



# SOLUTION WONDER OF SCIENCE

4

1.

## The Food Producer

**A. Multiple Choice Questions (MCQ) :**

Tick (✓) the correct answer :

1. (c) grow    2. (a) plants    3. (b) leaf    4. (b) carbon dioxide

**B. Answer the following questions :**

1. Which part of the plant makes food ?

Ans. The leaves make their food in the plant.

2. Why do only green plants make their own food ?

Ans. Green plants make their own food because they contain a green pigment called Chlorophyll. Plants prepare food with the help of water, carbondioxide and sunlight.

3. What is chlorophyll ?

Ans. Chlorophyll is a green pigment present in the leaves. Usually plants are green in colour as they contain Chlorophyll.

4. Write the names of non-green plants.

Ans. Plants which do not contain green pigment is called non-green plants. The names of non-green plants are :

- (a) Mushrooms    (b) Moulds    (c) Croton Plant    (d) Coleus Plant

**C. Fill in the blanks :**

1. leaves    2. plants    3. light    4. non-green    5. stomata

**D. Write true or false :**

1. True    2. True    3. False    4. True    5. True

**E. Tick the correct answer :**

- (a) make    (b) oxygen    (c) red    (d) food

F. Do yourself.

G. Do yourself.

H. Do yourself.

2.

## Habitat of Plants

**A. Multiple Choice Questions (MCQ) :**

Tick (✓) the correct answer :

1. (a) plants    2. (c) plains    3. (c) mud    4. (a) pond

**B. Answer the following questions :**

**1. What kinds of plants are called terrestrial plants ?**

**Ans.** Terrestrial means “of the earth”. The plants which are grown on land are known as terrestrial plants.

**2. How do the floating plants float on the water surface ?**

**Ans.** Floating plants float on the surface of the water because they have spongy or swollen parts which help them in floating.

**3. What are aquatic plants ? Give two examples.**

**Ans.** Aqua means “Water”. The plants that are grown in water are called aquatic plants.

The examples of aquatic plants are:

(i) Duckweed, (ii) Snow flake.

**4. What are insectivorous plants ? Give two examples.**

**Ans.** Insectivorous plants are those plants that eat animals (insects). The examples of insectivorous plants are :

Venus flytrap, pitcher plant and water wheel-plants.

**C. Fill in the blanks with the words given below :**

1. saver      2. rain      3. conical      4. bamboo      5. pond

**D. Write true or false :**

1. False      2. True      3. True      4. True      5. False

**E. Tick the correct answer :**

(a) three      (b) underwater      (c) two      (d) paper

F. Do yourself.

G. Do yourself.

H. Do yourself.

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## 3.

## Adaptation in Animals

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**A. Multiple Choice Questions (MCQ) :**

**Tick (✓) the correct answer :**

1. (b) Terrestrial      2. (c) polar bear      3. (a) turtle      4. (b) bear

**B. Answer the following questions :**

**1. What are aquatic animals ? Give three examples.**

**Ans.** Aquatic animals are those animals that live in water.

e.g.—Fish, Snail, Seal.

**2. What are omnivores ? Give one example.**

**Ans.** Omnivores are those animals that eat both plants and animals. e.g. Crow & bear.

**3. What are carnivorous animals ? Give two examples.**

**Ans.** Carnivorous animals are those animals that eat flesh of other animals.

e.g.—Lion, wolf

**4. In how many ways can animals protect themselves ?**

**Ans.** Animals can protect themselves from their enemies in many ways :

(i) **To be too big**—Animals like elephants, giraffes, whales protect themselves by their big body structure.

(ii) Some animals can merge with surrounding like Zebra, tiger and chameleon.

- C. Fill in the blanks with the words given below :**  
1. Whale      2. two      3. arboreal      4. Lion      5. Rabbit
- D. Write true or false :**  
1. True      2. False      3. False      4. False      5. True
- E. Match the following :**
- |                         |       |
|-------------------------|-------|
| (a) Parasites           | Leech |
| (b) Carnivores          | Lion  |
| (c) Terrestrial animals | Tiger |
| (d) Amphibians          | Frog  |
| (e) Herbivores          | Deer  |
- F.** Do yourself.
- G.** Do yourself.

