

Book-6

Chapter-1: The Wonderful World of Science

Assessment Time

Multiple Choice Questions

A. Darken the correct circle in the OMR sheet:

1. (c) 2. (b) 3. (a) 4. (a)

B. Fill in the blanks:

1. food 2. three 3. Fats, carbohydrates
4. carbohydrates

C. Short answer type questions:

1. Stars are huge glowing balls of hot gases. They release huge amounts of energy that heats the gas, so they shine.
2. A plant needs water, sunlight, and nutrients from the soil to grow.
3. The food we eat is made up of more than one ingredients. The ingredients of all food items contain components which are needed by our body. These components are called nutrients. The nutrients are chemical substances needed by our body for proper growth and functioning. The main nutrients are known as Carbohydrates, Proteins, Fats, Vitamins and Minerals.
4. Water continuously moves from the earth to the atmosphere and from the atmosphere back to the earth again. This circulation of water in nature is called water cycle.
5. Water is converted into water vapours by many processes like evaporation, transpiration, etc. The water vapour rises up, becomes

cooler and condenses to form tiny droplets which float in air as clouds. Many droplets come together to form large drops which fall down as rain.

6. Our body also requires some elements like iron, calcium, potassium, sodium, magnesium, chlorine, iodine etc. for proper growth and functioning. These are called minerals and are contained in different foods in the form of their salts.

Assertion-Reason Based Questions

1. (a) Both A and R are true and R is the correct explanation of the Assertion.
2. (c) A is true but R is false.

Chapter-2: Diversity in the Living World

Assessment Time

Multiple Choice Questions

A. Darken the correct circle in the OMR sheet:

1. (c)
2. (c)
3. (a)
4. (d)
5. (b)

B. Fill in the blanks:

1. Water, minerals
2. leaves
3. Herbs
4. banana
5. trees
6. Fibrous
7. Banyan, sugarcane
8. stem

C. Write 'T' for True and 'F' for false:

- | | | | |
|------|------|------|------|
| 1. T | 2. T | 3. F | 4. F |
| 5. T | 6. F | 7. T | 8. T |

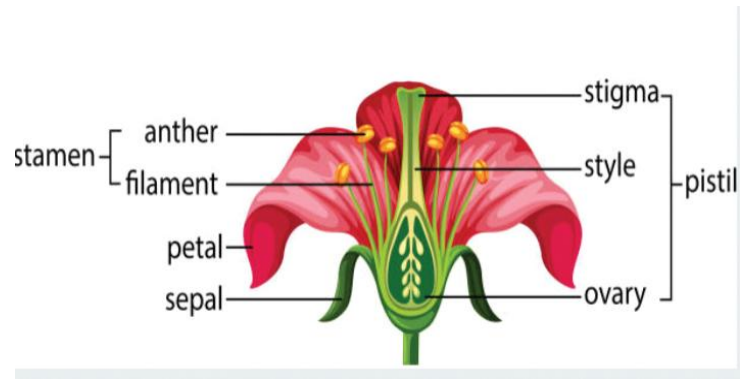
D. Short answer type questions:

1. For storage of food, the roots of some plants, such as carrot, turnip, sweet potato, radish and beetroot, store food and become fleshy.
2. Nodes are the link regions between a leaf and the stem. Internodes are the regions between two nodes.
3. The arrangement of veins in a leaf is termed as venation. Venation may differ from one type of plant to another.
4. The flower develops into a fruit only when the pollen grains from the anther get transferred to the stigma of the pistil. This process is called pollination.
5. The place where plants and animals live is called their habitat.
6. Animals have certain special characteristics that enable them to live in a particular climate successfully. These special characteristics are called adaptations.
7. Two main categories of habitats are land (terrestrial) and water (aquatic).
8. Elephant, lion are terrestrial animals and fish, sea horse are aquatic animals.

E. Long answer type questions:

1. Biodiversity is the variety of life on Earth, including all living things and their interactions. It can be measured at multiple levels, such as genetic, species, and ecosystem diversity. Biodiversity is constantly changing due to evolution and extinction.
2. Functions of roots are:

- Roots absorb water and nutrients from the soil for making food.
 - The roots fix the plant firmly into the ground and prevent it from being blown away by wind or flown away by water.
 - Roots help to bind the soil particles together, thereby preventing them from being carried away by water or wind.
3. Roots of some plants are modified to perform additional function.
- For nutrition, plants such as dodder have specialized roots called parasitic roots arising from their stem, which help them to absorb water and nutrients from the host.
 - For extra support, root of plants such as bamboo, sugarcane, and banyan give out extra roots from their branches. These roots grow downwards and give extra support to the stem of the plant. These are called prop roots.
 - For storage of food, the roots of some plants, such as carrot, turnip, sweet potato, radish and beetroot, store food and become fleshy.
4. Leaves are known as food factories of the plant. The main function of a leaf is to prepare food. Leaves generally have a green coloured substance called chlorophyll. The process of manufacture of food by a leaf in presence of sunlight and chlorophyll, using water, mineral salts and carbon dioxide of air is called photosynthesis.
5. Do yourself
- 6.



Sepals: These are the small green, leaf like structures present at the base of a flower. They protect the flower during its development and support the petals when the flower blooms.

Petals: These are the flat, broad, generally coloured structures present in a flower. Petals are colourful structures that surround the inner parts of the flower. They may be in one or more layers. They may be separated or joined to one another. They attract the flies and insects.

Stamens: Stamens are the male reproductive parts of a flower. These are placed inside the petals and can be seen completely only after removing the petals. They consist of two parts- a long, thin tube like structure called the filament and a sac like structure attached to it at the top called anther. The anther produces a powdery substance called pollen.

