

## **CHAPTER-16**

### **GARBAGE IN, GARBAGE OUT**

- Q.1** (a) **What kind of garbage is not converted into compost by the earthworms?**  
(b) **Have you seen any other organism besides earthworm, in your pit?**

**Ans** (a) Plastic bags, tins, bottles, glass, aluminium foils, broken bangles.  
(b) Yes, these organisms include flies, cockroaches etc.

- Q.2** (a) **Is garbage disposal the responsibility only of the government?**  
(b) **Is it possible to reduce the problems relating to disposal of garbage?**

**Ans** (a) No, garbage disposal is not only the responsibility of the government. It is the responsibility of both government and the people.

People should not litter at public places.

They should also take care for the effective disposal of the waste produced at home, schools, hospitals etc.

- (b) Yes, it is possible to reduce the problems relating to disposal of garbage by taking following measures:

1. People should concern about generating less waste products and creating awareness among them.

2. Each and every product should be used efficiently.

3. Biodegradable and non-biodegradable wastes should be separated.

4. Waste products or garbage must be recycled and setting up centre for the treatment of them.

- Q.3** (a) **What do you do with the leftover food at home?**  
(b) **If you and your friends are given the choice of eating in a plastic plate or a banana leaf platter at a party, which one would you prefer and why?**

**Ans** (a) We usually throw the leftover food outside our homes. But kitchen wastes are biodegradable, so left over food at home should be dumped into compost pits so that it gets converted into manure after some days.

- (b) I will prefer to eat in banana leaf platter because it is a biodegradable product and environment friendly and can be decomposed.

- Q.4** (a) **Among different kinds of paper, which type of paper can be recycled?**  
(b) **Write the difference in the material of recycled paper and a new sheet of paper?**

- Ans**
- (a) Papers without having plastic coating on it can be recycled.
  - (b) 1. The recycled paper is slightly yellowish in colour than the new sheet of paper.  
2. Recycled paper is also rough and of low quality than new sheet of paper.

**Q.5 (a) Give an example in which packaging could have been reduced?**

**(b) Write a story on how packaging increases the amount of garbage.**

- (a) If people started carrying their own carry bags for buying groceries and vegetables and fruits then there will be no need for packing those materials by using plastics and thus the packaging could have been reduced.
- (b) Packaging increases the amount of garbage as:
  - 1. It is quite useless once the product is delivered or been utilised. These useless packaging materials are thrown away and just add loads to the garbage.
  - 2. Many packaging materials can't even be reused. Some of them are made of plastics, a non-biodegradable material which add hazards to the environment.

**Q.6 Do you think it is a better to use compost instead of chemical fertilizers? Why?**

**Ans** Yes, I think it is better to use compost instead of chemical fertilisers because:

- (a) It is environment friendly and add natural fertility to the soil.
- (b) It doesn't have adverse effect on nature and creates no pollution.
- (c) The food items grown are also healthy and do not contains any chemicals.
- (d) It is cheaper than the chemical fertiliser.
- (e) Soil will never loss its fertility if we use compost.

#### **Extra Questions**

**Q.1 Define:**

- (a) **Composting-** The rotting and conversion of biodegradable waste into manure is called composting.
- (b) **Biodegradable** –The part of garbage which can rot or decompose in nature to form harmless substance is called biodegradable.
- (c) **Non-biodegradable-**The part of the garbage which does not rot in nature is called non-biodegradable.
- (d) **Landfills-**A low lying open area where the garbage collected from a city or town is dumped is called landfill.

**Q.2 Explain the term vermicomposting.**

**Ans** The method of preparing compost with the help of red worms is called vermicomposting.

**Q.3** We should not add wastes containing salts, pickles, oil, vinegar, meat and milk products in vermicomposting pit to feed the red worms. Why?

**Ans** Addition of substances such as salts, oil, pickles, vinegar, meat and milk products to vermicomposting pit causes growth of disease-causing small organisms. They may cause harm to red worms and hinder in preparation of vermicomposting.

**Q.4** What will happen if garbage is left open in bin?

**Ans**

- (i) Garbage will rot and bad smell will spread all around the surroundings.
- (ii) Garbage will become breeding spot for flies, mosquitoes and other disease-causing small organisms.
- (iii) Due to flies, mosquitoes and other organisms many diseases will spread in the community.
- (iv) Rotting garbage may cause air pollution and spread of respiratory disease such as breathing problems.

## **CHAPTER-15**

### **Air Around Us**

**Q6 and Q.7 to be discussed and solved in the text book.**

**Q.1      What is the composition of air?**

**Ans**      Air consists the mixture of Nitrogen, Oxygen, Carbon Dioxide, smoke, dust, water vapour and other gases.

**Q.2      Which gas in the atmosphere is essential for respiration?**

**Ans**      Oxygen gas in the atmosphere is essential for respiration.

**Q.3      How will you prove that oxygen of air supports burning?**

**Ans**      1. Fix two small lighted candles and cover one of them with an inverted glass.  
2. The candle covered with inverted glass extinguishes after some time whereas other keeps on burning.  
3. It proves that air supports burning as oxygen of air inside the glass is used up, candle extinguishes.

**Q.4      How will you show that air is dissolved in water?**

**Ans**      1. When a vessel containing water is heated, tiny bubbles can be seen on the inner side before the water starts boiling.  
2. These bubbles come from the air dissolved in water.

**Q.5      Why does a lump of cotton wool shrink in water?**

**Ans**      A lump of cotton wool shrinks in water because the air inside wool cotton is driven out by water. The layers stick together and hence lump shrinks.

**Q.8      List five activities that are possible due to the presence of air.**

**Ans**      Five activities that are possible due to the presence of air:

- (1) Helps in seed dispersal and pollination.
- (2) Sailing of ships.
- (3) Flying of the birds and kites.
- (4) Gives us oxygen to respire.
- (5) Helps in the rotation of windmill.

**Q.9      How do plants and animals help each other in exchange of gases in the atmosphere?**

**Ans**      The balance of oxygen and carbon dioxide in the atmosphere is maintained through respiration in plants and animals and by the photosynthesis in plants.

### **Extra Questions**

**Q.1 Why is carbon-dioxide gas used to extinguish fire?**

**Ans** It is because carbon-dioxide does not support combustion. When sprayed on burning object it stops the supply of oxygen and extinguishes fire.

**Q.2 What is air? Name the major constituents of air. Also give their volume proportions in air.**

**Ans** Air is a mixture of gases. The major constituents of air are nitrogen, oxygen, carbon dioxide, water vapour and other gases. The percentage composition of constituents of air are as given below:

- (1) Nitrogen – 78%
- (2) Oxygen – 21%
- (3) Carbon dioxide – 0.03%
- (4) Other gases, water vapour and dust particles- 0.97%

**Q.3 How will you prove that soil contains air in it?**

**Ans** Take a glass tumbler add some soil in it, then pour some water on the soil slowly, the air-bubbles comes out of the soil. This proves that soil holds air in it.

**Q.4 Why do mountaineers carry oxygen cylinders with them?**

**Ans** As we go higher up, the air becomes thin, oxygen in the air decreases so mountaineers carry oxygen cylinders with them.

# CHAPTER-14

## WATER

**Q.1, Q.2, Q.3 to be solved in the text**

**Q.4** Suppose you want to dry your school uniform quickly. Would spreading it near an anghiti or heater help? If yes, how?

**Ans** Yes, spreading it near an anghiti or heater will surely help as heater and anghiti are source of heat which vaporize the water of the wet clothes and thus help in drying.