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## 4. **Reproduction in Living Beings**

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- A. Multiple Choice Questions (MCQ) :**  
**Tick (✓) the correct answer :**  
1. (c) things      2. (b) new      3. (c) hair      4. (b) swim
- B. Answer the following questions :**
- 1. What is reproduction ?**  
**Ans.** Reproduction is the process by which any living being reproduces other living beings similar to himself to continue its race.
  - 2. How does reproduction occur in the egg-layers ?**  
**Ans.** The female lays eggs and hatch them by sitting on the eggs. After a few days the fully developed body comes out of the egg.
  - 3. How do the egg-layers look after their eggs ?**  
**Ans.** All the egg layers build nests or choose a safe place for the protection of their eggs. They bring food to their babies and feed them. They also save their young ones from cold, heat, rain and other enemies.
  - 4. Explain the life-cycle of the frog with a diagram.**  
**Ans.** The frog lays eggs in water. On getting warmth of the sun, fish tadpoles come out of the frog's eggs. The tadpole has small tail. As time passes, the tadpole loses the tail and with some other changes gets the shape of an adult frog. (Draw the diagram yourself.)
- C. Fill in the blanks with the words given below :**  
1. little      2. young      3. food      4. swim      5. hair
- D. Write true or false :**  
1. True      2. True      3. False      4. True      5. False
- E. Tick the correct answer :**  
(a) pupa    (b) egg      (c) calves      (d) eggs.
- F.** Do yourself.
- G.** Do yourself.
- H.** Do yourself.
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## 5.

## Food and Digestion

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### A. Multiple Choice Questions (MCQ) :

Tick (✓) the correct answer :

1. (a) living    2. (c) fat    3. (b) diet    4. (a) four

### B. Answer the following questions :

#### 1. What is a balanced diet ?

**Ans.** Balanced diet is one of the most important diets of our life.

#### A balanced diet must contain

- (i) Enough amount of vitamins to protect us from diseases.
- (ii) Enough amount of water and roughage.
- (iii) Enough amount of proteins to help us grow.
- (iv) Enough amount of minerals to make us strong and healthy.

#### 2. What do nutrients do for us ? Explain with example.

**Ans.** Food contains substance useful to our body. These substances are known as nutrients. The main nutrients in food are carbohydrates, fats, proteins, vitamins and minerals.

#### 3. Why do we cook food ?

**Ans.** Some fruits and Vegetables can be eaten raw but some food like rice and potato need to be boiled, idlis are steamed and puris are fried. Cooking of food makes the food softer and kills the germs.

#### 4. What are protective foods ?

**Ans.** Vitamins and minerals are most important for our body. Vitamins help our body to fight against diseases. Minerals help in the formation of bones and blood. So they are known as protective food. e.g. fruits, vegetables, meat milk, etc,

### C. Fill in the blanks with the words given below :

1. energy    2. cooked    3. food    4. warm    5. saliva

### D. Write true or false :

1. False    2. False    3. True    4. True    5. False

### E. Match the following :

- |                    |                               |
|--------------------|-------------------------------|
| (a) Lemon contains | Vitamin C                     |
| (b) Proteins       | Fish                          |
| (c) Roughage       | To get rid of undigested food |
| (d) Fats           | Energy giving food            |
| (e) Minerals       | Nutrients                     |

F. Do yourself.

G. Do yourself.

H. Do yourself.

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## 6.

## Teeth and Microbes

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### A. Multiple Choice Questions (MCQ) :

Tick (✓) the correct answer :

1. (b) teeth    2. (b) two    3. (c) polar    4. (c) earth

### B. Answer the following questions :

#### 1. Why are teeth important for us ?

**Ans.** Teeth are the most important part of our mouth. We bite and chew food with our teeth. This makes digestion easy. Clean and well kept teeth make our smile beautiful.

**2. Explain the tooth decay.**

**Ans. Tooth decay occurs in the following steps.**

- (i) When we eat chocolates (or sweets), their tiny bits get stuck in teeth which results in growth of bacteria.
- (ii) A sticky yellow layer of germs (plaque) is formed.
- (iii) Plaque changes sugar of food into acid.
- (iv) This acid dissolves the enamel of teeth and causes cavities.
- (v) The cavities become bigger and the teeth get totally destroyed.