Carpel: It is the female reproductive part of the flower. It is the innermost part of a flower. It has three parts: a sticky top portion called stigma, an enlarged base called ovary, and a stalk called style that connects these two. The ovary contains tiny ball- like structures called ovules, which later become seeds.

7. All living things breathe, eat, grow, move, reproduce and have senses. Non-living things do not eat, grow, breathe, move and reproduce.
8. The place where plants and animals live is called their habitat. For example, the habitat of sea turtles is the sea or the ocean. The habitat of a camel is the hot or the cold desert, and the habitat of a rhododendron is the mountains. The habitat of plants and animals provides them food, water, air, shelter and other needs for their survival. Many types of plants and animals may share the same habitat. Habitat plays an important role in shaping the biodiversity of a region.

There are mainly two types of habitats:

Terrestrial habitat: Terrestrial habitats are ones that are found on land, like forests, grasslands, deserts. For example: elephants and tigers.

Aquatic habitats include any water habitats. These water habitats can be freshwater or saltwater. Some plants and animals, such as fish and seaweed, live Assertion-Reason Based Questionsentirely underwater, while others can live partly in and partly out of the water.

Assertion-Reason Based Questions

1. (a) Both A and R are true and R is the correct explanation of the Assertion.
2. (c) A is true but R is false.

Chapter-3: Our Green Friends (Uses of Plants)

Assessment Time

Multiple Choice Questions

A. Darken the correct circle in the OMR sheet:

- | | | | |
|--------|--------|--------|--------|
| 1. (d) | 2. (c) | 3. (b) | 4. (a) |
|--------|--------|--------|--------|

B. Fill in the blanks:

- | | | | |
|---------|------------------|-----------|-------------|
| 1. food | 2. Sugar, starch | 3. liquid | 4. Proteins |
| 5. fats | | | |

C. Write 'T' for true and 'F' for false:

- | | | | |
|------|------|------|------|
| 1. T | 2. F | 3. F | 4. T |
| 5. T | | | |

D. Short Answer type questions:

1. Nutrients are necessary for good health, growth and energy.
2. Carbohydrates provide energy to our body, which keeps it going throughout the day.
3. Proteins are called body-building nutrients. These are essential for growth, repair and maintenance of our body. Proteins also help our body in repairing damaged parts, replacing worn out or dead cells and tissues.
4. Vitamins are necessary for its proper functioning and good health. In addition to keeping our eyes, teeth, skin, bones etc. healthy, vitamins also protect our body against many diseases.
5. Fat Soluble vitamins are those vitamins which are stored in fat tissue and are only used when the body needs them. Vitamin A, D, E and K are fat soluble vitamins.

E. Long Answer type questions:

1. Food is essential for the body for the following purposes:
 - It is required for proper growth and development of body.
 - It provides energy for various activities.
 - It is required to perform various functions to sustain life
 - For repairing of damaged or injured body parts.
 - It keeps away us from diseases and infections.
2. Saturated fats are normally solid at room temperature (e.g., butter), whereas unsaturated fats are mostly liquid at room temperature (e.g., vegetable oil).
3. Vitamins are necessary for its proper functioning and good health. In addition to keeping our eyes, teeth, skin, bones etc. healthy, vitamins also protect our body against many diseases. Different kinds of vitamins are known by different names such as vitamin A, C, D, E and K etc.

Kind of Vitamins	Functions
Vitamin A	Keeps skin and eyes healthy
Vitamin B (Group of Vitamins)	Helps in proper functioning of nerves and muscles.
Vitamin C	Keeps blood vessels, teeth and gums healthy, heals cuts and injuries.
Vitamin D	Makes bones and teeth strong.

4. Proteins are required for muscle-building and repair of worn-out tissues in the body. Lack of proteins in the diet weakens muscles. Growing children need more proteins in their diet. Deficiency of proteins leads to a disease called kwashiorkor. Early symptoms include fatigue, irritability, and lethargy. As protein deprivation

continues, one sees growth failure, loss of muscle mass, generalized swelling (edema), and decreased immunity.

5. Deficiency of proteins along with carbohydrate deficiency is called protein energy malnutrition (PEM). It leads to marasmus these diseases are more common in the children of rural areas.

A child suffering from kwashiorkor has some or all of the following symptoms are: Large pot-like belly, Stunted growth, Swelling of face and limbs (especially the feet), Skin diseases, Mental retardation, Diarrhea.

Assertion-Reason Based Questions

1. (a) Both A and R are true and R is the correct explanation of the Assertion.
2. (c) A is true but R is false.

Chapter-4: Exploring Magnets

Assessment Time

Multiple Choice Questions

A. Darken the correct circle in the OMR sheet:

- | | | | |
|--------|--------|--------|--------|
| 1. (b) | 2. (d) | 3. (b) | 4. (d) |
|--------|--------|--------|--------|

B. Fill in the blanks:

- | | | |
|----------------------|--------------|----------|
| 1. Non- magnetic | 2. magnetite | 3. poles |
| 4. temporary magnets | 5. repel | |

C. Write 'T' for true and 'F' for false:

- | | | | |
|------|------|------|------|
| 1. T | 2. T | 3. F | 4. T |
| 5. F | 6. T | | |

D. Short Answer type questions:

1. Magnets are made of materials that attract objects made of certain substances such as iron, cobalt, and nickel.
2. The materials which are attracted by magnets are called magnetic materials such as iron, cobalt and nickel.
3. Those materials which are not attracted by magnets are called non-magnetic materials.
4. Wood, plastics, rubber, paper.
5. Temporary magnets retain their magnetic properties only for a short period of time.
6. When magnetic materials (such as iron filings) are brought close to a magnet, they do not stick evenly to all parts of the magnet. They stick more at the both end of the magnet. These are called the poles of the magnet.