**Q.5** Take out a cooled bottle of water from refrigerator and keep it on a table. After some time, you notice a puddle of water around it. Why?

**Ans** The puddle of water seen around the cooled bottle of water is due to the condensation effect. As the water vapour present in the air collides with the surface of the bottle it condenses and turns into water droplets.

**Q.6** To clean their spectacles, people often breathe out on glasses to make them wet. Explain why the glasses become wet?

**Ans** When we breathe out, water vapours also come out with the exhaled air. These water vapours condense when come in contact with the glasses of spectacle and make them wet.

**Q.7** How are clouds formed?

**Ans**

1. The process of evaporation and condensation plays an important role in formation of clouds.
2. The water from the water bodies evaporates due to the heat energy from sun and moves higher from the surface of the earth.
2. As water vapour goes higher from the surface of the earth, it gets cooler. When the air moves up, it gets cooler and cooler.
3. At sufficient heights the air becomes so cool that the water vapour present in it condenses to form tiny water droplets.
4. These tiny droplets that remain floating in air and appear to us as clouds

**Q.8** When does a drought occur?

**Ans**

1. If it does not rain for one or two years, the soil continuous to lose water by evaporation and transpiration.
2. Since, it is not being brought back by rain, the soil becomes dry.
3. The level of water in ponds and wells of the region goes down and some of them may even dry up.
4. The ground water may also become scare. This may lead to drought.

### Extra questions

**Q.1 Define:**

**(a) Water cycle-** The continuous circulation of water from earth to atmosphere and back to earth is called water cycle.

**(b) Ground water-** The water which is present under the ground is termed as ground water.

**Q.2 How does heavy rain affect us?**

**Ans** Heavy rains may cause:

1. A rise of water level in dams, rivers, lakes, etc.
2. Waterlogging and floods.
3. Floods cause damage to property, crops and animals.

**Q.3 What is meant by conservation of water? Suggest any three methods to conserve water.**

**Ans** Careful and economical use of water and avoiding its wastage is called conservation of water. Suggestions for conserving water:

1. Use only the required quantity of water.
2. Trees and forests help in bringing rain. So, to conserve water, we should plant more and more trees.
3. By collecting rainwater in tanks, ponds or by constructing check dams.

**Q.4 What is rainwater harvesting? Describe the method of rainwater harvesting.**

**Ans** Rainwater harvesting is the collection of rainwater and storing for future use. **Methods of Rainwater Harvesting:**

1. Rooftop rainwater harvesting- In this system, the rainwater from the rooftop is collected in a storage tank, through pipes.
2. Another option is to allow water to go into the ground directly from the roadside drains that collect rainwater.

**Q.5 Mention two main functions of water for living organisms.**

**Ans** Two main functions of water for living organisms are:

1. Water is essential for the germination of seeds, growth of plants and in photosynthesis.
2. Water is used for the transportation of people and goods.

**Q.6 Write the importance of water cycle in nature.**

**Ans**

1. Water cycle maintains the water balance on land, water bodies and atmosphere.
2. It also controls weather pattern and sustains plant and animal life on earth.

## **CHAPTER-13**

### **FUN WITH MAGNETS**

**Q.1, Q.2, Q.4 and Q.10**

**Q.3** It is observed that a pencil sharpener gets attracted by both the poles of a magnet although its body is made of plastic. Name the material that might have been used to make some part of it

**Ans** The blade of the sharpener is made up of iron which is a magnetic substance which gets attracted by both the poles of a magnet although its body of the sharp is made of plastic.

**Q.5** Write any two properties of a magnet.

**Ans** Properties of magnet:

(a) Attracts magnetic materials (object made of iron, nickel or cobalt).

(b) Freely suspended magnet always comes in rest in north-south direction.

(c) Each magnet has two poles-north pole and south pole. Like poles of magnets repel each other and unlike pole attract each other.

**Q.6** Where are poles of a bar magnet located?

**Ans** Poles of a bar magnet are located at its two ends.

**Q.7** A bar magnet has no markings to indicate its poles. How would you find out near which end is its north pole located?

**Ans** To locate its north pole, we would do the following steps:

(i) Take a bar magnet and suspend it freely from the middle with the help of thread.

(ii) Allow the magnet to come to rest.

(iii) The pole of the magnet which faces the north direction is marked as North pole and other pole is marked as South pole.

**Q.8** You are given an iron strip. How will you make it into a magnet?

**Ans** Steps to make an iron strip into bar magnet- Magnetic induction/ Touch and Stroke method

(i) A flat strip of iron is taken.

(ii) On the iron strip, a bar magnet is placed and rubbed against it horizontally only in one direction.

(iii) When you reached the end of the strip, lift the magnet and again start rubbing from the initial position.

(iv) This process is repeated more than 40-50 times.

(v) After this, the iron strip will attain the property of magnet

**Q.9 How is a compass used to find directions?**

**Ans** A compass has a magnetic needle attached to it which can rotate freely. The magnet always points to north-south direction which is marked on the compass and thus helps in finding direction.

### EXTRA QUESTIONS

**Q.1 Mention any two methods by which a magnet can be demagnetized.**

**Ans** (i) By hammering the magnet strongly.  
(ii) By heating a magnet strongly and keeping it in the east-west direction.  
(iii) By dropping from height.  
(iv) By keeping near electronic devices.

**Q.2 Why is it said that repulsion is a sure test for magnetism?**

Repulsion is a sure test for magnetism. To identify whether the material is an iron rod or a magnet, repulsion is the only way. This is because a magnet attracts an iron object at both the poles but like poles of two magnets always repel each other.

**Q.3 Draw a neat diagram of different types of magnets.**

**Ans**



(a) Bar magnet



(b) Horseshoe magnet



(b) Ball end magnet



(d) Cylindrical magnet

**Q.4 What is the difference between magnetic and non-magnetic material? Give examples.**

**Ans** The materials which get attracted towards a magnet are magnetic materials. For example-iron, cobalt etc. Materials which are not attracted towards a magnet are non-magnetic materials. For example-plastic, glass etc.

## CHAPTER-12

### ELECTRICITY AND CIRCUITS

Q.1, Q2.,Q3 , Q.4,Q.6 and Q.7 to be discussed and solved in the text book

**Q.5** What is the purpose of using an electric switch? Name some electrical gadgets that have switches built into them.

**Ans** Switch is a simple device that is used to either break the electric circuit or to complete it. Electric gadgets that have switches built into them are microwaves, rice cooker, automatic electric iron, toasters etc.

**Q.8** Using the “conduction tester” on an object it was found that the bulb begins to glow. Is that object a conductor or an insulator? Explain.

**Ans** That object is a conductor because electricity can pass through only a conductor and not through an insulator. If the object is insulator, the bulb would not glow.

**Q.9** Why should an electrician use rubber gloves while repairing an electric switch at your home?

**Ans** The rubber gloves are insulators. This saves the electrician from getting an electric shock. That is why an electrician uses rubber gloves, while repairing an electric switch.

**Q.10** The handles of the tools like screwdrivers and pliers used by electrician for repair work usually have plastic or rubber covers on them. Can you explain why?

**Ans** Plastic and rubber, both are bad conductor of electricity. Hence they protect the electrician against electric shock while repairing work.

#### **Extra Questions.**

**Q.1** Define:

**1.Electric current-** Electric current is defined as the flow of charges.

**2.Conductors-** The materials which easily allows the electric current to pass through it. Example: any metal.

**3.Insulators-** The material which do not allow the electric current to pass through it. Example: Rubber

**Q.2** How many terminals are there in an electric cell?

**Ans** An electric cell has two terminals.

1.Positive terminal- Metal cap is positive terminal.