**3. What are the kinds of teeth ?**

**Ans.** Teeth are divided into four kinds of teeth.

- (i) Incisors or cutting teeth
- (ii) Canines or tearing teeth
- (iii) Premolars or cracking teeth
- (iv) Molars or grinding teeth

**4. How many kinds of microbes are there ? Explain any one of them.**

**Ans.** There are four main kinds of microbes:

- (i) Bacteria                      (ii) Viruses                      (iii) Fungi                      (iv) Protozoa

**Protozoa:** Protozoa are single celled animals. Malaria and dysentery are caused by Protozoa.

**C. Fill in the blanks with the words given below :**

1. enjoy    2. tearing    3. teeth    4. tooth    5. single

**D. Write true or false :**

1. True    2. False    3. True    4. True    5. True

**E. Match the following :**

- |              |             |
|--------------|-------------|
| (a) Bacteria | typhoid     |
| (b) Virus    | common cold |
| (c) Canines  | sharp       |
| (d) Molars   | broad teeth |
| (e) Protozoa | malaria     |

**F.** Do yourself.

**G.** Do yourself.

**H.** Do yourself.

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## 7.

## Matter and Material

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**A. Multiple Choice Questions (MCQ) :**

**Tick (✓) the correct answer :**

1. (b) matter            2. (a) three            3. (c) loosely            4. (c) matter

**B. Answer the following questions :**

**1. What is a matter ?**

**Ans.** Matter means any object that occupies space and has mass. Matter is made up of small particles called molecules.

**2. Write down the three states of matter.**

**Ans.** The three states of matter are:

- (i) Solids    (ii) Liquids            (iii) Gases

**3. What is the shape of the liquid and gas ?**

**Ans.** Liquid does not have any fixed shape and takes the shape of the containers but it has a definite volume. A gas has neither a definite shape nor a definite volume.

**4. What do you know about the physical change ?**

**Ans. The physical change :** The changes in which a substance undergoes a change in its physical properties like shape, size, colour, texture, taste, smell etc are considered as physical changes. No new substance is formed in a physical change. For example, changing of water into ice, tearing of paper etc.

**C. Fill in the blanks with the words given below :**

1. solid, liquid, gas    2. solvent    3. air    4. shape    5. tightly

**D. Write true or false :**

1. False    2. True    3. True    4. False    5. True

**E. Write the two examples of each of the following :**

- |                     |                  |                    |
|---------------------|------------------|--------------------|
| (a) Solid           | Stone            | Glass              |
| (b) Liquid          | Water            | Milk               |
| (c) Gas             | Vapour           | Fumes              |
| (d) Physical change | Tearing of paper | Water into ice     |
| (e) Chemical change | Rusting of iron  | Burning of a paper |

F. Do yourself.

G. Do yourself.

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**8.**

**Clothes**

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**A. Multiple Choice Questions (MCQ) :**

**Tick (✓) the correct answer :**

1. (a) cloth    2. (c) warm    3. (a) silk    4. (b) skin

**B. Answer the following questions :**

**1. Why do we need clothes ?**

**Ans.** We need clothes because they protect us from heat of the sun, rain and cold.

**2. How many types of fabric are there ? Name them.**

**Ans.** There are two type of fabric—Natural Fibre and Synthetic Fibre.

**3. What is a jute ? How is it useful ?**

**Ans.** Jute means one of the cheapest natural fibres, which is used for making things for our regular use e.g.—rope, bag, mat etc. are made of Jute fibres. Jute fibres are pale yellow in colour and are quite strong.

**4. Explain the silk making process.**

**Ans.** The silk making process is :

We get silk from the Silkworms— a type of insects.

They feed on mulberry leaves. They give out a long, sticky thread in their mouth.

These threads are wrapped around their body and become their home known as a cocoon.

The threads of a cocoon are collected, processed and then woven to make silk.

**C. Fill in the blanks with the words given below :**

1. textile    2. cool    3. linen    4. insects    5. diseases

**D. Write true or false :**

1. True    2. False    3. True    4. False    5. True

- E. Do yourself.
- F. Do yourself.
- G. Do yourself.

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## 9.

## Safety

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### A. Multiple Choice Questions (MCQ) :

Tick (✓) the correct answer :

1. (a) place                      2. (c) stairs                      3. (c) classrooms                      4. (c) health

### B. Answer the following questions :

#### 1. What is an accident ?

**Ans.** An accident is the sudden mishappening with our life. Accident can take place at any place at any time. It happens all of sudden and causes injuries and sometimes even loss of life.