E. Long Answer type questions:

1. According to legend, the first magnet was discovered by a Greek shepherd named Magnes. It is said that the nails in his shoes and the iron tip of his staff got stuck to a large black rock on which he was standing. He found that he couldn't move as his boots and his shoe got stuck to the rock. He dug up the earth to find a black rock which stuck iron things to it. It is believed that because of Magnesia, the rock is called magnetite.
2. A magnetic compass has a small magnetic needle at its centre. This needle can rotate freely and always points in the north-south direction. Different directions (north, south, east, and west) are marked on the compass. With the help of it, we can find the direction anywhere on the Earth.

3. Properties of a magnet are

- A magnet always comes to rest in North-South direction.
- Like Poles repel each other and unlike poles attract each other.
- Magnets exert more magnetic force at the ends as compared to the middle.
- Magnetic poles always exist in pairs.

4. Electromagnets are special types of magnets in which the magnetism is produced by a flow of electric current. It is used in electric motors, doorbells, etc. a piece of soft iron bar with a wire wound around it acts as an electromagnet when a current passes through it. A piece of soft iron bar behaves like a magnet only as long as the wire wound over it carries current. Its magnetism is soon lost when the current in the wire is switched off.

5. Magnets are used for a variety of things these days:

- Television, computers, music systems, watches, magnetic buttons in dresses and carry bags etc. All contain magnets of some or the other shape.
- Magnets are also used to make self closing pencil boxes, pin holders, etc.
- Credit cards, ATM cards, and identity cards have a strip of magnetic materials that stores information.
- Magnets are used in picking up substances made of iron from scrap yard.

Assertion-Reason Based Questions

1. (a) Both A and R are true and R is the correct explanation of the Assertion.
2. (d) A is false but R is true.

Chapter-5: Measurement of Length and Motion

Assessment Time

Multiple Choice Questions

A. Darken the correct circle in the OMR sheet:

1. (a) 2. (b) 3. (c) 4. (d)

B. Fill in the blanks:

1. 4000 m 2. 500 cm 3. 80 mm 4. 50 mm

C. Write 'T' for True and 'F' for false:

1. F 2. T 3. F 4. T

D. Answer the following questions:

1. Standard units are those that have a fixed value and, therefore, do not vary from person to person and place to place. For uniformity and convenience, a common unit is necessary for measurement of a physical quantity. For accurate measurement, we need some standard representation of every physical quantity.
2. When an object moves in a straight line, it is said to be in rectilinear motion. If a body moves along a curved path its motion is called curvilinear.
3. When the same motion repeats itself after equal intervals of time, it is said to be periodic motion. Any type of motion that does not repeat itself after equal intervals of time is called non-periodic motion.
4. Earth revolves round the sun on a circular path so it shows circular motion or revolution. With revolution, earth also moves around on its axis which is called rotation. So earth shows two types of motion at the same time - circular and rotational.

5. The motion of a particle or a body is said to be uniform if it moves along a straight line and covers equal distance in equal intervals of time. The motion of a particle or a body is said to be non-uniform if it covers unequal distances in equal intervals of time and covers equal distances in unequal intervals of time.

E. Name the type of motion involved in the following examples:

1. Oscillatory
2. Rotational
3. Rotational
4. Circular
5. Circular

Chapter-6: Material Around Us

Assessment Time

Multiple Choice Questions

A. Darken the correct circle in the OMR sheet:

1. (a) 2. (b) 3. (c) 4. (d) 5. (b)

B. Fill in the blanks:

1. Space, volume 2. liquid 3. natural 4. Transparent
5. Lustre 6. magnetism

C. Write 'T' for true and 'F' for false:

1. F 2. T 3. T 4. F
5. F 6. T

D. Short Answer type questions:

1. Placing or sorting similar things together is called grouping. Grouping makes it easier for us to find things when we need them.

2. Particles are very closely packed in solids. So, solids have definite shape, mass and volume, e.g. wooden box, knife, candle etc.
3. A glass sheet, flower petals, and surface of an apple, surface of an ice are smooth surfaces.
4. Rocks, sandpaper, brick and bark of a tree.
5. Window glass pane, a drinking glass, water, a plastic bottle, and swimming goggles.
6. Certain materials float on water whereas others sink. This property is called flotation.

E. Long Answer type questions:

1. Objects can be grouped together on the basis of a variety of consideration. As you put your books in one part of bag and notebooks in other part of bag and all small size items like pencil, pen, eraser, sharpner etc. in a pencil box. A chemist keeps different medicines in separate shelves according to their use, make or some specific considerations. Such a method of grouping similar things together is called classification. In other words, the process of sorting out and grouping things according to some basis or criteria is called classification.
2. Such materials through which light can pass are called transparent materials. This is because window panes are made of glass through which we can see things outside the window, they are not made of wood or iron. Materials that do not allow light to pass through them are called opaque materials. Wood, metals, stone, and cardboard are opaque materials.
3. Lustre is the shine of a material. All metals in pure state are shiny and said to possess luster. These materials are said to have a luster and are called lustrous materials. Metallic surfaces generally show this property. This

property of metals is widely used for making jewellery and other decorative articles.

4. Some materials are soluble in water whereas some are insoluble. Solids like sugar, common salt, and soil are examples of solids that are soluble in water. Some solids are insoluble in water, e.g., wood, stone, sand, chalk powder, and wax.
5. Conductivity is the measure of the heat can pass through a material. A conductor is a material which gives very little resistance to the flow of an electric current or thermal energy.