2.Negative terminal-Metal disc is negative terminal.

In a closed circuit, the current flows from +ve to -ve terminal of the cell.

**Q.3** What is an electric circuit? Define the types of electric circuit.

**Ans**

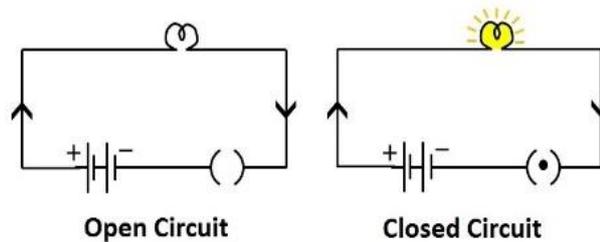
1) The diagram that shows the path of electric current is called an electric circuit.

(2) There are two types of electric circuit:

(a) Open electric circuit: The circuit in which electrical contact at any point is broken is called open electric circuit.

(b) Closed electric circuit: The circuit in which electric current flows from one terminal of a cell or battery to the other is called a closed circuit.

### Open and Closed Circuit



**Q.4**

**What are the components of an electric circuit?**

**Ans**

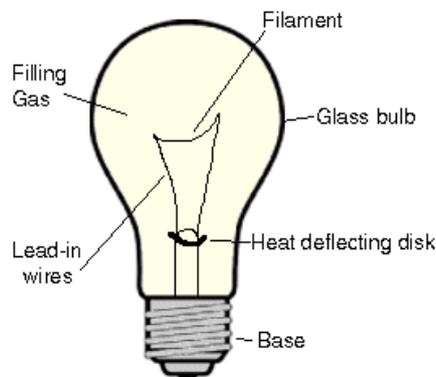
An electric circuit has the following components:

- (a) A cell or battery – source of electricity
- (b) Connecting wire- path to flow electric current
- (c) Bulb- shows that circuit is working or not
- (d) Key or switch- used to complete or break an electric circuit

**Q.5**

**Draw a neat labelled diagram of an electric bulb.**

**Ans**



**Q.6**

**How does an electric bulb get fused?**

**Ans**

If there is a break in the filament of a bulb, it means there is a break in the path of electric current between the terminals of an electric cell. Therefore, a bulb does not light up as no current passes through the filament and considered as fused bulb.

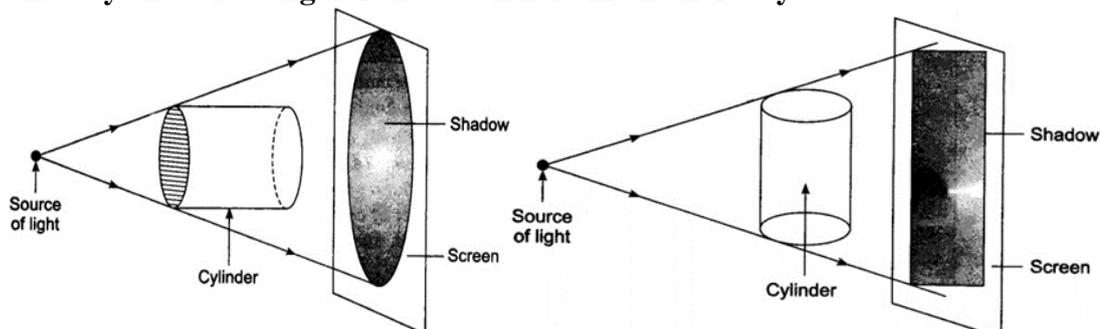
# CHAPTER-11

## LIGHT, SHADOWS AND REFLECTIONS

**Q.1 and Q.2 to be discussed and solved in the text**

**Q.3** Can you think of creating a shape that would give a circular shadow if held in one way and a rectangular shadow if held in another way?

**Ans**



Yes, there are many things which give a circular shadow if held in one way and a rectangular shadow if held in another way. For example: a cylinder.

**Q.4** In a completely dark room, if you hold up a mirror in front of you, will you see reflection of yourself in the mirror?

**Ans** In completely dark room, No one can see any image in the mirror, because there is no light falling on us, which can be reflected to show the image.

### EXTRA QUESTIONS

**Q.1** What is shadow?

**Ans** Shadow is the dark space behind an opaque object where light does not reach.

**Q.2** State difference between a luminous and a non-luminous body.

**Ans**

#### Luminous

#### Non-luminous

- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>1. An object which gives out its own light is called a luminous object.</li> <li>2. A luminous object can be seen because the light given out by it enters our eyes.</li> </ol> | <ol style="list-style-type: none"> <li>1. An object which does not give out its own light is called a non-luminous object.</li> <li>2. The non-luminous objects can be seen only when light from luminous object falls on them.</li> </ol> |
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**Q.3** What are the essential conditions for the formation of shadow?

**Ans**

- (1) There should be an opaque material.
- (2) There should be a source of light
- (3) Screen.

The object must be placed in the path of light. Then shadow is formed on the screen.

**Q.4** Define: Reflection of light.

**Ans**

The process of bouncing back the light rays which falls on the surface of an object, is called reflection of light.

**Q.5** What do you mean by scattering of light?

**Ans**

When a beam of light falls on a rough surface it is turned back in different directions. It is called scattering of light.

**Q.6** You have to cast the shadow of your pencil on the wall with the help of candle in a dark room. How can you obtain the shadow of same size, small size and big size of the same pencil?

**Ans**

(a) The shadow of the pencil will be smaller when the pencil is taken close to the wall and away from the candle.

- (b)The shadow will be bigger in size when the pencil is taken closer to the candle.  
(c)To get the same sized shadow as the pencil is, bring the pencil very close to wall. .

**Q.7**

**Ans**

**Give the characteristics of image formed by a plane mirror.**

- 1) It is of the same size, shape and colour of the object.
- 2) It is laterally inverted i.e., right appears left, left appears right.
- 3) Image is formed behind the mirror at the same distance as the object in front of it.

**Q.8**

- a) **What is the basic principle behind a pinhole camera?**
- b) **What kind of image is formed by it?**
- c) **What is the screen used in a pinhole camera?**

**Ans**

- a) Light travels in a straight line.
- b) Inverted and small.
- c) Translucent sheet/ butter paper.

**Q.9**

**Ans**

**What is a periscope? How do we see an image with its help?**

An optical object which helps us to see objects located above our line of sight. We see image of objects due to reflection by the mirrors located at an angle of  $45^\circ$  in it.

## CHAPTER-10

### MOTION AND MEASUREMENT OF DISTANCES

**Q.2 and Q.4 to be solved in the text book**

**Q.1** Give two examples each of modes of transport used on land, water and air.

**Ans**

On Land	In Water	In Air
Car, Train	Boat, Ship	Aero plane, Helicopter

**Q.3** Why can a pace or footstep not be used as a standard unit of length?

**Ans**

We cannot use pace or a footstep as standard unit of length as the size of foot and the footstep will not be the same for every individual. It varies from person to person. Thus, the measurement will not be same for different people.

**Q.5** The height of a person is 1.65 m. express it into cm and mm.

**Ans**

1.65 m = 1.65 X 100 cm = 165 cm. ( 1 m = 100 cm)

1.65 m = 165 cm = 165 X 10 mm = 1650 mm ( 1cm = 10 mm)

**Q.6** The distance between Radha's home and her school is 3250 m. express this distance into km.

**Ans**

3250 m = 3250/1000 km = 3.250 km ( 1 m = 1/1000 km)

**Q.7** While measuring the length of a knitting needle, the reading of the scale at one end is 3.0 cm and at the other end 33.1 cm. What is the length of the needle?