#### 2. Which safety rules we should follow at home ?

**Ans.** The safety rules we should follow at home are:

- Do not rush up or down the stairs.
- Be careful of slipping on floors.
- Do take medicines in presence of an adult.
- Do not play with electrical appliances.
- Do not play with matchbox or fire and sharp objects.

#### 3. Which safety rules should we follow on roads ?

**Ans.** The safety rules we should follow on roads are—

- Follow safety and traffic rules when you are travelling
- Do not forget to wear your helmet.
- Obey the speed limit
- Do not drink and drive
- Never talk on mobile phone while driving.
- Cross the road at zebra crossing.

#### 4. What is a first aid ?

**Ans.** First aid is the first medical help to a person who is hurt or injured. It is an immediate help given to a person before the arrival of doctor.

### C. Fill in the blanks with the words given below :

1. traffic                      2. sudden                      3. helmet                      4. zebra                      5. patient

### D. Write true or false :

1. False                      2. True                      3. False                      4. True                      5. True

E. Do yourself.

F. Do yourself.

### G. List the names of eight places where presence of the first aid box is a must.

- |                |                   |
|----------------|-------------------|
| 1. Home        | 2. School         |
| 3. Office      | 4. Police Station |
| 5. Post Office | 6. Hotel          |
| 7. Aeroplane   | 8. Train          |

## 10.

## Force, Work and Energy

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### A. Multiple Choice Questions (MCQ) :

Tick (✓) the correct answer :

1. (a) simple      2. (b) heat      3. (c) cut      4. (a) friction

### B. Answer the following questions :

1. **What is a force ?**

**Ans.** A push or pull applied on a body is called force.

2. **What is energy ?**

**Ans.** The capacity to do some work is called energy.

3. **What are the different types of energy ? Explain.**

**Ans.** The different types energy are :

(i) **Heat energy**—Heat is the most important form of energy. It is obtained by burning of wood, coal, oil and gas.

(ii) **Electrical Energy**—Electrical Energy is used to produce light and run different machines.

(iii) **Mechanical Energy**—Mechanical energy is the energy of object that can do work by motion. Such as spring of a watch, wind mill etc.

(iv) **Geothermal Energy**—Geothermal energy is obtained from the hot interior of the earth.

4. **Name the five types of simple machines.**

**Ans.** The five types of simple machines are—

Lever, Wedge, Screw driver, Inclined plane, Wheel and axle.

### C. Fill in the blanks with the words given below :

1. body      2. force      3. energy      4. iron      5. electricity

### D. Write true or false :

1. False      2. True      3. True      4. False      5. False

E. Do yourself.

F. Do yourself.

G. Do yourself.

## 11.

## Air, Water and Weather

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### A. Multiple Choice Questions (MCQ) :

Tick (✓) the correct answer :

1. (b) air      2. (a) noon      3. (b) land      4. (c) three

### B. Answer the following questions :

1. **Explain the weather changes which occur due to the sun.**

**Ans.** The sun causes changes in weather conditions. Days are warmer than nights.

When sun rises or sets, its rays are slanting, so mornings and evenings are cool. At noon the sun rays fall directly on the earth. Therefore the noon time is hottest part of the day.

2. **What is sea breeze ? How does it occur ?**

**Ans.** Sea breeze, a local wind system is characterized by a flow from sea to land during the day. Winds usually blow from high pressure to low pressure areas.

A coastal breeze blowing from sea towards the land is called sea breeze.

3. **What is a evaporation ?**

**Ans.** Evaporation is a process of changing from a liquid to a vapour. Evaporation takes place all the time at all places.



**4. What is sedimentation and filtration ?**

**Ans.** Setting down of heavier insoluble particles/solids from mixture is called sedimentation. e.g. Mud settles form muddy water.

Filtration is a method to separate insoluble impurities from water e.g. while preparing tea, a sieve is used to separate tea leaves from the water.