Assertion-Reason Based Questions

1. (c) A is true but R is false.
2. (b) Both A and R are true but R is not the correct explanation of the Assertion.

Chapter-7: Transportation in Animals and Plants

Assessment Time

Multiple Choice Questions

A. Darken the correct circle in the OMR sheet:

1. (d)
2. (b)
3. (b)
4. (c)
5. (d)

B. Fill in the blanks:

1. plasma
2. Hemoglobin
3. arteries
4. To pump
5. excretion

C. Write 'T' for true and 'F' for false:

1. F
2. T
3. T
4. F
5. T

D. Answer the following questions:

1. Transport of materials is necessary in both plants animals as every cell needs a regular supply of nutrients and oxygen for releasing energy through respiration.
2. Blood is a red coloured liquid which flows in blood vessels. It is the bodily fluid that carries nutrients, gases and metabolic waste substances to different parts of the body. It is also a fluid connective tissue.
3. Arteries are so thick as thickness of hair. They have very thin walls. They oxygen is picked up from the alveoli in the lungs. The oxygen and digested food are passed on to each cell of the body. Veins are the vessels which carry carbon dioxide-rich blood from all parts of the body back to the heart. The veins have thin walls. There are valves present in veins which allow blood to flow only towards the heart.
4. Each side of the heart is divided into two parts or chambers. The top chambers with comparatively thinner walls are called auricles. The two lower chambers with thick muscular walls are called ventricles. The right side of the heart, the right auricle and ventricle, receives blood with carbon dioxide from all parts of the body and sends it to lungs. Its left side, the left auricle and ventricle, receives oxygen rich blood from the lungs and sends it to all parts of the body.
5. The food prepared by the leaves is transported to all parts of the plant in the form of a solution through phloem and this process is known as translocation.

Case Study

1. (b)
2. (d)
3. (c)

4. Blood is a red coloured liquid which flows in blood vessels. It is the bodily fluid that carries nutrients, gases and metabolic waste substances to different parts of the body. It is also a fluid connective tissue.
5. Hemoglobin binds with oxygen and transports it to all the parts of the body and ultimately to all the cells. It will be difficult to provide oxygen efficiently to all the cells of the body without hemoglobin.

Chapter-8: A journey Through States of Water

Assessment Time

Multiple Choice Questions

A. Darken the correct circle in the OMR sheet:

1. (d)
2. (d)
3. (b)
4. (d)
5. (a)

B. Fill in the blanks:

1. transpiration
2. Rain water harvesting
3. Underground water
4. body Temperature
5. Salty

C. Write 'T' for true and 'F' for false:

1. F
2. T
3. T
4. T
5. T

D. Short Answer type questions:

1. About three-fourths of the earth's surface is covered with water. That is why Earth is also called the blue planet.

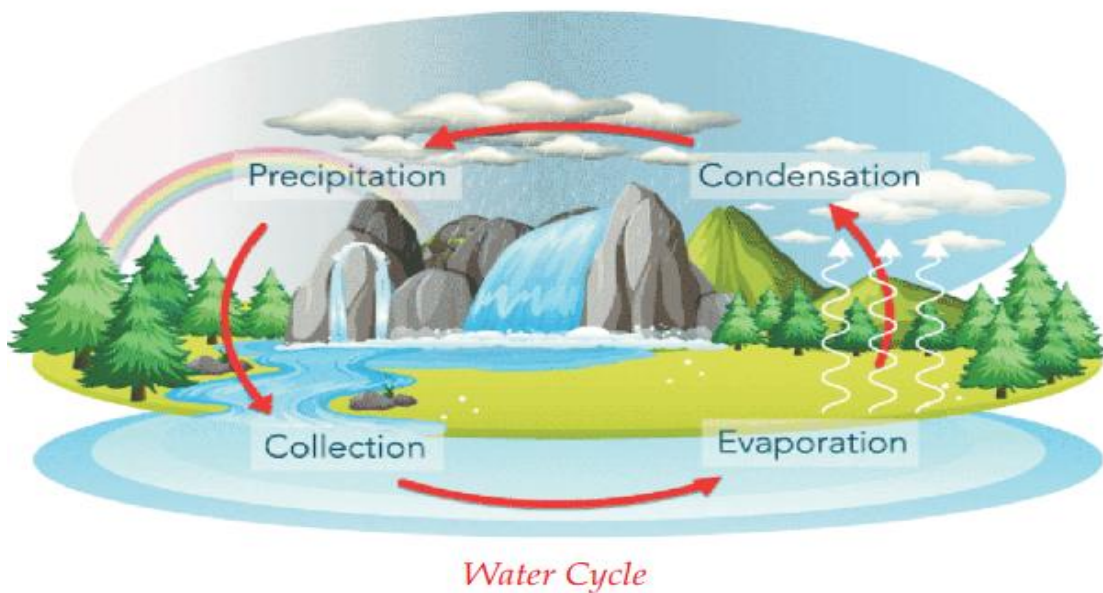
2. Water exists in all three physical states: solid (ice), Liquid (water), Gas(vapour).
3. The change of water into water vapour is called evaporation.
4. The change of water vapours into water is called condensation.
5. Loss of water from plants in the form of water vapours is called transpiration.