**Ans**

Length of needle = final reading - Initial reading = 33.1 cm – 3.0 cm = 30.1 cm.

**Q.8** Write the similarities and differences between the motion of a bicycle and ceiling fan that has been switched on.

**Ans**

Similarities: - Wheel of a bicycle and ceiling fan both shows circular motion.

Differences: - 1.Cycle moves in rectilinear motion but ceiling fan does not move in rectilinear motion.

2. Cycle moves in non-periodic motion whereas fan moves in periodic motion.

**Q.9** Why could you not use an elastic measuring tape to measure distance? What would be some of the problems you would meet in telling someone about a distance you measured with an elastic tape?

**Ans**

1. Elastic tap will not give accurate measurement because it increases in length, when stretched and reduces in size when not stretched.

2. While taking the measurement with an elastic tape, we have to tell whether the tape was stretched and by how much. This is very difficult.

**Q.10** Give two examples of periodic motion.

**Ans**

Example of periodic motion- (i) Pendulum (ii) Child on the swing.

**Extra questions**

**Q.1**

**Define;**

**a. Circular motion-** The motion in which an object moves in such a way as its distance from the fixed centre remains the same. Eg: movement of fan, movement of spinning top

**b. Rectilinear motion-** Motion in a straight line is called rectilinear motion. Eg: car moving on road, rain falling from clouds

- c. **Periodic motion-** The motion that repeats itself after an equal interval of time is called periodic motion. Eg: Rotation of earth, moving hands of clock
- d. **Distance-** The length of space between two points or two places is called distance.
- e. **Standard unit-** A unit of measurement which has a fixed value, which does not change from person to person or place to place, is called a standard unit of measurement.

**Q.2**

**Why do we need standard unit for measurement?**

**Ans**

1.We need standard unit for measurement for the sake of uniformity in measurement.

**Q.3**

**How will you judge whether an object is at rest or in motion?**

**Ans**

1.An object is said to be in motion when it changes its position with respect to time.

2.An object is said to be at rest when it does not change its position with respect to time.

## **CHAPTER-8**

### **BODY MOVEMENTS**

**Pg. No. 78**

**Q.1. Q.2.Q.3 to be discussed and solved in the class**

- Q.4** (a) **Which of the skull bones are movable?**  
(b) **Why can our elbow not move backwards?**

- Ans** (a) In skull, only lower jaw is movable.  
(b) Our elbow cannot move backwards because the elbow has a hinge joint that allows only back and forth movement.

#### **Extra Questions**

**Define:**

**a. Joints-** The place where two bones of our body are joined together is called joint.

**b. Skeleton-** all bones of our body form a framework to give shape to our body. This framework is called skeleton.

**c. Rib cage-** Ribs bend and they join the chest bone and backbone together to form a box. This is called rib cage.

**d. Cartilage-** Additional parts of the skeleton that are not hard as bones and can be bend are called cartilage.

- Q.1** **How is a bird's body adapted for flying?**

**Ans** The following adaptations are seen in the body of birds:

- (i) Bones are hollow and light.
- (ii) Forelimbs are modified into wings.
- (iii) Body is streamlined

- Q.2** **Why do we need two muscles together to move a bone?**

- Ans**
1. A muscle can only pull, it cannot push.
  2. Thus, two muscles are required to work together to move a bone.
  3. When one muscle contracts, the bone is pulled in that direction.
  4. When another muscle of the pair pulls, it brings the bone in its original position.

- Q.3** **How does the snake move?**

- Ans**
1. Snakes have a long backbone and many thin muscles which help in the movement.
  2. The snake's body curves into many loops. Each loop of the snake gives it a forward push by pressing against the ground.

**Q.4 How does the earthworm move?**

**Ans**

1. Earthworm does not have bones. It has muscles.
2. During the movement, earthworm first extends front part of the body keeping the rear portion fixed to the ground.
3. Then it fixes the front and releases the rear end. It then shortens the body and pulls the rear end forward.
4. In this way by repeating such muscular expansions and contractions earthworm moves.

**Q.5 How does the snail move?**

**Ans**

1. The rounded structure on the back of the snail is called shell. It is the outer skeleton (exoskeleton) of snail.
2. When it starts moving a thick structure and the head of the snail may come out of an opening in the shell.
3. The thick structure is called foot, which is made up of strong muscles. It helps snail in moving.

**Q.6 Explain various kinds of joints found in our body and give example of each.**

**Ans**

There are three types of joints in our body:

**(i) Freely movable joints:** Those joints which allow free movement are called freely movable joints.

**Types of freely movable joints-**

**(a) Ball and socket joint:** This joint allows movement in all directions. The rounded end of one bone fits into the hollow space of other bone. Eg: shoulder joint, hip joint.

**(b) Pivotal joint:** This joint allows movement of our head forward, backward and left or right. Eg; Joint between neck and head.

**(c) Hinge joint:** The joint which allows movement only in one plane is called hinge joint. For example, fingers, knees, elbow.

**(d) Gliding joint:** These joints allow only a limited amount of movement of sliding nature of cartilage. Eg: wrist, ankle.

**(ii) Fixed/Immovable joint-** The joint which does not allow movement is called fixed joint. E.g., joint in the skull.

**(iii) Slightly Movable joint-**The joint which can move slightly is called slightly movable joint. E.g., ribcage, backbone

**Q.7 What are the main functions of skeletal system?**

**Ans**

1. It gives shape to the body.
2. It forms a framework and provides support to the body.

3. It protects soft internal organs like heart, lungs, etc
4. It facilitates movement.
5. It produces blood cells.

## CHAPTER-7

### Getting to Know Plants

#### Defines:

- a. **Transpiration-** The process by which plants release water in the form of water vapour through stomata is called transpiration.
- b. **Photosynthesis-**Plants prepare their food in the presence of sunlight and chlorophyll with water and carbon dioxide. This process is called photosynthesis.
- c. **Petiole-**The part of the leaf by which it is attached to the stem, is called petiole.
- d. **Lamina-** The broad green flat part of the leaf is called lamina.
- e. **Ovules-** Small bead like structures inside the ovary are called ovules.
- f. **Leaf venation:** The arrangement of veins in a leaf is called leaf venation.

#### Text book Exercise:

Pg. No. 64

**Q.1. Q.2. to be discussed and solved in the class.**

**Q.3 Can you find a plant in your house or in your neighbourhood, which has a long but a weak stem? Write its name. In which category would you classify it?**

**Ans** Yes, Lauki (Bottle guard) plant. It is a climber.

**Q.4 What is the function of a stem in a plant?**

**Ans** **Function of stem:**

- (i) Gives support to plant.
- (ii) Conducts water and minerals from roots to leaves.
- (iii) Conducts food from leaves to other parts of the plant.

**Q.5 Which of the following leaves have reticulate venation?**

Wheat, Tulsi, Maize, Grass, Coriander, China rose.

**Ans** Tulsi, Coriander, China rose have reticulate venation.

**Q.6 If a plant has fibrous root, what types of venation do its leaves likely to have?**

**Ans** Parallel venation.

**Q.7 If a plant has leaves with reticulate venation, the kind of roots will it have?**

**Ans** Tap root.

**Q.8 Is it possible for you to recognize the leaves without seeing them? How?**

**Ans** Yes, by taking an impression of the leaf. Put paper on the leaf. Hold the pencil tip sideways and rub it on the portion of paper having leaf below. You get impression of leaf with some lines on it. These lines help us to recognize the types of leaf.

