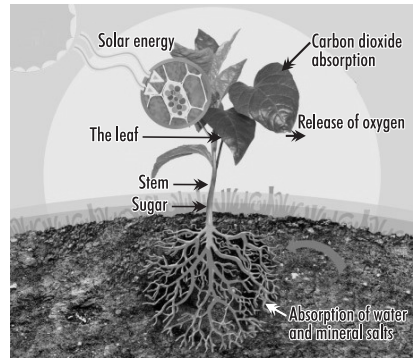




in carbon dioxide from the atmosphere through pores present on the leaves known as stomata. The green chlorophyll helps to absorb energy from sunlight.

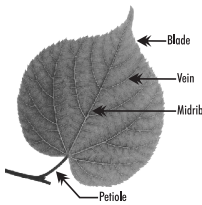
The process by which plants make their food from water and carbon dioxide in the presence of sunlight is called photosynthesis.

During this process, they take in carbon dioxide and give out oxygen. The prepared food is called sugar.



- The leaf has minute pores or openings called stomata. There are some stomata on the lower surface of the leaf. Air enters and leaves the leaf through these stomata. Water vapour too is released through the stomata.

3.



- The veins are small tubes that supply water brought by the stem and branches to all parts of the leaf. They also take the food prepared by the leaf to the stem, which supplies the food to the other parts of the plant.
- Water, carbon dioxide, sunlight and chlorophyll are required by a plant for photosynthesis.
- Green plants give human beings and animals food in the form of vegetables, fruits, nuts and grains. Animals cannot live without this food. Plants also release oxygen during photosynthesis and freshen up the air. Oxygen is used for breathing by animals and human beings. In turn, animals breathe out carbon dioxide which the plants need to prepare food.

### Things To Do

Ans. Do yourself.

## 2 Adaptations in Plants and its Uses



### Exercises

#### Section-I

#### A. Oral Questions :

Ans. 1. Mango and fir.



2. The conical shape helps the snow to slide off easily from their branches. They have needle like leaves with very few stomata to conserve water. Instead of flowers they bear cones which have seeds.
3. In marshy lands, the soil is clayey and covered with water. The roots of the trees that grow here do not get air from the soil. So, they grow out of the soil and water to breathe. These roots are called breathing roots. The roots also hold the tree above water like stilts.
4. Plants that grow on land are called terrestrial plants. Terrestrial plants are of many types and grow on different types of land such as plains, deserts, cold places/mountains, wet areas and marshy areas.
5. The plants remain completely submerged in water are called underwater plants. They have narrow and thin leaves and flexible stems that offer little resistance to water currents. They breathe through their body surface and do not have stomata. Hydrilla and vallisneria (tape grass) are examples of such plants.
6. Plants are useful in many ways.
  - We get most of our food from plants like fruits, vegetables, cereals, pulses, oil, sugar, spices, tea, coffee etc.
  - Many plants like tulsi, neem, eucalyptus, poppy etc. have medicinal properties and are used to make important medicines.
  - Vegetable oils are used to make soaps and shampoos.
  - Plant fibres that we get from cotton, jute and flax are used to make clothes, sacks, carpets, ropes etc.
  - Paper is made from bamboo and wood of certain trees.
  - We get rubber from rubber trees to make tyres etc.
  - We use the wood of sheesham, teak and sal trees to make furniture and build houses.

### Things To Do

Ans. Do yourself.

## 3 Animal Adaptations

Unit-2 : The Animal World



### Exercises

#### Section-I

#### A. Oral Questions :

- Ans.
1. Flippers help aquatic animals to move around in water.
  2. Polar bears have fur on their bodies to keep them warm.
  3. Camels have long legs to protect their body away from the heat of the sand. They can live without water for several days because there is shortage of water in their habitat, the desert.

#### B. Tick (✓) the correct answer :

- Ans.
1. (b) Frog
  2. (a) migration



3. (a) Monkey

4. (c) hibernation

C. Give one word for the following :

- 1. They eat flesh of other animals : **Carnivores**
- 2. They possess hair on their body : **Polar bears**
- 3. Their skin is smooth and moist : **Amphibians**
- 4. They are without backbone : **Invertebrates**
- 5. Their body is elongated, cylindrical or flattened : **Worms**

D. Write 'T' for terrestrial, 'A' for amphibian, 'Aq' for aquatic, 'Ar' for arboreal and 'Ae' for aerial below the pictures of animals given below :

Ans.



### Section-II

A. Fill in the blanks :

- Ans. 1. The animals living on land are called **terrestrial** animals.  
 2. The living place of an animal is called its **habitat**.  
 3. **Arboreal** animals spend most of their time on trees.  
 4. Rearing, catching and management of fish is called **pisciculture**.  
 5. **Amphibians** can live both on land and in water.  
 6. The periodic shedding of exoskeleton is called **moulting**.  
 7. The larval forms of frogs are called **tadpoles**.  
 8. **Insects** respire with the help of tracheae.

