

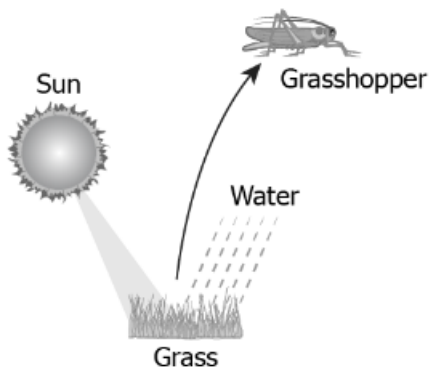
## Chapter 1- Nutrition in Plants

### Worksheet

- 1) Which option correctly lists the nutrients other than carbohydrates, in plants?
- (a) Water, fibres, minerals
  - (b) Fat, proteins, vitamins
  - (c) Fibres, vitamins, water
  - (d) Flavouring agents, water, vitamins
- 2) The table shows the mode of nutrition in two different organisms. What is the likely mode of nutrition of the two organisms?

<b>Organism 1</b>	Utilizes raw material from surroundings to prepare its own food.
<b>Organism 2</b>	Consumes food prepared by organism 1.

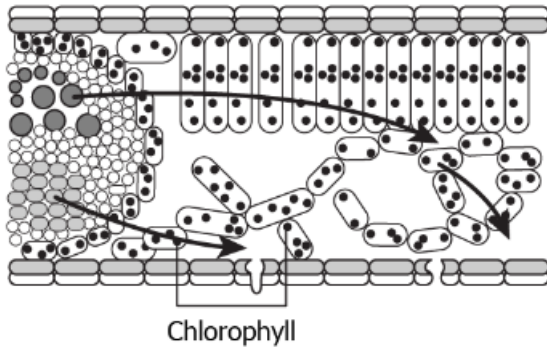
- (a) Organism 1= autotrophic, Organism 2= autotrophic
  - (b) Organism 1= autotrophic, Organism 2=heterotrophic
  - (c) Organism 1= heterotrophic, Organism 2= autotrophic
  - (d) Organism 1= heterotrophic, Organism 2= heterotrophic
- 3) The image shows a part of the food chain.



A student claimed that grasshopper has a heterotrophic mode of nutrition. Is the claim made by the student correct?

- (a) No, as the grasshopper prepare its own food.
- (b) No, as the grasshopper provide food to the plants.
- (c) Yes, as the grasshopper takes in food prepared by the grass.
- (d) Yes, as the grasshopper takes in food prepared by other grasshoppers.

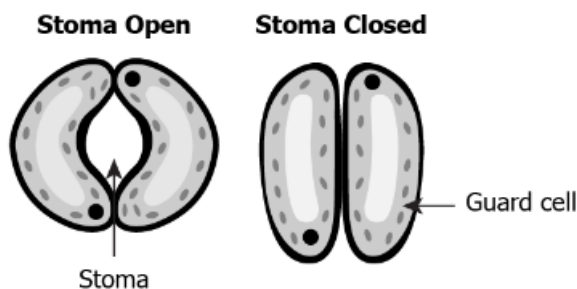
4) The image shows the section of a leaf.



What is the likely role of the labelled part in the leaf?

- (a) It helps in the absorption of water from the roots.
- (b) It helps in capturing the energy of the sunlight.
- (c) It helps in consuming carbon dioxide from the air.
- (d) It helps in the absorption of food from the surroundings.

5) The image shows the structure of stoma on the leaf. What will be the likely effect on the plant, if stoma remains closed for a prolonged period of time?



- (a) It will allow the plant to store more food in the leaves.
- (b) It will allow the plant to absorb more minerals from the roots.
- (c) It will prevent the entry of water in the plant for photosynthesis.
- (d) It will prevent the entry of carbon dioxide in the plant for photosynthesis.