**Q.9 Write the name of the parts of flower.**

**Ans** **Parts of flower:**

- (i) Sepals, (ii) Petals, (iii) Stigma, (iv) Style, (v) Anther

**Q.10 Which of the following plants have you seen? Of those that you have seen, which ones have flowers?**

Grass, Maize, Wheat, Chili, Tomato, Tulsi, Pipal, Shisham, Banana, Mango, Jamun, Guava, Pomegranate, Papaya, Banana, Lemon, sugarcane, Potato, Groundnut.

**Ans** **Plants with flower are:**

Chili, Tomato, Tulsi, Mango, Lemon, Jamun, Guava, Pomegranate, Papaya, Banana

**Q.11 Name the part of the plant which produces its food. Name this process.**

**Ans** Leaves of green plants produce food. The process is called photosynthesis.

**Q.12 In which part of flower, you likely to find the ovary?**

**Ans** It is the lowermost and swollen part of the pistil.

**Extra questions**

**Q.1 Write important functions of-**

**Ans a Leaf-**

1. Leaves prepare food for the plants by the process of photosynthesis.
2. Tiny pores stomata present on leaf's surface help in exchange of gases.
3. Leaves perform transpiration.
4. In some plants leaves store food and can be eaten. Eg: cabbage, spinach

**b Stem-**

1. Stem helps the plant to keep upright.
2. Stem carries water and minerals from the roots to the leaves and prepared food to various parts of the plants.
3. Some stems store food and can be eaten, such as- potato, onion etc

**c. Roots-**

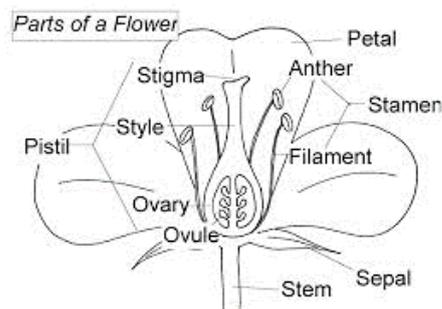
1. Roots anchor the plant to the soil.
2. Roots absorb water and minerals from the soil.
3. In some plants food is stored in roots and they can be eaten. Eg. Carrot, turnip etc

**d. Flowers-**

1. Flower is main reproductive organ in plants and leads to the formation of fruits and seeds.
2. Flowers also can be eaten such as- cauliflower, banana, pumpkin etc
3. Flowers also used for decoration.

**Q.2 Draw a well labelled diagram of a complete flower and write the functions of its various parts.**

**Ans**



A flower consists of various parts-

1. **Sepals-** It is the outer most green colour leaf like structure of the flower. It protects the flower in bud stage.
2. **Petals-** It is the most prominent part of the flower. Petals are usually bright coloured. This helps to attract insects for pollination.
3. **Stamen-** It is the male reproductive part of the flower. It consists of filament and anther. Anther produces the male gametes.
4. **Pistil/ Carpel-** It is innermost and female reproductive part of the flower. It consists of stigma, style and ovary.

Ovary contains ovules and female gamete is present inside the ovule.

**Q.3**

Give the differences between-

**a.**

**Root**

1. Root is underground non green part of the plant's body.
2. Its main function is absorption of water and minerals from the soil.

**Stem**

1. Stem is above the ground part of the plant's body.
2. Its main function is transportation of substances.

**b.**

**Nodes**

The place from where branches and leaves arise on the stem is called node.

**Internodes**

The gap between two nodes on the stem is called inter node.

**c.**

**Herbs**

1. Small plants with tender and green stem are called herbs.
2. Branches are present but not too many.

**Shrubs**

1. Medium sized plants with hard woody stems are called shrubs.
2. Branches are present and they arise near the ground level.

**d.**

**Creepers**

Plants that cannot stand upright and spread on the ground are called creepers.  
Eg: watermelon, pumpkin

**Climbers**

Plants which climb up with the support of neighbouring structure are called climbers.  
Eg: money plant, grapevine

**e.**

**Parallel venation**

1. Veins run parallel to one another.
2. Plants having leaves with parallel venation will have fibrous root system.  
E.g., Banana

**Reticulate venation**

1. Veins are arranged in a net like pattern on both sides of midrib.
2. Plants having leaves with reticulate venation will have tap root.  
E.g., Pea, Peepal



**f.**

**Tap root**

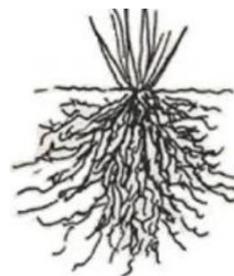
There is a main root, from which a number of lateral roots arise.

**Fibrous root**

There is no main root, a number of similar sized roots arise in a cluster and spread.



Eg: Neem



Eg. Grass

## CHAPTER-5

### SEPARATION OF SUBSTANCES

**Q.8 and Q.9 to be solved in the text book**

**Q.1 Why do we need to separate different components of mixture? Give two examples.**

**Ans** We need to separate different components of a mixture:

1. To separate harmful or non-useful substances that may be mixed with it.
2. To separate even useful components if we need to use them separately.

Two examples are:

- Milk or curd is churned to separate butter.
- Grain is separated from stalks, while harvesting.

**Q.2 What is winnowing? Where is it used?**

**Ans**

1. Winnowing is the process of separating heavier and lighter components of mixture by wind or by blowing air.
2. This method is commonly used by farmers to separate lighter husk particles from heavier seeds grain.

**Q.3 How will you separate husk or dirt particles from a given sample of pulses before cooking?**

**Ans** Husk or dirt particles from pulses are separated either by winnowing and sieving or by washing the pulses.

**Q.4 What is sieving? Where is it used?**

**Ans**

1. Sieving is a method of separation which allows the fine particles to pass through the holes of the sieve while the bigger impurities remain on the sieve.
2. It is used at construction sites to separate pebbles and stones from sand.

**Q.5 How will you separate sand and water from their mixture?**

**Ans**

1. We can separate sand and water from their mixture by sedimentation, decantation and filtration.
2. Sand is insoluble and heavier than water, it settles down at the bottom.
3. After that we can easily separate water from sand by decantation.
4. Now pour the decanted water into the filter paper fitted in a funnel.
5. We will observe that clear water is collected in beaker while the sand particles remain on filter paper.

**Q.6 Is it possible to separate sugar mixed with wheat flour? If yes, how will you do it?**

**Ans**

1. Yes, it is possible to separate sugar mixed with wheat flour. This can be done through the process of sieving.
2. The mixture of sugar and wheat flour is allowed to pass through a sieve.
3. The fine wheat flour passes through the sieve while sugar remains on the sieve.

**Q.7 How would you obtain clear water from a sample of muddy water?**

**Ans** Same answer as Q5

**Q.10 Lemonade is prepared by mixing lemon juice and sugar in water. You wish to add ice to cool it. Should you add ice to the lemonade before or after dissolving sugar? In which case would be possible to dissolve more sugar?**

**Ans** We should add ice after dissolving sugar because the dissolving power of water decreases with decrease in temperature. So, if we add ice before dissolving sugar, less amount of sugar will get dissolved.

**Extra questions:**

**Define:**

- a Mixture-** When two or more than two substances are mixed together and no chemical reaction takes place there. It is called a mixture.
- b Handpicking-** The process used to separate slightly larger particles from a mixture by hand is called handpicking.
- c Sedimentation-** The deposition of solid impurities at the bottom of a liquid is called sedimentation.
- d Decantation-** The pouring out of a liquid from a vessel without disturbing sediments is called decantation.