B. Write 'True' or 'False' :

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

C. Match the following :

- Ans.
- |               |   |                         |
|---------------|---|-------------------------|
| 1. Fish       | → | (a) Malaria             |
| 2. Tapeworm   | → | (b) Scavenger           |
| 3. Lion       | → | (c) Herbivore           |
| 4. Plasmodium | → | (d) Streamlined body    |
| 5. Eagle      | → | (e) Omnivore            |
| 6. Leech      | → | (f) Plague              |
| 7. Man        | → | (g) Camouflage          |
| 8. Chameleon  | → | (h) Sucker              |
| 9. Deer       | → | (i) Carnivore           |
| 10. Rat flea  | → | (j) Intestinal parasite |

D. Answer the following questions :

- Ans. 1. The animals with a backbone are termed as vertebrates. These include fish, amphibians, reptiles, birds and mammals.  
 2. The animals without a backbone are termed as invertebrates. Many small animals like insects, worms and snails are included in this group.  
 3. Animals living in different surroundings adapt themselves to survive in





## Section-II

### A. Fill in the blanks :

- Ans. 1. **Carbohydrates** are energy-giving nutrients.  
2. **Fats** provide more energy than carbohydrates.  
3. **Water** helps in the digestion of food.  
4. **Roughage** is the fibre in our food.  
5. **Milk** has almost all the nutrients.  
6. **Canning** and **drying** are preservatives.

### B. Write 'True' or 'False' :

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

### C. Match the following :

- Ans. 1. Fat → (a) Regulation of body temperature  
2. Iron → (b) Kills the germs of food  
3. Cooking → (c) Slows the growth of germs  
4. Freezing → (d) Provides energy  
5. Water → (e) Helps in the formation of blood

### D. Answer the following questions :

- Ans. 1. The substances that are needed by our body for good health and growth are called nutrients.  
2. Carbohydrates are energy-giving nutrients. Sugar and starch are carbohydrates. They supply energy to the body.  
3. Babies and young children need more proteins than adults as they are in the growing stage.  
4. A balanced diet contains all the food nutrients along with proper amount of water and roughage.  
5. Cooking makes the food soft, tasty and easily digestible. Cooking also kills the germs present in vegetables that can make us sick.  
6. The food should be kept in the refrigerator as freezing slows the growth of germs. Some chemicals are added to the food to preserve them for a longer time. These are called preservatives. Food can also be preserved by canning and drying.

### Things To Do

- Ans. Do yourself.

# 6 Digestion of Food



## Exercises

### Section-I

#### A. Oral Questions :

- Ans. 1. Into the mouth, we chew the food with the help of our teeth. The food is broken down into smaller pieces by our teeth.  
2. Saliva changes starch of the food into sugar.











- dangers in the bathroom.
2. First-aid is the immediate care given to a person who is injured or gets suddenly sick. So to save the life of the injured person, immediate aid that is given before the doctor arrives is called first-aid.
  3. In case of a nose bleeding, pinch the nose and hold it 7-8 minutes till it stops bleeding. Put some ice and wrap it up in a handkerchief. Then apply it to the nose. This will stop the bleeding quickly.
  4. Never play games on the road. Always play in the playground.  
Never push or kick anyone while playing a game. Always follow the rules of the game. Do not play a rough game.

### Things To Do

**Ans.** Do yourself.

## 10 Matter and its Forms

Unit-4 : Matter and Force



### Exercises

#### Section-I

##### A. Oral Questions :

- Ans.**
1. Molecules are made up of even tinier particles called atoms.
  2. A liquid (water) on heating changes to gas (water vapour). This process is called evaporation.
  3. On cooling a gas (water vapour) changes to liquid (water). This is called condensation.

##### B. Tick (✓) the correct answer :

- Ans.**
- |   |                       |
|---|-----------------------|
| 1. (c) both has weight and occupies space | 2. (c) molecules      |
| 3. (c) Both (a) and (b)                   | 4. (b) Closely packed |

##### C. Complete the second pair :

- Ans.**
- |                                |   |                       |
|--------------------------------|---|-----------------------|
| 1. Salt : Solute :: Water      | : | <b>Solvent</b>        |
| 2. Solids : Fixed shape :: Gas | : | <b>No fixed shape</b> |
| 3. Spoon : Solid :: Oil        | : | <b>Liquid</b>         |
| 4. Water : Solvent :: Salt     | : | <b>Solute</b>         |

#### Section-II

##### A. Fill in the blanks :

- Ans.**
1. **Solids** have a definite shape.
  2. A **liquid** flows and can be poured in any container.
  3. Gases neither have a fixed **shape** nor a fixed **volume**.
  4. The **solvent** is the liquid in which a substance dissolves.