E. Long Answer type questions:

1. We need water for following purpose:

- Water is used for drinking, cooking, cleaning, bathing and washing. Water that is suitable for drinking is called potable water.
- All animals including human beings need water for their body processes like digestion of food, absorption of nutrients, their circulation, getting rid of wastes, etc.
- Plants also need water for processes like germination, photosynthesis and transporting minerals from roots to other parts of the plants.
- It is used in agriculture. Water is required for irrigation of crops, which results in growth of crop plants and production of food grains.
- Industries use water to make almost everything we use like paper, rayon, petroleum, refineries, fertilizers and chemicals.
- All factories use a large amount of water every day-as raw material, for cleaning, for heating, cooling, for generating electricity etc.

2. Water is continuously evaporated from the earth to the atmosphere and from the atmosphere back to the earth again. This circulation of water in nature is called water cycle. When the water vapour of clouds condenses and falls down to the earth as rain, it is called precipitation. If precipitation remains in the liquid form till it reaches the earth, we call it rain.



3. (a) When the clouds come in contact with the ground, we call it fog. Fog is formed when water vapour condenses into very tiny liquid water droplets.
- (b) When small droplets of water remain suspended in air, we call it mist. You must have seen mist being formed in front of your mouth when you speak in very cold weather.
- (c) When the temperature is very low, dew takes the form of ice called frost.

- (d) A hailstorm is very destructive as it damages crops, destroys buildings and may even kill animals.
4. Water is very important for our survival but its excess and its lack are both harmful for us, they may cause of natural disasters. Floods raise the water level of rivers, lakes, ponds causing them to overflow and this water spreads in the fields, villages and cities sometimes submerging them. This condition is called flood. Flood water damages the houses, building and dams. It carries away animals and many other objects with it.
 5. Collection of rainwater from surface on which rainfalls and storing it for future use is called rainwater harvesting. Storing rainwater that collects on roofs instead of letting it go down the drain, it increases the level of ground water which is most useful during droughts. This technique is known as rooftop rainwater harvesting.

Chapter-9: Methods Of Separation in Everyday Life

Assessment Time

Multiple Choice Questions

A. Darken the correct circle in the OMR sheet:

1. (a) 2. (a) 3. (a)

B. Fill in the blanks:

1. different 2. bran 3. threshing 4. Fodder
5. supernatant

C. Write 'T' for True and 'F' for false:

1. T 2. T 3. F 4. T 5. T

D. Short Answer type questions:

1. Any substance which is made up of only one kind of particles is called a pure substance such as wood, gold, iron, silver, oxygen, hydrogen etc.
2. A mixture is made up of two or more pure substances in any ratio in such a way that mixture shows the property of each substance which are used in the mixture. A mixture may be solid, liquid or gas.
3. The things that we can see easily in the food items in the form of small stones, unwanted grains and husk, etc. These impurities can be picked easily by hands so this method of separation is called Hand-Picking.
4. Sieving method is used to separate particles of different size, they can be separated by sieving. The smaller component passes through the pores of the sieve whereas the larger component is left behind in it. This method is used in some homes to separate wheat bran from flour.
5. A filter paper is placed inside a glass funnel and a put container under it. The solid part remaining on the filter paper is called the residue. The liquid which has passed through the filter paper is called the filtrate.

E. Long Answer type questions:

1. Many tiny stones and other impurities are mixed in the grains, pulses. These impurities should be removed or separated before cooking. Similarly, there are many other instances where we need to separate one substance from another. Sometimes, we need to remove unwanted things, for example, seeds from the fruits, separating tea

leaves from tea using a strainer, separating impurities from the drinking water. Separation is also done to obtain useful things such as obtaining butter by churning milk, and separating cotton fibres from its seeds using cotton gin (a machine).

2. Stalks are dried in sun heat before the grain is separated from them. After harvesting a crop, the next step is threshing. The process of beating out the grains from the harvest crop plants is called threshing. Threshing involves beating the stalks to separate the grains or seeds from the crop. It is done manually or with the help of machines. In manual, bundles of crops are beaten on the rocks to remove the seeds.
3. The process of separating insoluble solids suspended in a liquid by allowing them to settle down is called sedimentation. The solid particles that settle down during sedimentation are called sediments. The process of pouring out the clear upper liquid without disturbing the sediments is called decantation.
4. The process of conversion of a liquid into its vapour is called evaporation. In nature, this process takes place slowly, but if we increase the temperature, the process of evaporation becomes faster. Evaporation is done naturally when the sun heats up water from rivers or lakes or the ocean and turns it into vapour or steam.

Chapter-10: Living Creatures: Exploring Their Characteristics

Assessment Time

Multiple Choice Questions

A. Darken the correct circle in the OMR sheet:

- | | | |
|--------|--------|--------|
| 1. (d) | 2. (b) | 3. (c) |
|--------|--------|--------|

B. Fill in the blanks:

1. habitat 2. aquatic 3. terrestrial 4. Flower, fruit

C. Write 'T' for True and 'F' for False:

1. F 2. T 3. T 4. T

D. Answer the following questions:

1. All living things have some common characteristics, these are:
 - All living things are made up of cells. A cell can be defined as the smallest living entity which can function independently. There are many types of cells present in a living thing.
 - Another important characteristic of living organisms is their ability to move. A living thing can move from one place to another. All animals move from one place to another in search of food and water.
 - Growth is another important characteristic of living things. All living things grow.
 - Respiration is a process by which all living organisms use oxygen present in air to release energy from the food they eat.
 - Food is one of the basic requirements of all living things.
 - Excretion is the process of removal of waste products from the body.
 - All living things reproduce more of their own kind.
 - All things grow, reproduce, get old, and then they die.
2. A habitat is a place where an organism makes its home. A habitat meets all the environmental conditions an organism needs to survive.
3. For germination of seed, air, water and sunlight are necessary.

