaves?

**[In grass leaves, parallel venation is seen.]**