

Plants — Parts, Food Making and Reproduction

Science · Class 5 · Topic-wise Practice Worksheet

TIME 40 minutes	QUESTIONS 18	TOTAL MARKS 24	MAX. SCORE ___ / 24
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Name: _____ Class/Sec: _____ Date: _____

INSTRUCTIONS

- There are **18 questions** in this worksheet. All questions are compulsory.
- Each question has four options (A), (B), (C) and (D). Exactly **one** option is correct.
- Questions 1–15 carry **1 mark** each. Questions 16–18 (Achievers Section) carry **3 marks** each.
- There is no negative marking. Do not use a calculator.
- Study every diagram and table carefully before answering.

Section A — Parts of a Plant

Q1–Q7 · 1 mark each

- Which part of a plant absorbs water and minerals from the soil?

(A) Leaf	(B) Stem
(C) Root	(D) Flower
- The green colouring matter present in leaves that traps sunlight is called _____.

(A) Starch	(B) Chloroform
(C) Sap	(D) Chlorophyll
- Which part of a flower grows into a fruit after fertilisation?

(A) Ovary	(B) Sepal
(C) Stigma	(D) Petal
- Which of these plants is a **climber**?

(A) Mango tree	(B) Grass
(C) Grapevine	(D) Sunflower
- The pitcher plant traps and digests insects because the soil it grows in lacks _____.

(A) Water	(B) Sunlight
(C) Carbon dioxide	(D) Nitrogen
- The light, feathery seeds of a dandelion are carried away from the parent plant mainly by _____.

(A) Wind	(B) Bursting of the fruit
(C) Animals	(D) Water
- In a plant, water travels upward from the roots to the leaves through tubes called _____.

(A) Stomata	(B) Phloem
(C) Xylem	(D) Veins of the petal

8. The figure shows the vertical section of a flower. Which labelled part produces **pollen grains**?

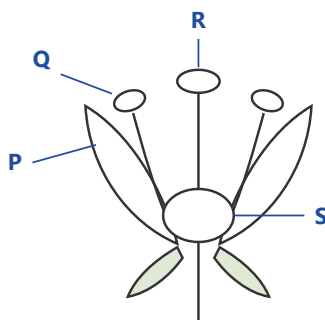


Fig. 8.1 — Vertical section of a flower

- (A) P (B) Q
(C) R (D) S
9. During photosynthesis, a green leaf takes in a gas from the air and gives out another gas. The gas taken **in** and the gas given **out** are, respectively:
- (A) Oxygen and carbon dioxide (B) Nitrogen and oxygen
(C) Carbon dioxide and nitrogen (D) Carbon dioxide and oxygen
10. **Assertion (A):** Cactus plants have spines in place of broad leaves.
Reason (R): Spines reduce the loss of water from the plant.
Choose the correct option.
- (A) Both A and R are true, and R explains A (B) Both A and R are true, but R does not explain A
(C) A is true but R is false (D) A is false but R is true
11. A potted plant is kept inside a closed cardboard box that has a single small hole on one side. After a week, the shoot of the plant is found bending towards the hole. This happens because the shoot grows towards _____.
- (A) Light (B) Water
(C) Gravity (D) Soil
12. In the table below, which row shows an **incorrect** match between a plant part and the food it stores?

Row	Plant	Part that stores food
(A)	Carrot	Root
(B)	Potato	Root
(C)	Ginger	Stem
(D)	Cabbage	Leaf

Table 12.1 — Storage organs of plants

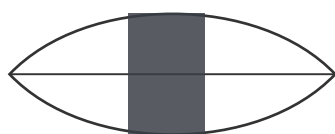
- (A) Row (A) (B) Row (B)
(C) Row (C) (D) Row (D)

13. All the leaves of a healthy potted plant are carefully removed, but the plant is still watered daily and kept in sunlight. What will happen to the plant?
- (A) It will grow faster, as no water is lost
(B) It will slowly weaken and die, as it cannot make food
(C) It will stay exactly the same
(D) Its roots will begin to make food
14. Which one of the following is **not** necessary for a seed to germinate?
- (A) Water
(B) Air
(C) Sunlight
(D) Suitable warmth
15. The bright colour and sweet nectar of a flower are most useful to the plant because they ____.
- (A) Help the flower make its own food
(B) Help the flower absorb more sunlight
(C) Keep harmful insects away
(D) Attract insects that carry pollen from flower to flower

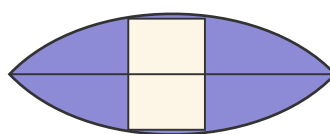
Achievers Section

Q16–Q18 · 3 marks each

16. Consider the following statements.
- (i) Photosynthesis takes place both during the day and at night.
(ii) Tiny pores called stomata on a leaf allow gases to move in and out.
(iii) A plant grown in the dark for many days turns pale and yellow.
- Which of the statements is/are correct?
- (A) (i) and (ii) only
(B) (ii) and (iii) only
(C) (i) and (iii) only
(D) All three
17. A leaf on a healthy plant is partly covered with black paper as shown. The plant is left in bright sunlight for a whole day, after which the leaf is tested with iodine solution. Which conclusion is correct?



Before: strip of black paper



After iodine: covered part stays pale

Fig. 17.1 — Testing a partly covered leaf for starch

- (A) Sunlight is necessary for a leaf to make starch
(B) Chlorophyll is not needed for photosynthesis
(C) Carbon dioxide is not needed for photosynthesis
(D) Starch is made only in the veins of a leaf
18. Match each plant in Column I with the correct feature in Column II.

