

CLASS – 7

SUBJECT – SCIENCE

NUTRITION IN PLANTS

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Q.1 . Why do organisms take food?

Answer: Food is needed by all organisms for many purposes:

- The main function of food is to help in growth.
- Food provides energy for movements such as running, walking or raising our arm.
- Food is also needed for replacement and repairing damaged parts of the body.
- Food gives us resistance to fight against diseases and protects us from infections.

Q.2. Distinguish between a parasite and a saprotroph.

Answer:

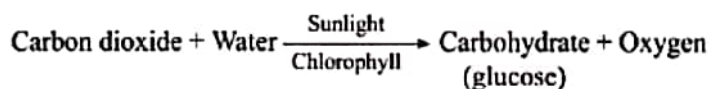
Parasite	Saprotrophs
1. Parasites are being fed by living organisms.	1. Saprotrophs are being fed by dead and decaying materials.
2. Parasites feed on living organisms that are called hosts.	2. Saprotrophs do not feed on living organisms.

Q.3. How would you test the presence of starch in leaves?

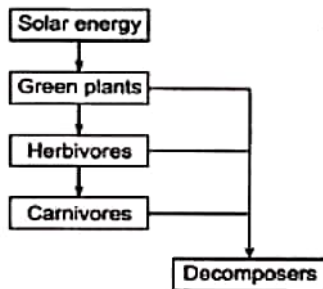
Answer: The presence of starch in leaves can be tested by the Iodine test. When we remove chlorophyll from the leaf by boiling it in alcohol and then put 2 drops of iodine solution, its colour change to blue which indicates the presence of starch in the given food sample.

Q.4. Give a brief description of the process of synthesis of food in green plants.

Answer: The green plants have chlorophyll in the leaves. The leaves use CO₂ and water to make food in the presence of sunlight.



Q.5. Show with the help of a sketch that the plants are the ultimate source of food. Answer



Q.6. Fill in the blanks:

- Green plants are called _____ since they synthesize their own food.
- The food synthesized by the plants is stored as _____.
- In photosynthesis solar energy is captured by the pigment called _____.
- During photosynthesis plants take in _____ and release _____.

Answer: (a) autotrophs (b) starch (c) chlorophyll (d) carbon dioxide, oxygen

7. Name the following:

- A parasitic plant with the yellow, slender and tubular stem.
- A plant that has both autotrophic and heterotrophic mode of nutrition.
- The pores through which leaves exchange gases.

Answer: (i) Cuscuta (ii) Insectivorous plant (iii) Stomata

8. Tick the correct answer:

- Cuscuta is an example of: (i) autotroph (ii) parasite (iii) saprotroph (iv) host
- The plant which traps and feeds on insects is:

- Cuscuta.
- China rose.
- Pitcher plant.
- Rose

Answer: (a) (ii) Parasite (b) (iii) Pitcher plant

9. Match the items given in Column I with those in Column II:

Column I Column II

Chlorophyll Rhizobium
 Nitrogen Heterotrophs

Cuscuta Pitcher plant
Animals Leaf
Insects Parasite

Answer:

Column I Column II

Chlorophyll Leaf
Nitrogen Rhizobium
Cuscuta Parasite
Animals Heterotrophs
Insects Pitcher plants

Q.10. Mark 'T' if the statement is true and 'F' if it is false:

- i. Carbon dioxide is released during photosynthesis. (T/F)
- (ii) Plants which synthesise their food themselves are called saprotrophs. (T/F)
- iii. The product of photosynthesis is not a protein. (T/F)
- iv. Solar energy is converted into chemical energy during photosynthesis. (T/F)

Answer: i. F ii. F iii. T iv. T

11. Choose the correct option from the following:

Which part of the plant takes in carbon dioxide from the air for photosynthesis?

(i) Root hair (ii) Stomata (iii) Leaf veins (iv) Petals

Answer:(ii) Stomata

12. Choose the correct option from the following:

Plants take carbon dioxide from the atmosphere mainly through their:

(i) Roots (ii) Stem (iii) Flowers (iv) Leaves

Answer: (iv) Leaves

13. Why do farmers grow many fruits and vegetable crops inside large greenhouses? What are the advantages to the farmers?

Answer: Greenhouse provides all favourable conditions for these crops, such as temperature, heat, air, water, etc. Farmers get many advantages to grow the crops well inside the greenhouse because of the perfect temperature and atmosphere inside it. It also protects them from high blowing wind and rodents.