**Q.1** **When is handpicking used?**

**Ans** The process of handpicking is used when:

1. The quantity of mixture is not too large.
2. The undesirable substance is of different shape, size and colour.
3. The undesirable substances are present in small quantity.

**Q.2** **Differentiate between-**

<b>Ans</b>	<b>a.</b>	<b><u>Evaporation</u></b>	<b><u>Condensation</u></b>
	1. The process of converting liquid state into its vapour is called evaporation.		1. The process of converting vapour state into its liquid state is called condensation.
	2. Heat is absorbed.		2. Heat is released.
	<b>b.</b>	<b><u>Threshing</u></b>	<b><u>Winnowing</u></b>
	1. The process of separating grains from stalk is called threshing.		1. It is the process of separating husk from grains.
	2. It can be done manually by beating the stalks on a hard surface or by using machine called thresher.		2. It can be done manually by blowing wind or by using a machine called winnower.

**Q.3** **How will you separate oil and water from their mixture?**

- Ans**
1. Oil, being lighter than water, will float on it.
  2. Two distinct layers are formed and slowly oil is allowed to flow into another container and is separated from water.
  3. Separating funnel can also be used to separate the two.

## **CHAPTER-6**

### **CHANGES AROUND US**

**Pg. No. 51**

**Q.1 To walk through a water-logged area, you usually shorten the length of your dress by folding it. Can this change be reversed?**

**Ans** Yes, this can be reversed by unfolding the folded clothes.

**Q.2 You accidentally dropped your favourite toy and broke it. This is a change you did not want. Can this change be reversed?**

**Ans** No, this change cannot be reversed.

Breaking a toy is an irreversible change.

**Q.3 To be discussed and solved in the text**

**Q.4 A drawing sheet changes when you draw a picture on it. Can you reverse this change?**

**Ans** We can reverse this change if the picture is drawn by pencil on drawing sheet.

We can't reverse this change if the picture is made by pen, oil colours or sketch pen.

**Q.5 Give example to explain the difference between changes that can or cannot be reversed.**

**Ans** (i) Paper can be folded to make different shapes. This is reversible change as shapes of paper can be unfolded back into paper sheet. But when paper is burnt and turned into ash, it can't be reversed.

(ii) If we fill balloon with air, the shape and size of the balloon changes. This change c

**Q.6 A thick coating of paste of Plaster of Paris is applied over the bandage on a fractured bone. It becomes hard on drying to keep the fractured bone immobilized. Can the change in POP be reversed?**

**Ans** No, the change in plaster of Paris cannot be reversed as it became hard on drying and new product is formed.

**Q.7 A bag of cement lying in the open gets wet due to rain during the night. The next day the sun shines brightly. Do you think the changes, which have occurred in the cement, could be reversed?**

**Ans** No, because changes occur in cement, due to which it gradually sets in to a hard mass and this is an irreversible change.

## Extra Questions

### **Defines:**

**1. Reversible Change:** A change in which we get initial substance back by reversing the action is called reversible change. E.g., Inflating and deflating a balloon.

**2. Irreversible Change:** A change in which we cannot get back the initial substance by reversing the action. E.g., bursting a balloon.

**Q.1 Why does a blacksmith heat the metal rim to fix it on a cart wheel?**

**Ans** A blacksmith heats the metal rim to fix it onto a cart wheel because

1. A metal rim is made slightly smaller. On heating, the rim expands and fits onto the wheel.

2. Then on cooling, the rim contracts and fits tightly onto the wheel.

**Q.2 What are slow and fast changes? Give examples.**

**Ans** The changes which take place in a long period of time are called slow changes whereas, the changes which take place in a short period of time are called fast changes.

### **Examples:**

(a) Rusting of iron, ripening of fruits, growing of trees are slow changes.

(b) Burning of paper, stretching of rubber band, blowing of balloons, are fast changes.

**Q.3 What is a physical change? Explain with example.**

**Ans** The change in which only physical properties of a substance are changed and no new substance is formed is called a physical change.

It is a reversible change. Example: Boiling and freezing of water.

**Q.4 What is a chemical change? Explain with example.**

**Ans** The changes in which new substance is formed with new chemical properties is called a chemical change.

Example: By burning of paper a new substance ash is formed.

**Q.5 Why does a candle reduce in size on burning? What kind of change is it?**

**Ans** The candle reduces in size upon burning because-

1. The wax near the wick burns and changes into vapour and fumes.

2. It is an irreversible change as a new substance is formed that cannot be turned back into the candle again.

## CHAPTER-3

### FIBRE TO FABRIC

**Q.1, Q.2 Q.3 and Q.5 to be solved in text book.**

**Q.4 From which parts of the plant cotton and jute are obtained?**

**Ans** Cotton–From the fruit of the cotton plant (cotton boll)  
Jute– From the stem of jute plant.

**Q.6 Explain the process of making yarn from fibre.**

The process of making yarn from fibres is called spinning.  
In this process fibres from a mass of cotton were drawn out and twisted.  
This brings the fibres together to form a yarn.

#### **Extra Questions**

**Q.1 Defines:**

- a. Fibres-** The thin strands of threads made up of still thinner strands are called fibres.
- b. Looms-** The machines used for weaving of fabric are called looms. They can be power operated or hand operated.
- c. Fabric-** The material made up of yarn is called fabric.
- d. Yarn-** Fibres are twisted together to make yarn.

**Q.2 State how jute is obtained from the jute plant:**

- Ans**
1. The jute plant harvesting is done at flowering stage.
  2. The stems of the harvested plants are bundled and kept in water for ten to fifteen days.
  3. The stems rot and fibres are separated by hand.
  4. Then these fibres are converted into yarns that are used to make fabrics.

**Q.4 How are yarns made from the cotton ball?**

- Ans**
1. The fruits of cotton plant are called cotton bolls.
  2. After maturing, bolls open and seeds covered with cotton fibres can be seen.
  3. From these bolls, cotton is usually picked by hands.
  4. Fibres are then separated from the seeds by combing. This process is called ginning of cotton.
  5. After ginning fibres are sent for spinning to convert into yarn.

**Q.3 What is knitting and weaving?**

- Ans** Knitting and weaving are the methods used for making different kinds of fabrics.
- a. knitting- The process of using a single yarn to make a piece of fabric is called knitting.
  - b. Weaving – The process of arranging two sets of yarn together to make a fabric is called weaving.

**Q.4 Which devices are used for spinning?**

- Ans**
1. A simple device used for spinning is a hand spindle, also called takli.
  2. Another hand operated device used for spinning is charkha.
  3. Spinning of yarn on a large scale is done with the help of spinning machine.

**Q.5 What type of soil and climate are good for growing cotton?**

**Ans** Black soil and warm climate are good for growing cotton.

**Q.6 In which region was the cotton crop grown in India in early days?**

**Ans** The early Indians grew cotton crop in the regions near river Ganga.

**Q.7 Explain the various types of fibres.**

**Ans** Mainly fibres are of two types:

1. Natural fibre- fibres obtained from natural sources such as plants and animals are called natural fibres. Natural fibres are of two types-

a. Plant fibres- Fibres obtained from plants are called plant fibres. Eg; cotton, jute  
b. Animal fibres- Fibres obtained from animals are called animal fibres. Eg: wool, silk

2. Synthetic fibre- Fibre made in factories using chemicals are called synthetic or artificial fibres. Eg: Nylon, Polyester etc.

## CHAPTER 4

### SORTING MATERIALS INTO GROUPS

**Q.1, Q.2, Q.3, Q4, Q.5, Q.6, Q7 to be solved in text book.**

**Extra questions**

**Defines:**

**a. Material-** The matter of which an object is made is called materials.

**b. Transparent materials** - Materials through which light passes completely are called transparent materials. Eg: clear glass, clean water, air etc.