Column I	Column II
(P) Lotus	(1) Traps insects for nitrogen
(Q) Cactus	(2) Broad floating leaves with a waxy upper surface
(R) Venus flytrap	(3) Clings to a support using tendrils
(S) Pea plant	(4) Thick green stem that stores water

Table 18.1

- (A) P-4, Q-2, R-3, S-1
(B) P-2, Q-4, R-1, S-3
(C) P-2, Q-1, R-4, S-3
(D) P-3, Q-4, R-1, S-2

Answer Key

1	C	2	D	3	A	4	C	5	D
6	A	7	C	8	B	9	D	10	A
11	A	12	B	13	B	14	C	15	D
16	B	17	A	18	B				

Solutions

1. Answer: (C) Root

Roots grow downward into the soil and their fine root hairs absorb water and dissolved minerals. Roots also anchor the plant firmly in the ground.

2. Answer: (D) Chlorophyll

Chlorophyll is the green pigment inside leaves. It captures the energy of sunlight, which is then used to make food. Starch is the food that is stored, not the pigment.

3. Answer: (A) Ovary

After fertilisation the ovary swells and ripens into the fruit, while the ovules inside it become the seeds. Petals and sepals usually dry up and fall off.

4. Answer: (C) Grapevine

A climber has a weak stem and uses tendrils or other supports to grow upward — the grapevine is a good example. Mango is a tree with a thick woody trunk, while grass and sunflower are herbs that stand on their own.

5. Answer: (D) Nitrogen

Pitcher plants grow in marshy soil that is poor in nitrogen. They still make their own food by photosynthesis, but they trap insects to obtain the nitrogen their bodies need for growth.

6. Answer: (A) Wind

Dandelion seeds carry a parachute of fine hairs that makes them very light, so even a gentle breeze lifts and carries them far away. This is dispersal by wind.

7. Answer: (C) Xylem

Xylem tubes carry water and minerals upward from the roots. Phloem carries the food prepared in the leaves to all other parts of the plant, in both directions.

8. Answer: (B) Q

Q labels the anther, the swollen top of the stamen. The anther is the male part of the flower and it is where pollen grains are made. P is a petal, R is the stigma and S is the ovary.

9. Answer: (D) Carbon dioxide and oxygen

Photosynthesis can be written as: carbon dioxide + water → (in sunlight, using chlorophyll) → food + oxygen. So the leaf takes in carbon dioxide through its stomata and releases oxygen. This is the reverse of what happens during breathing.

10. Answer: (A) Both A and R are true, and R explains A

Both statements are true. Water escapes from a leaf's surface, so a broad leaf would lose a great deal of water in the hot desert. By reducing its leaves to narrow spines, the cactus cuts this loss down sharply — which is exactly why the spines are there. Food is instead made by the thick green stem.

11. Answer: (A) Light

The only light entering the box comes through the hole, and a shoot always grows towards light so that its leaves can catch more of it. This response is called phototropism. Roots, in contrast, grow downward towards gravity and water.

12. Answer: (B) Row (B)

A potato is an underground **stem**, not a root. You can tell because it carries buds — the 'eyes' from which new shoots sprout — and roots never bear buds. Carrot (root), ginger (underground stem) and cabbage (leaves) are all matched correctly.

13. Answer: (B) It will slowly weaken and die, as it cannot make food

Leaves are the food factories of a plant. Without leaves there is no chlorophyll to trap sunlight, so no photosynthesis can take place. The plant survives for a while on stored food but weakens and finally dies. Roots have no chlorophyll and can never make food.

14. Answer: (C) Sunlight

A seed germinates using the food already stored inside it, so it does not need sunlight at that stage — seeds sprout perfectly well buried in dark soil. Water, air (oxygen) and a suitable temperature are all essential. Sunlight becomes necessary only once the green seedling has to start making its own food.

15. Answer: (D) Attract insects that carry pollen from flower to flower

Bright petals and nectar attract bees, butterflies and other insects. As an insect feeds, pollen sticks to its body and is carried to the next flower, bringing about pollination. Flowers pollinated by wind — such as grasses — are usually small, dull and have no nectar.

16. Answer: (B) (ii) and (iii) only

Statement (i) is false — photosynthesis needs sunlight, so it stops at night (though respiration continues day and night). Statement (ii) is true; stomata are the tiny pores on the underside of a leaf through which carbon dioxide enters and oxygen and water vapour leave. Statement (iii) is true; without light the plant cannot make fresh chlorophyll, so it loses its green colour. Hence (ii) and (iii).

17. Answer: (A) Sunlight is necessary for a leaf to make starch

Iodine turns blue-black wherever starch is present. The uncovered parts of the leaf received sunlight, made starch and turned blue-black; the strip under the black paper received no sunlight, made no starch and stayed pale. Everything else — chlorophyll, air, water — was the same in both parts, so the only possible cause of the difference is sunlight.

18. Answer: (B) P-2, Q-4, R-1, S-3

The lotus floats on water, so it has broad leaves with a waxy upper surface that keeps water off (2). The cactus survives drought with a thick green stem that stores water and also makes food (4). The Venus flytrap snaps shut on insects to obtain nitrogen (1). The pea plant is a weak-stemmed climber that grips supports with tendrils (3). Hence P-2, Q-4, R-1, S-3.