Water: Seeds require water for germination. Water enables the seeds to carry out the processes necessary for their growth. The outer covering of the seed is called seed coat. Water softens the seed coat and helps the tiny embryo inside it to develop into a plant.

Air and Soil: Seeds need air for germination. They use the air available in the spaces between soil particles. Moreover, spaces between the soil particles allow roots to grow easily.

Light and/or dark conditions: We have learnt that for the bean seeds, presence of light is not essential for their germination. In general, most seeds do not require light for germination. But after germination, sunlight is required for further growth of the seedling.

4. There are the 5 stages of plant life cycle. The seed, germination, growth, reproduction, pollination, and seed spreading stages.
5. Stage-1: The adult frog will lay all its eggs together in the water to start off the cycle. These eggs float around in the ponds, lakes and rivers they were laid in, and often just look like a large mass of jelly from far away. When the eggs are clumped together, they're collectively known as frog spawn. The frog spawn starts out as tiny black dots in a jelly-like substance. The jelly itself serves many purposes for the eggs. Not only does it keep the egg moist to help it survive, but it also offers a decent amount of protection from predators.

Stage 2: When the eggs hatch, they enter the second stage of the life cycle. By this point, they're known as tadpoles. When they first hatch and for the first 1-3 weeks afterwards, tadpoles will stay close to the water plants and grass. Tadpoles still can't survive on land, so they'll

usually feed on nearby plants filtered by the water, as well as graze on small bites of nearby vegetation. Luckily, tadpoles develop gills very early on, allowing them to breathe underwater and swim around in their fish-like stage. Over the next 14 weeks, the tadpole will do a whole heap of growing until it eventually becomes a froglet.

Stage 3: At this stage, the froglet begins to resemble an adult frog much more closely. The front and back legs will have fully formed, and the tail will begin to shorten. The longer tail the frog had as a tadpole meant it could store

Stage 4: It can then take another four years for froglets to mature into an adult frog. nutrients to feed from at this critical stage.

Chapter-11: Nature's Treasures

Assessment Time

Multiple Choice Questions

A. Darken the correct circle in the OMR sheet:

- | | | | |
|--------|--------|--------|--------|
| 1. (a) | 2. (c) | 3. (b) | 4. (a) |
|--------|--------|--------|--------|

B. Fill in the blanks:

- | | | | |
|-----------|----------|----------|------------|
| 1. Cannot | 2. Ultra | 3. 0.04% | 4. weather |
|-----------|----------|----------|------------|

C. Write 'T' for True and 'F' for false:

- | | | | |
|------|------|------|------|
| 1. T | 2. F | 3. T | 4. F |
|------|------|------|------|

D. Short Answer type questions:

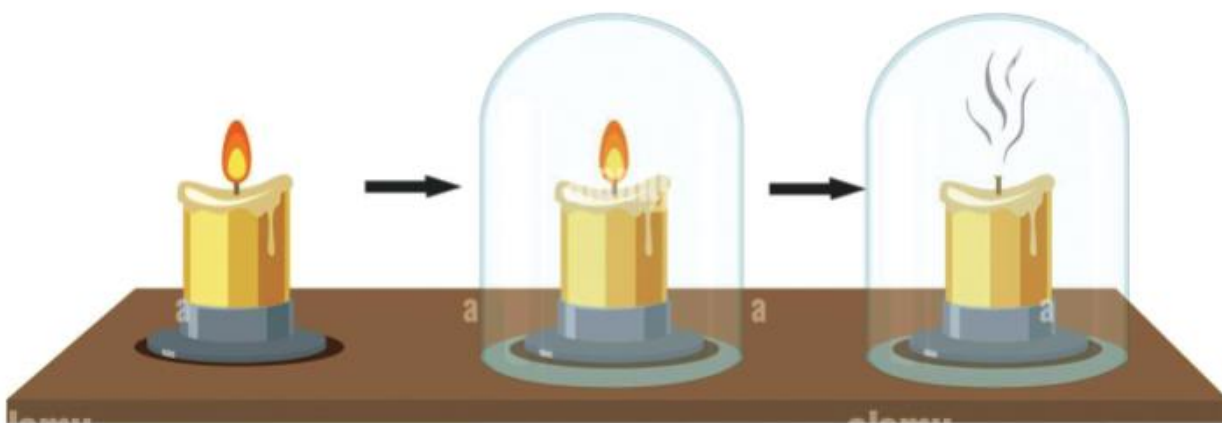
1. A thick layer of the air that surrounds the Earth is called atmosphere.
2. Moisture is the amount of water vapour present in the atmosphere.

3. The trapping of sun's heat by certain gases present in air is called green house effect. These gases are carbon dioxide and methane. Due to increased pollution, amount of these gases increases in the environment, which leads to increase in green house effect which in turn causes global warming.
4. Ozone layer protects us from harmful ultraviolet rays of the sun, thus preventing many eye problems and skin cancers in human beings.

E. Long Answer type questions:

1. Activity

- Take a candle and place it in a big bowl.
- Now fill the half bowl with some water.
- Light the candle and cover it with an inverted transparent glass.
- The candle keeps burning for some time. After some time, the candle goes off. The water level of the glass has also increased (approximate $\frac{1}{5}$ of the glass) after the candle is goes off.



It proves that air contains about 21% oxygen.

2. We can conserve fossil fuels by switching to renewable energy sources like solar and wind, using energy-efficient appliances and vehicles, and reducing overall energy consumption through practices like walking, cycling, carpooling, and properly insulating homes. Other methods include reducing waste, recycling, supporting sustainable land use, and implementing energy-saving behaviors like turning off lights when not in use.