##### B. Write 'True' or 'False' :

- Ans.** 1. True      2. False      3. False      4. False      5. True.

##### C. Answer the following questions :

- Ans.** 1. Everything we can hold, taste, or smell is made of matter. Matter makes up







3. The molten material erupting from the volcano is lava/smoke.
4. The layer of soil below the sub soil is called ~~crust~~/bed-rock.
5. Bacteria/~~Rats~~ decay the plants and animals dead parts.

**D. Write one word for the following :**

- Ans.**
1. The top layer of the Earth's surface in which plants grow : **Top soil**
  2. Removal of top soil by the action of wind and water : **Soil erosion**
  3. The hole in the centre of the volcano : **Crater**
  4. Underground water collects in this layer : **Bed-rock**

**Section-II**

**A. Fill in the blanks :**

- Ans.**
1. Earlier the Earth was a huge, hot ball of **dust** and **gases**.
  2. The topmost layer of soil is called **top soil**.
  3. **Crater** is a The hole in the centre of volcano.
  4. The soil's organic matter is called **humus**.
  5. **Dams** are big store-house of water.

**B. Match the following :**

- Ans.**
- |                      |   |                                |
|----------------------|---|--------------------------------|
| 1. Soil erosion      | → | (a) Big store house of water   |
| 2. Soil conservation | → | (b) Molten material            |
| 3. Humus             | → | (c) Loss of fertile soil       |
| 4. Lava              | → | (d) Protection of the top soil |
| 5. Dam               | → | (e) Organic matter             |

**C. Answer the following questions :**

- Ans.**
1. The Earth's surface became cooler. Some gases escaped while some were trapped inside. Thus, the outer surface of the Earth is hard but the inside of the Earth is still very hot. As the Earth cooled, the rocks were formed, moreover, clouds were also formed and as they cooled, rain occurred. This led to the formation of oceans and seas on the Earth. Now, the Earth had the conditions required to make life possible on it. These conditions were air, water and heat from the Sun.
  2. The outer surface of the Earth on which there are conditions suitable for life is called the crust. The portion under the crust which is made up of hot molten rocks is called the mantle. The hottest part of the Earth i.e. the Earth's centre is called the core.
  3. The factors responsible for the changes in the surface of the Earth are floods, Earthquakes, wind and water action.
  4. The top soil is loose and fertile and exposed to wind and water sources, it gets carried away. This reduces the soil fertility. This process of carrying away of the top soil by the natural forces is called soil erosion.
  5. Soil provides the base for the growth of variety of plants. Many animals like rats, moles, rabbits and snakes make their home in the soil. Other animals like ants, millipedes, centipedes, beetles, slugs, etc. also live in the soil. They make the soil loose for the germination and aeration. The wastes and remains of the plants and animals form the soil's organic





- breeze.
- The amount of water vapour in the air is called humidity.
  - Cooling of water vapour into water is called condensation. Its several forms are fog, dew, frost, hail and snow.
  - Addition of unwanted substances in water bodies which harmfully affect the life of the living organisms is called water pollution.

**Things To Do**

**Ans.** Do yourself.

# 15 Solar System



## Exercises

### Section-I

**A. Oral Questions :**

- Ans.** 1. Earth, Mercury, Venus and Mars.  
 2. Stars look small as they are exceedingly far from the Earth.

**B. Tick (✓) the correct answer :**

- Ans.** 1. (a) Star                      2. (c) Venus                      3. (c) Mars

**C. Circle the odd one :**

- Ans.** 1. Venus, Earth, Sun                      2. Mars, Moon, Jupiter  
 3. Stars, Sun, Earth                      4. Pluto, Mars, Saturn

### Section-II

**A. Fill in the blanks :**

- Ans.** 1. **Jupiter** is the largest of all the planets.  
 2. **Mercury** is the closest planet to the Sun.  
 3. **Earth** is also called blue planet.  
 4. **Neptune** is the farthest planet from the Sun.  
 5. Satellites revolve around the **planet**.  
 6. **Space probes** send pictures of planets to the space centres.

**B. Answer the following questions :**

- Ans.** 1. The Sun and the eight planets form the solar system.  
 2. Small bodies between the orbits of Mars and Jupiter are termed as Asteroids.  
 3. Moons or satellites are smaller heavenly bodies that revolve around the planet.  
 4. Space probes are unmanned space-ships sent into space and travel very fast. Some pass near the planets, others orbit or land on them. They do not carry astronauts. They help us to know the weather conditions and the different kinds of minerals found on a particular planet. They send pictures to the space centres where the scientists analyse them.

**Things To Do**

**Ans.** Do yourself.