**c. Translucent materials** - Materials which allow light to pass through them partially are called translucent materials. Eg: Frosted glass, Oiled paper etc.

**d. Opaque materials** - Materials which do not allow light to pass through them are called opaque materials. Eg: Wood, Metals, Book etc.

**e. Density-** density is defined as mass per unit volume.

$$\text{Density} = \text{Mass/Volume}$$

**Q.1 “Grouping of objects helps the shopkeeper”, Describe the statement.**

**Ans** shopkeeper feels easy by proper grouping of objects in following ways:

(i) The object can be easily and quickly located.

(ii) He will easily identify the goods that are going to be sold out and he can buy easily for his customers

**Q.2 What are soluble and insoluble materials?**

**Ans** 1. If a material dissolves completely in water, is said to be soluble materials. Eg: salt, sugar.

2. If a material does not dissolve in water, is said to be insoluble. Eg: soil, chalk powder.

**Q.3 Why cups are not made of cloth?**

**Ans** Generally, we use cups, which are made by glass, plastic and metal, which contain liquid. Cups, which are made by cloth, cannot hold a liquid due to the following reasons:

(i) Cloth piece is very light to hold liquids

(ii) Cloth piece contain micro pores through which the liquid comes out

**Q.4 Lustre (shine) is the property of metal. Certain metal articles become dull and lose their shine why? Give reason**

**Ans** Metals react with moisture when exposed to air and gases present in it, hence forming a dull layer of other compounds on it.

**Q.5 How can you identify hard and soft materials based on their hardness? Explain with example.**

**Ans** 1. Materials which can be compressed easily are called soft materials. E.g., Cotton and sponge are soft materials.

2. Materials which cannot be compressed are called hard materials. E.g., Wood and metals are hard materials.

**Q.6 How will you decide whether a solid or liquid will sink or float in a liquid?**

**Ans** We will decide whether a solid or liquid will sink or float in a liquid on the basis of its density.

1. If density of material is less than liquid, it floats.

2. If density of material is more than liquid, it sinks.

**Q.7** What happens when chalk powder and kerosene oil are added to water? Why?

- Ans**
1. Chalk powder will sink and settle at the bottom of water because its density is more than water.
  2. Kerosene oil will float at the surface of water because its density is less than water.

**Q.8** How are oxygen and carbon dioxide gases dissolved in water helpful for aquatic life?

- Ans**
1. The plants and animals which live in water use the oxygen dissolved in water for respiration.
  2. The plants which live in water use the carbon dioxide dissolved in water for the process of photosynthesis.

# CHAPTER-1

## FOOD: WHERE DOES IT COME FROM?

**Q.1 Do you find that all living beings need the same kind of food?**

**A.** No, all living beings do not need the same kind of food. Because different types of organisms such as herbivores, carnivores and omnivores eat different kinds of food.

**Q.2 Name five plants and their parts that we eat.**

**A.** (a) Apple tree-Fruit  
(b) Wheat plant-Seed  
(c) Potato plant-Stem  
(d) Beetroot plant-Root  
(e) Spinach-Leaves

**Q.1 Extra Questions**

**Define:**

**a. Herbivores-** Animals which eat only plants and plant products are called herbivores. Eg: cow, goat.

**b. Carnivores-** Animals which eat other animals are called carnivores. Eg: tiger, lion.

**c. Omnivores-** .Animals which eat both plants as well as other animals are called omnivores. Eg: bear, crow

**d. Honey-** A sweet liquid substance prepared by honeybees from the nectar is called honey.

**Q.2 What is food?**

**Ans** Food is the edible substance, consumed by humans and other animals to absorb energy for various activities like physical movement, growth and development.

**Q.3 Illustrate the significance of food for living organisms.**

**Ans** The importance of food is:

(i) It provides energy to our body, which is required to do various activities.

(ii) It helps in growth of living organisms.

(iii) It helps in the process of repair and replace of damaged parts of the body of living organisms.

(iv) It protects us from various diseases and infections.

**Q.4 Illustrate the different sources of food items and ingredients with the help of examples.**

**Ans** There are mainly two sources of various food items and their ingredients :

(a) Plants: Plants provide us vegetables, pulses, fruits, cereals, grains etc.

(b) Animals: Animals provide us meat, eggs, and milk etc.

**Q.5 What are ingredients?**

**Ans** Materials which are used to prepare food items are called ingredients.

**Q.6 What is sprouting?**

**Ans** Sprouting is the natural germination process in which small white structures grown out of the seeds. Such seeds with white structure are called sprouts.

## CHAPTER-2

### COMPONENTS OF FOOD

**Q.1, Q.2, Q 4 and Q5 to be solved in textbook.**

**Q.3**

**Name two foods each rich in:**

(a) Fats (b) Starch (c) Dietary fibre (d) Protein

**Ans**

(a) Butter, Groundnut.  
(b) Rice, Potato.  
(c) All grains, Fresh fruits.  
(d) Milk, Fish.

**Extra Questions**

**Q.1**

**Define:**

**a. Nutrients-** The components of food which are needed by our body for growth and development are called nutrients.

**b. Obesity-** When a person eats too much fat-containing foods, then the fat gets deposited in his body and he may end up suffering from a condition called obesity.

**c. Balanced diet-** A diet which provides the right proportion of all the nutrients that our body needs along with roughage and water is called balanced diet.

**d. Deficiency diseases-** Diseases that occur due to lack of carbohydrates, proteins, vitamins and minerals in the diet over a long period of time are called deficiency diseases.

**e. roughage-** The fibrous substances in our food are called roughage.

**Q.2**

**List various types of nutrients and Write the functions of each.**

**Ans**

The various types of nutrients are:

**(1) Carbohydrates:**

- i. They are mainly energy providing nutrients.
- ii. There are mainly two types of carbohydrates are present in our food such as:
  - a. Starch- wheat , rice
  - b. Sugar- honey, table sugar

**(2) Fats:**

- i. They provide energy for the body.
- ii. They give much more energy than carbohydrates if consumed in same amount.
- iii. Food rich in fats are oil, ghee, butter, dry fruits etc.

**(3) Proteins:**

- i. They are called body building foods.
- ii. They help in formation and repairing of body parts.
- iii. Skin, hair, muscles are made up of proteins.
- iv. They protect our body from infections.
- v. Food rich in proteins are pulses, egg, meat etc.

**(4) Minerals:**

- i. They are also called protective food.
- ii. They are important for body functioning and help us to keep healthy.
- iii. Minerals such as:  
Calcium and phosphorus are essential for formation of teeth and bones.  
Iodine is essential to control the growth of body.  
Iron is needed to make haemoglobin.

**(5) Vitamins:**

- i. They help our body to protect against diseases.

- ii. They keep our bones, teeth, gums and eyes healthy.
- iii. They are necessary for proper digestion and normal growth of the body.
- iv. Milk, carrot, eggs, fruits, green vegetables are rich in vitamins.

**Q.3 Write the functions of water in our body.**

- Ans**
- (i) Water helps our body to absorb nutrients from the food.
  - (ii) It also helps in removing the waste from the body in the form of urine and sweat.
  - (iii) It helps in maintaining the body temperature.

**Q.4 What is the main function of roughage? Name some food items which provide roughage**

**Ans** Roughage does not provide any nutrient to our body. The main function of roughage is to help our body get rid of undigested food.

Whole grains, fresh fruits and vegetables are the main sources of roughage.