Embrace solar, wind, and hydroelectric power to generate electricity, which do not deplete fossil fuels. Support and use alternative fuels like biofuels and biogas to reduce reliance on traditional fossil fuels.

3. **The properties of air are:**

- Air is a mixture of many gases, water vapours and dust particles.
- Air exerts pressure.
- Air has mass.
- Air occupies space.
- Air is colourless and odourless.

4. We can show that air contains water vapor by demonstrating condensation pour ice cubes into a dry, clean glass tumbler or a steel container and observe the outside surface for a few minutes. Tiny water droplets will appear on the cold exterior, proving that water vapor in the surrounding air has cooled, turned into a liquid, and collected on the glass. It shows that air has water vapours.

Chapter-12: Beyond Earth

Assessment Time

Multiple Choice Questions

A. Darken the correct circle in the OMR sheet:

- | | | | |
|--------|--------|--------|--------|
| 1. (d) | 2. (d) | 3. (a) | 4. (b) |
|--------|--------|--------|--------|

B. Fill in the blanks:

- | | | | |
|------------|-------------------|---------|-------|
| 1. 6000 °C | 2. Mercury, venus | 3. mars | 4. 95 |
|------------|-------------------|---------|-------|

C. Short Answer type questions:

1. A large group of asteroids occupies the space between the planets Mars and Jupiter.
2. The solar system is a part of the galaxy called the Milky Way. It consists of the sun, the planets that revolve around it, their satellites, asteroids, meteors and comets. The sun is located at the centre of the solar system and its eight planets revolve around it in their elliptical paths.
3. The eight phases of the moon, repeating every 29.5 days, are New Moon, Waxing Crescent, First Quarter, Waxing Gibbous, Full Moon, Waning Gibbous, Third Quarter, and Waning Crescent. These phases occur because the amount of the Moon's sunlit surface visible from Earth changes as the Moon orbits our planet.
4. Orion constellation is called the Hunter. It is called Mriga in Hindi. When we join the lines of the stars that form this constellation, it resembles a hunter in a kneeling position with his bow.

D. Long Answer type questions:

1. The sun is a star. It is medium sized star as compared to other stars in the sky. It is a huge ball of fire that mainly consists of hydrogen. The temperature of the sun's surface is approximately 6000°C. While the temperature at its centre is about 15 million degree celsius. Massive nuclear reactions take place in the sun that continuously converting

hydrogen into helium. These reactions also give out huge amount of heat and light. The sun is 100 times bigger than the earth. It has a diameter of approximately 1.4 million kilometres.

2. Mercury, Venus, Earth and Mars are called inner planets. Mercury is closest planet to the sun. It is also the smallest planet in the solar system. Venus is the second planet from the sun. Like the planet Mercury, Venus is also very hot and can be seen only before sunrise and after sunset. Earth is the only planet in the solar system where life is known to exist. It is the third planet from the sun. It is also called the blue planet because of the oceans that give this planet a bluish appearance. Life exists on earth because the conditions on this planet are favourable. Mars is the fourth planet from the sun. It can be seen as a bright orangish red object. The red colour is due to the soil on this planet which is reddish in colour.
3. Jupiter, Saturn, Uranus and Neptune are called outer planets. Jupiter is the fifth planet from the sun. It is also the biggest planet in the solar system. Its mass is about 318 times that of our earth. The Jupiter is one of the brightest objects in the sky after the moon and the planet Venus. Saturn is the sixth planet from the sun and the second largest as well. It is also called the planet with rings or the ringed planet because of the cloud of dust and rocks surround it forming a ring. Saturn is mainly made up of hydrogen and helium. Uranus is the seventh planet from the sun. It is the third biggest planet in the solar system. It was the first planet to be discovered. Neptune is the eighth planet from the sun. It is the outermost planet of the solar system.
4. Uses of satellite are:

- Artificial satellite is used to forecast weather. It can give us information on the upcoming cyclones and tsunamis.
 - Artificial satellite helps us to collect information about other planets and other celestial bodies.
 - Artificial satellite is also used in communication technology. It is used to transmit news and messages through television, radios and telephones and internet.
 - Artificial satellite is used in defence of one's country. It is used to spy on the doings of enemies and other countries.
 - A type of artificial satellite called remote sensing satellite is used to survey the natural resources of the earth like minerals, crops and fishing zones in the sea.
5. Planets are celestial bodies that orbit around the Sun. They don't have the ability to emit light and energy from nuclear fusion reactions. Stars are huge celestial bodies made up of hydrogen and helium that can emit their light and energy from nuclear fusion reactions. Stars are bigger than planets.

Model Test paper-1

A. Darken the correct circle in the OMR sheet:

1. (c) 2. (b) 3. (d) 4. (b) 5. (a)

B. Fill in the blanks:

1. food 2. leaves 3. liquid 4. magnetite 5. animals

C. Write 'T' for true and 'F' for false:

1. T 2. F 3. F 4. F 5. T

D. Short Answer type questions:

1. Stars are huge glowing balls of hot gases. They release huge amounts of energy that heats the gas, so they shine.
2. For storage of food, the roots of some plants, such as carrot, turnip, sweet potato, radish and beetroot, store food and become fleshy.
3. Proteins are called body-building nutrients. These are essential for growth, repair and maintenance of our body. Proteins also help our body in repairing damaged parts, replacing worn out or dead cells and tissues.
4. The materials which are attracted by magnets are called magnetic materials such as iron, cobalt and nickel.
5. We need transport to move from one place to another place.