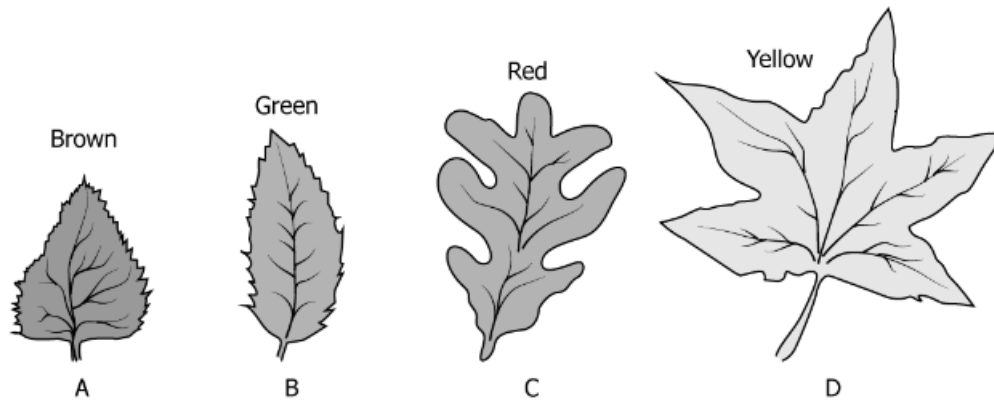
6) A student takes a green leaf from the plant and boils it in an alcohol bath for removal of chlorophyll. After this treatment, the student adds a few drops of iodine to the boiled leaf using a syringe dropper. After some time, the student observes that the leaf turns blue-black in colour. What can be evaluated from this?

- (a) The iodine reacts with the starch present in the leaf that indicates the occurrence of photosynthesis.
- (b) The iodine reacts with water present in the leaf that indicates the occurrence of photosynthesis.
- (c) The iodine reacts with the oxygen present in the leaf that indicates the occurrence of photosynthesis.
- (d) The iodine reacts with carbon dioxide present in the leaf that indicates the occurrence of photosynthesis.

7) A student sets up an experiment using two potted plants in the same type of soil. The student kept one plant in the garden while the other in a darkroom and watered both the plant equally. After five days, the student observed that the plant in the darkroom dies while the other plant in the garden appears healthy. What is the likely reason for this observation?

- (a) Lack of water for the growth
- (b) Lack of minerals for the growth
- (c) Lack of sunlight for photosynthesis
- (d) Lack of carbon dioxide for respiration

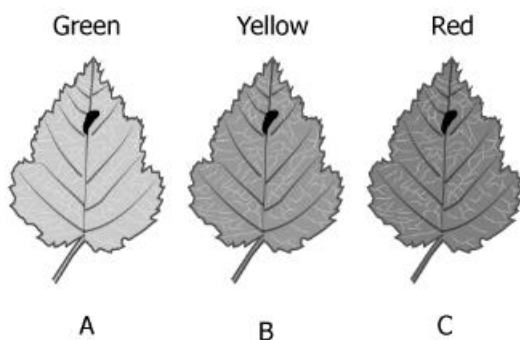
8) A student collected different coloured leaves from his garden.



Which of these leaves performs photosynthesis?

- (a) A and B
- (b) B and C
- (c) C and D
- (d) A, B, C and D

9) The image shows the different coloured leaves. A student claimed that leaves other than green show less photosynthetic activity. Is the claim made by the student right?



- (a) No, as other leaves also have chlorophyll to perform the same level of photosynthesis.
- (b) Yes, as only green coloured leaves have chlorophyll to perform more photosynthesis.
- (c) No, as other leaves can also perform photosynthesis even in the absence of chlorophyll.
- (d) Yes, as only green coloured leaves can absorb energy from the sunlight to perform photosynthesis.

10) How plants obtain other components of food?

- (a) Plants obtain other nutrients from the animals.
- (b) Plants absorb other nutrients directly from the soil.
- (c) Plants utilise carbohydrate to synthesise other nutrients.
- (d) Plants depend on larger plants for the synthesis of other nutrients.