**Q.5 Why should we not eat only one type of food?**

- Ans**
- 1. A single type of food cannot provide all nutrients required by our body.
  - 2. Our diet must contain sufficient quantity of different components of food for proper growth and maintenance of the body.

**Q.6 Why a balance diet is not same for everyone? Explain.**

**Ans** A balanced diet varies with age, gender, and type of work one does:

- 1. A young child needs to eat more of protein and carbohydrates for providing energy and growth.
- 2. A pregnant woman needs more protein for the baby growing inside her womb.
- 3. A labourer doing hard work needs more of carbohydrates and fats as he needs more energy.

**Q.7 Why should we eat cooked food?**

**Ans** We should eat cooked food because:

- 1. Cooking kills harmful germs present in food.
- 2. Cooked food can be easily digested and absorbed by our body.
- 3. Cooking also improves the taste of food.



## CHAPTER-9

### The Living Organisms –Characteristics and Habitats

**Q.3, Q.4, Q.6 are to be discussed and solved in the class**

**Q.1 What is a habitat?**

**Ans** The surroundings where animals live is called their habitat. The organisms depend on their habitat for their food, water, air, shelter and other needs on their habitat. Habitat means a dwelling place.

**Q.2 How are cactus adapted to survive in a desert?**

**Ans** Cactus are adapted to survive in a desert as:

- (i) they bear no leaves or spiny leaves to prevent water loss through transpiration.
- (ii) stem is flat, thick and green to perform photosynthesis. It is covered with waxy layer which helps in retaining water.
- (iii) their roots go very deep into the soil for absorbing water.

**Q.5 Give an example of a non-living thing, which shows any two characteristics of living things.**

**Ans** Cloud is an example of non-living thing, which shows few characteristics of living things such as:

1. It grows in size.
2. It also moves from one place to another with blowing wind.

**Q.7 List the common characteristics of living things.**

**Ans** Some common characteristics of living things are:

Nutrition, Growth, Movement, Reproduction, Respiration, Respond to stimulus, Excretion, Cellular organisation.

**Q.8 Explain why speed is important for survival in the grasslands for animals that live there.**

**Ans** In grasslands habitats, there are few trees or places for animals to hide. When their enemy attacks, they have to run faster so as to reach a safe place. If they fail, they lose their life. So, speed is very important for survival of grassland animals.

## Extra Questions

Q.1

**Defines**

- a. **Stimulus-** Changes in our surroundings that make us respond to them are called stimuli.
- b. **Excretion-** The process of getting rid of waste by living organisms is known as excretion.
- c. **Reproduction-** The process by which living beings produce their own kind is called reproduction.

Q.2

**Name the types of components of habitat.**

Ans

Components of habitat are:

- (i) Biotic components- The living things such as plants and animals.
- (ii) Abiotic components- The non-living things such as rocks, soil, air and water.

Q.3

**What are predators?**

Ans

The animals which kill other animals for their food are called predators. E.g.; lion, Tiger

Q.4

**What is a prey?**

Ans

The animals which are killed by predators for their food are called prey. E.g.; Deer, goat

Q.5

**What do you mean by the term adaptation?**

Ans

The presence of specific features or certain habits which enable a plant or an animal to live in its surroundings is called adaptation.

Q.6

**What do you mean by acclimatisation?**

Ans

The small changes which take place in the body of a single organism over short periods to overcome small problems due to changes in the surroundings are called acclimatisation.

Q.7

**Explain the adaptation of animals to live in mountain region.**

Ans

Some of the adaptation of animals to live in mountain region are:

- (i) The animals have thick skin or fur to protect them from the cold.
- (ii) Some animals such as snow leopard have thick fur on their body, feet and toes which protect them from cold when they walk on the snow.
- (iii) The goats have strong hooves for running up the rocky slopes of the mountains.

Q.8

**What do you mean by germination of seed?**

Ans

The process of seeds developing into a new plant is called germination.

**Q.9 Does adaptation take place in short time?**

**Ans** No, adaptation does not take place in short time because the abiotic factors of a region change over thousands of years. Hence adaptation is a very slow process.

**Q.10 Write any two points of differences between abiotic factors of desert and mountain habitat.**

**Ans**

<b>Desert</b>	<b>Mountain</b>
1. Climate is hot and dry.	1. The climate is very cold and windy.
2. Waterless area of land covered with sand.	2. Due to snowfall, the ground remains covered with snow.



## CHAPTER-10

### MOTION AND MEASUREMENT OF DISTANCES

**Q.2 and Q.4 to be solved in the text book**

**Q.1 Give two examples each of modes of transport used on land, water and air.**

**Ans**

On Land	In Water	In Air
Car, Train	Boat, Ship	Aero plane, Helicopter

**Q.3 Why can a pace or footstep not be used as a standard unit of length?**

**Ans**

We cannot use pace or a footstep as standard unit of length as:

- 1) The size of foot and the footstep will not be the same for every individual. It varies from person to person.
- 2) Thus, the measurement will not be same for different people.

**Q.5 The height of a person is 1.65 m. express it into cm and mm.**

**Ans**

1.65 m = 1.65 X 100 cm = 165 cm. (1 m = 100 cm)

1.65 m = 165 cm = 165 X 10 mm = 1650 mm (1cm = 10 mm)

**Q.6 The distance between Radha's home and her school is 3250 m. express this distance into km.**

**Ans**

3250 m = 3250/1000 km = 3.250 km (1 m = 1/1000 km)

**Q.7 While measuring the length of a knitting needle, the reading of the scale at one end is 3.0 cm and at the other end 33.1 cm. What is the length of the needle?**

**Ans**

Length of needle = final reading - Initial reading  
= 33.1 cm - 3.0 cm  
= 30.1 cm.

**Q.8 Write the similarities and differences between the motion of a bicycle and ceiling fan that has been switched on.**

**Ans**

**Similarities:** - Wheel of a bicycle and ceiling fan both shows circular motion.

**Differences:** - 1. Cycle moves in rectilinear motion but ceiling fan does not move in rectilinear motion.

2. Cycle moves in non-periodic motion whereas fan moves in periodic motion.

**Q.9 Why could you not use an elastic measuring tape to measure distance? What would be some of the problems you would meet in telling someone about a distance you measured with an elastic tape?**

- Ans**
1. Elastic tap will not give accurate measurement because it increases in length, when stretched and reduces in size when not stretched.
  2. While taking the measurement with an elastic tape, we have to tell whether the tape was stretched and by how much. This is very difficult.

**Q.10 Give two examples of periodic motion.**

**Ans** Example of periodic motion- (i) Pendulum (ii) Rotation of earth.

### **Extra questions**

**Q.1 Define;**

- a. Circular motion-** The motion in which an object moves in such a way as its distance from the fixed centre remains the same. E.g.: movement of fan, movement of spinning top
- b. Rectilinear motion-** Motion in a straight line is called rectilinear motion. E.g.: car moving on road, rain falling from clouds
- c. Periodic motion-** The motion that repeats itself after an equal interval of time is called periodic motion. E.g.: Rotation of earth, moving hands of clock
- d. Distance-** The length of space between two points or two places is called distance.
- e. Standard unit-** A unit of measurement which has a fixed value, which does not change from person to person or place to place, is called a standard unit of measurement.

**Q.2 Why do we need standard unit for measurement?**

**Ans** We need standard unit for measurement for the sake of uniformity in measurement.

**Q.3 How will you judge whether an object is at rest or in motion?**

- Ans**
1. An object is said to be in motion when it changes its position with respect to time.
  2. An object is said to be at rest when it does not change its position with respect to time.
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