E. Long Answer type questions:

1. Biodiversity is the variety of life on Earth, including all living things and their interactions. It can be measured at multiple levels, such as genetic, species, and ecosystem diversity. Biodiversity is constantly changing due to evolution and extinction.
2. Functions of roots are:
 - Roots absorb water and nutrients from the soil for making food.
 - The roots fix the plant firmly into the ground and prevent it from being blown away by wind or flown away by water.
 - Roots help to bind the soil particles together, thereby preventing them from being carried away by water or wind.
3. Food is essential for the body for the following purposes:
 - It is required for proper growth and development of body.
 - It provides energy for various activities.
 - It is required to perform various functions to sustain life

- For repairing of damaged or injured body parts.
 - It keeps away us from diseases and infections.
4. According to legend, the first magnet was discovered by a Greek shepherd named Magnes. It is said that the nails in his shoes and the iron tip of his staff got stuck to a large black rock on which he was standing. He found that he couldn't move as his boots and his shoe got stuck to the rock. He dug up the earth to find a black rock which stuck iron things to it. It is believed that because of Magnesia, the rock is called magnetite.
 5. Standard units are those that have a fixed value and, therefore, do not vary from person to person and place to place. For uniformity and convenience, a common unit is necessary for measurement of a physical quantity. For accurate measurement, we need some standard representation of every physical quantity.

Model Test Paper-2

A. Darken the correct circle in the OMR sheet:

- | | | | | |
|--------|--------|--------|--------|--------|
| 1. (d) | 2. (d) | 3. (a) | 4. (d) | 5. (a) |
|--------|--------|--------|--------|--------|

B. Fill in the blanks:

- | | | | |
|-----------|------------------|--------------|------------|
| 1. plasma | 2. transpiration | 3. different | 4. habitat |
| 5. cannot | | | |

C. Write 'T' for true and 'F' for false:

- | | | | | |
|------|------|------|------|------|
| 1. F | 2. F | 3. T | 4. F | 5. T |
|------|------|------|------|------|

D. Short Answer type questions:

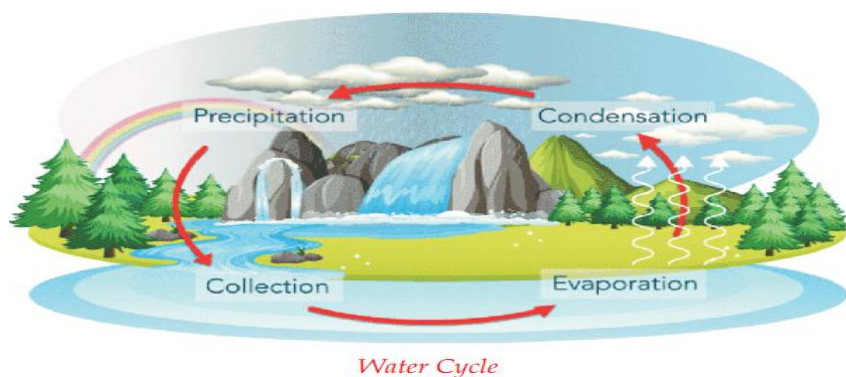
1. About three-fourths of the earth's surface is covered with water. That is why Earth is also called the blue planet.

2. Solid (ice), liquid (water) and gas (vapours) are three states of water.
3. Any substance which is made up of only one kind of particles is called a pure substance such as wood, gold, iron, silver, oxygen, hydrogen etc.
4. The trapping of sun's heat by certain gases present in air is called green house effect. These gases are carbon dioxide and methane. Due to increased pollution, amount of these gases increases in the environment, which leads to increase in green house effect which in turn causes global warming.
5. Ozone layer protects us from harmful ultraviolet rays of the sun, thus preventing many eye problems and skin cancers in human beings.

E. Short Answer type questions:

1. We need water for following purpose:
 - Water is used for drinking, cooking, cleaning, bathing and washing. Water that is suitable for drinking is called potable water.
 - All animals including human beings need water for their body processes like digestion of food, absorption of nutrients, their circulation, getting rid of wastes, etc.
 - Plants also need water for processes like germination, photosynthesis and transporting minerals from roots to other parts of the plants.
 - It is used in agriculture. Water is required for irrigation of crops, which results in growth of crop plants and production of food grains.

- Industries use water to make almost everything we use like paper, rayon, petroleum, refineries, fertilizers and chemicals.
 - All factories use a large amount of water every day-as raw material, for cleaning, for heating, cooling, for generating electricity etc.
2. Water is continuously evaporated from the earth to the atmosphere and from the atmosphere back to the earth again. This circulation of water in nature is called water cycle. When the water vapour of clouds condenses and falls down to the earth as rain, it is called precipitation. If precipitation remains in the liquid form till it reaches the earth, we call it rain.



3. Many tiny stones and other impurities are mixed in the grains, pulses. These impurities should be removed or separated before cooking. Similarly, there are many other instances where we need to separate one substance from another. Sometimes, we need to remove unwanted things, for example, seeds from the fruits, separating tea leaves from tea using a strainer, separating impurities from the drinking water. Separation is also done to obtain useful things such as

obtaining butter by churning milk, and separating cotton fibres from its seeds using cotton gin (a machine).

4. The properties of air are:

5. Air is a mixture of many gases, water vapours and dust particles.
6. Air exerts pressure.
7. Air has mass.
8. Air occupies space.
9. Air is colourless and odourless.

5. We can show that air contains water vapor by demonstrating condensation pour ice cubes into a dry, clean glass tumbler or a steel container and observe the outside surface for a few minutes. Tiny water droplets will appear on the cold exterior, proving that water vapor in the surrounding air has cooled, turned into a liquid, and collected on the glass. It shows that air has water vapours.