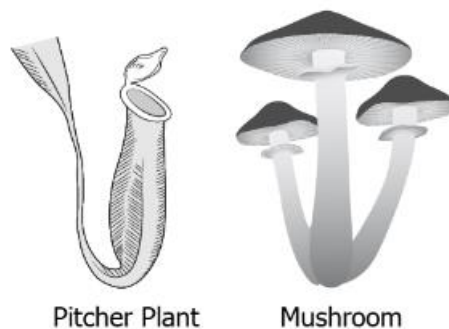
11) Plants prepare carbohydrates during photosynthesis. What another nutrient is likely to be synthesised in plants when the soil is rich in bacteria that fix gaseous nitrogen?

- (a) Minerals
- (b) Proteins
- (c) Vitamins
- (d) Water

12) How do plants that lack chlorophyll to perform photosynthesis prepare its food?

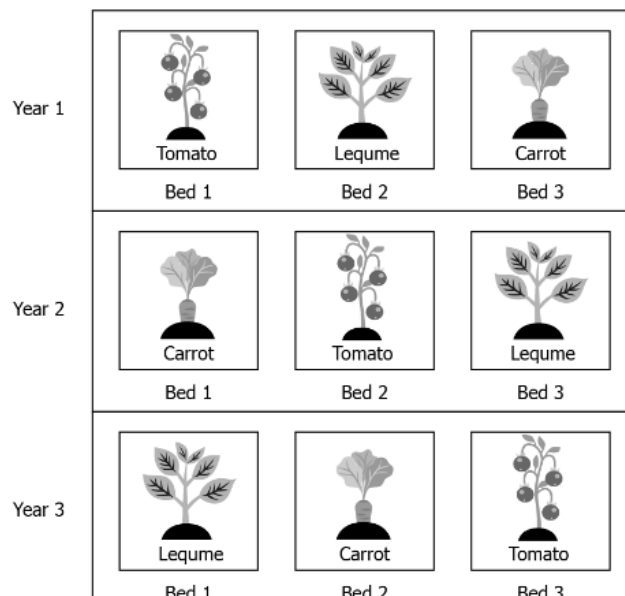
- (a) They obtain simple food from animals.
- (b) They obtain raw materials from their surroundings.
- (c) They obtain food in the form of energy from sunlight.
- (d) They obtain readymade food from photosynthetic plants

13) The image shows two different organisms. Which of these characters is shared by both?



- (a) Both are plants
- (b) Both depend on food prepared by others
- (c) Both have a saprotrophic mode of nutrition
- (d) Both have chlorophyll to perform photosynthesis

14) The model shows how a farmer plants the crop in different beds in three consecutive years.



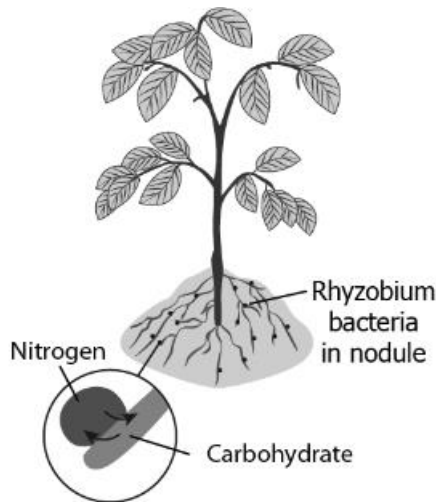
What is the likely benefit of this pattern of planting crops?

- (a) It increases the height of the crops.
- (b) It increases the fertility of the soil.
- (c) It reduces the water requirement of crops.
- (d) It increases the same type of nutrients in the soil.

15) In legumes, Rhizobium bacteria are commonly observed in the roots. The Rhizobium provides usable nitrogen while the plant in return provides shelter and food to the bacteria. What is the type of relationship between these both?

- (a) Symbiotic, as both benefit each other for food.
- (b) Competition, as both compete for atmospheric nitrogen.
- (c) Parasitic, as Rhizobium consumes food prepared by plants.
- (d) Saprophytic, as Rhizobium decomposes the roots of the plant and feed on them.

16) A farmer observes the growth of Rhizobium on the roots of its plants as shown. How will this likely benefit the farmer?



- (a) It will increase the growth of unwanted plants.
- (b) It will increase the use of manures in the field.
- (c) It will reduce the need of nitrogenous fertilisers in the field.
- (d) It will reduce the need for raw material by the plants to prepare their own food.