**C. Fill in the blanks with the words given below :**

1. atmosphere      2. weather      3. humidity      4. earth      5. purify

**D. Write true or false :**

1. True      2. False      3. False      4. False      5. True

**E. What is formed when :**

- (a) Ice is heated      Water  
(b) Water is cooled      Ice  
(c) Water is heated      Water Vapour  
(d) Steam is cooled      Water

**F. Explain the following terms :**

- Breeze :** Wind that blows gently and lightly is called breeze.
- Water cycle :** The continuous exchange of water between the earth and atmosphere is called the water cycle.
- Storm :** Every strong wind is called storm.
- Weather :** Cloudy, rainy, windy, hot, cold, humidity, all these terms tell the different conditions of the atmosphere around. This is called weather.
- Filtration :** Filtration is the best method to separate insoluble impurities from water.
- Wind :** The air which usually flows from high pressure to low pressure areas is called wind.

**G. Do yourself.**

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## 12. Soil Erosion and Conservation

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**A. Multiple Choice Questions (MCQ) :**

**Tick (✓) the correct answer :**

1. (b) top      2. (a) wind      3. (c) hills      4. (a) big

**B. Answer the following questions :**

**1. What is soil erosion ?**

**Ans.** Soil erosion is a natural process which occurs when there is loss or removal of top layer of soil due to rain, wind, deforestation or any other human activity.

**2. What are the agents of soil erosion ? Name them.**

**Ans.** There are various agents of soil erosions :

Wind, water deforestation, overgrazing by cattle etc. cause soil erosion.

Soil of the upper layer of the earth becomes dry due to the excessive heat of the sun. In hot weather, at the time of storm or heavy wind, this dry soil flows away in the direction of the wind.

**Overgrazing**

When cattle are allowed to graze on the same field repeatedly all the available grass, including the roots are eaten by them. Thus top soil becomes loose and is carried away by wind or flowing water.

**3. What is soil conservation ?**

**Ans.** Soil conservation means prevention of soil erosion. By soil conservation, we can maintain soil fertility and productivity.

4. Write the ways by which we can conserve the soil. Explain any two.

Ans. The ways by which we can conserve the soil are :

- ✿ By growing trees
- ✿ By constructing dams and bunds
- ✿ Crop rotation
- ✿ By terrace farming
- ✿ Shelter belts
- ✿ Embankments

**By Growing trees**—Planting new trees and plants is afforestation. We live because plants live. If the plants die, all living things will also die. Thus, whenever trees are cut down new trees should be planted. Planting trees in hilly areas is most effective for conservation.

**Crop Rotation**—Between harvesting one crop and planting the next crop, the fields lie bare. This is a time period when the farm land does not have any crops. During the period, the farmer either grows grass or other crops to prevent soil from erosion.

**Terrace farming**—In hilly areas farming is done by cutting steps on the slopes of the hills. This slows down the flow of water and soil removed from one step is deposited on the next step.

**Embankments**—Big strong structures called Embankments along the banks of the river can protect fields from the floods. These embankments prevent the fast overflowing rivers and rainwater from washing away a huge amount of rich fertile soil.

**Shelterbelts**—The cover of plants and trees around the field also breaks the speed of strong winds and protects the soil from being blown away.

C. Fill in the blanks with the words given below :

1. top            2. minerals            3. living            4. conservation            5. farmers

D. Write true or false :

1. Flase            2. True            3. Flase            4. False            5. True

E. Write a short note on :

(a) **Crop Rotation** : Between harvesting one crop and planting the next crop, the fields lie bare; this is a time period when the farmland does not have any crops. During this period, the farmer either grows grass or other crops to prevent soil from erosion. This is called Crop rotaion.

(b) **Terrace Farming** : In hilly areas, farming is done by cutting steps on the slopes of the hills. This slows down the flow of water and soil removed from one step is deposited on the next step. Thus, the soil is never completely lost. This is terrace farming.

(c) **Embankments** : Big strong structures called embankments along the banks of the river can protect fields from the floods. These embankments prevent the fast overflowing rivers and rainwater from washing away a huge amount of rich fertile soil.

(d) **Shelterbelts** : The cover of plants and trees around the field also breaks the speed of strong winds and protects the soil from being blown away.

F. Do yourself.

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## 13.

## Rock, Soil and Minerals

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A. Multiple Choice Questions (MCQ) :

Tick (✓) the correct answer :

1. (c) plants            2. (b) loamy            3. (c) sub            4. (a) upper

**B. Answer the following questions :**

**1. How is soil formed ?**

**Ans.** Soil is formed from parent rock material over millions of year by a process called weathering. In this process rocks at or near the surface of the earth are broken down into small particles due to physical factors such as sun, wind, rain etc.

**2. What are the factors effecting the soil formation ?**

**Ans.** The factor effecting the soil formation are—

Sun                      Rain water  
Wind                    Living Organisms

**3. What are the types of soil ? Explain them.**

**Ans.** There are four types of soil :

(i) **Clay or Silt**—Clay or soft soil. It is found in the beds and on the sides of rivers and ponds. Being sticky, the water cannot pass through it easily.

(ii) **Sand**—This type of soil contains comparatively big particles. Water can pass through the sand easily.

(iii) **Loamy Soil**—Loamy soil is a thin soil. It has the characteristics of both the clay and sand type soils. It contains humus in ample quantity.

(iv) **Waterborne Soil**—This type of soil comes down the land surface with the flow of river water. It contains minerals in sufficient quantity. The particles of this soil are very thin. It is also a fertile soil.

**4. What are the layers of soil ? Name them and explain them.**

**Ans.** Soil is made up of distinct layers. Each layer has its own characteristics that make it different from the other layers. Let us know about them.

**1. Topmost layer**

The topmost layer of the land is generally made of black soil. We call it topsoil also. This layer is about 20 to 25 cm thick. This layer contains humus, minerals air and water in ample quantity.

**2. Subsoil**

The layer of the soil below the topmost layer is comparatively thick and hard. This layer is known as subsoil.

**C. Fill in the blanks with the words given below :**

1. air                  2. humus              3. red                  4. top                  5. loamy

**D. Write true or false :**

1. True              2. True              3. True              4. True              5. True

**E. Write a short note on :**

(a) **Top Soil**—The topmost layer of the land is generally made of black soil. We call it top soil also. This layer is about 20 to 25 cm thick. This layer contains humus, minerals, air and water in ample quantity.

(b) **Natural fertilizers**—Natural fertilizers contain remains of the dead plants and faeces of the living beings.

(c) **Chemical fertilizers**—These fertilisers are prepared in the factories with the chemicals.

(d) **Loamy Soil**—Loamy soil is a thin soil. It has the characteristics of both the clay and sand type soils. It contains humus in ample quantity. So, it is the most fertile soil. Loamy soil is the best soil for cultivation.

**F. Do yourself.**

**A. Multiple Choice Questions (MCQ) :**

Tick (✓) the correct answer :

1. (c) sun                      2. (a) planets                      3. (c) third                      4. (b) axis

**B. Answer the following questions :****1. How many planets are there in the solar system ?****Ans.** There are eight planet in our solar system:

- ✿ Mercury
- ✿ Venus
- ✿ Earth
- ✿ Mars
- ✿ Jupiter
- ✿ Saturn
- ✿ Uranus
- ✿ Neptune

**2. What are stars ?**

**Ans.** Stars are huge heavenly bodies that have their own light. All stars shine like sun. They give out their own light. Some stars looks big while some look small. We cannot watch stars in the day time, due to presence of the sunlight.

**3. What are the three different layers of earth ? Explain.****Ans.** Three different layers of Earth are— Crust, mantle, and core

The hard outer layer of the earth is called crust. It has mountains, oceans, continents, valleys, hills and plains. It is about 6 kilometres thick.

Between the outer crust and the inner core, there are thick layers of rocks, minerals and metal in solid form. This layer is called the mantle. The mantle is about 3000 kilometre thick.

Below the Mantle is the core. The core is divided into two layers : the outer core and inner core. The outer core contains liquid iron and nickel. The inner core contains solid iron and nickel.

**4. What do you know about revolution of earth ?**

**Ans.** The earth moves around the sun in a fixed path. The fixed path in which earth moves around the sun is called orbit. Movement of the earth around the sun in its fixed orbit is called revolution and the earth takes one year to complete one revolution.

**C. Fill in the blanks with the words given below :**

1. orbit                      2. 150                      3. light                      4. Stars                      5. Venus

**D. Write true or false :**

1. True                      2. True                      3. False                      4. True                      5. False

**E. Tick the correct option :**

- (a) earth                      (b) brightest                      (c) 4,500°C                      (d) volcano

**F. Do yourself.**