



Me 'n' MineTM



Answer Book
Pullout Worksheets
Science



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CHAPTER – 1 (FOOD: WHERE DOES IT COME FROM?)

WORKSHEET – 1

MCQs

- | | | | | | | |
|---------|---------|---------|----------|---------|---------|---------|
| 1. (d) | 2. (d) | 3. (b) | 4. (b) | 5. (a) | 6. (d) | 7. (d) |
| 8. (a) | 9. (c) | 10. (d) | 11. (c) | 12. (b) | 13. (c) | 14. (a) |
| 15. (b) | 16. (a) | 17. (c) | 18. (a). | | | |

WORKSHEET – 2

VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. Food is a combination of various substances that is taken into the body for nourishment and living.
2. The animals which eat other animals are called carnivores.
3. Ingredients are the constituents which on combination make a kind of food items.
4. The animal that kills other animals is called predator.
5. Honey is a kind of food obtained from honeybees in which honeybees collect nectar from flowers and convert it into honey.
6. Animals that feed or eat flesh of dead and decaying animals' body are called scavengers.
7. Plants make their food from carbon dioxide and water in the presence of sunlight through the process of photosynthesis.
8. Autotrophs are also known as producers of food.
9. Seeds are said to be sprouted when a small white structure may have grown out of the seeds.
10. We get oil from seeds of mustard plants.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Vegetarian food is considered to be the best food because it is easily available, digestible, nutritious along with it is cheaper in comparison to non-vegetarian food.
2. The parts of the plants which can be eaten by us as food are called edible parts. Seeds and leaves of mustard plants are edible parts. On the other hand, the parts of the plants which cannot be eaten by us are called non-edible parts. Roots of mustard plants are non-edible parts.
3. (a) Uppma, *uthapum* and *sambar* are south Indian food items whereas *makka roti* and *sorson sag* are north Indian food items.
(b) Yes, cow is the herbivorous animal.
4. (a) As we know, animals do not make their own food. They depend on other sources for food. So, they are called consumers of food which is prepared by plants and flesh of animals.
(b) Goat and buffalo provide us milk.
5. We separate out cream/butter from milk with the help of churning process. This extracted cream/butter is heated for half an hour and cooled for sometime. As a result, heavy substances get settled down and finally we get pure *ghee*.
6. First of all, wash the seeds in water, drain the water and leave them aside for another day which are covered with a wet cloth. The next day, seeds are sprouted.

WORKSHEET – 4

- (a) Vegetables, salt, spices and oil are the important ingredients which are used to prepare vegetable curry.
(b) Yes, *ghee* is the ingredient of *dal*.

2.

Plants	Parts that we eat
Spinach	leaf
Coriander	leaf
Potato	stem
Papaya	fruit
Wheat	seed

- (a) – (iv), (b) – (iii), (c) – (i), (d) – (ii).
- No, all living beings need different kinds of food. Herbivore, carnivore and omnivore animals like different quantity and quality of food for getting energy according to their nature of the work. Hence, they need different types of food.

WORKSHEET – 5

DEFINE THE FOLLOWING TERMS

- Herbivores:** Plant eating animals, *e.g.*, cow, buffalo, etc.
- Carnivores:** Flesh eating animals, *e.g.*, lion, tiger, etc.
- Omnivores:** Plant and flesh both eating animals, *e.g.*, man, crow, etc.
- Sprouted seeds:** After soaking in water, a small white structure arise from the seeds. These seeds are known as sprouted seeds.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

- (a) Potato – Stem
(b) Carrot – Root
(c) Cauliflower - Flower bud.
- Yes. We obtain our food from different parts of plants. Some people also eat flesh of animals. Hence, we get our food from plants and animals both.
- Honey comes from honeybees. They collect nectar from flowers and convert it into honey.
- Take some seeds in a bowl and fill water in it. After 7-8 hours pour out water from the bowl and cover seeds with wet cotton cloth. After 8-12 hours seeds are sprouted.
- Cereals are plants of grass family. They are grown for food grains. For examples, wheat, rice, maize, oat, barley, etc.
1. Potato, Ginger
2. Spinach, Cabbage
3. Radish, Carrot
4. Gram, Pea
5. Mango, Banana
6. Cauliflower, Broccoli.

WORKSHEET – 6

ANSWER THE FOLLOWING

Name of Animals	Food the Animal eats
Buffalo	Grass
Cat	Flesh
Lion	Flesh
Tiger	Flesh
Spider	Insects
House Lizard	Insects
Cow	Grass
Human beings	Food grains & meat
Butterfly	Nectar
Crow	Food grain, Flesh

DO AS DIRECTED

- Plant and animal
- Energy
- Photosynthesis
- F
- T
- T.

ANALOGY TYPE QUESTIONS

- Autotrophs
- Seed
- Carnivore
- Rabbit
- Heterotroph.

CHAPTER – 2 (COMPONENTS OF FOOD)

WORKSHEET – 8

MCQs

- (c)
- (a)
- (c)
- (b)
- (a)
- (d)
- (d)
- (a)
- (d)
- (a)
- (c)
- (a)
- (a)
- (b)
- (a)
- (d).

WORKSHEET – 9

VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

- Diseases are caused by the deficiency of one or more nutrients in our food for a long time.
- Vitamin C gets easily destroyed by heat during cooking.

3. A violet colour indicates the presence of proteins in the food items.
4. Our body also prepares vitamin D in the presence of sunlight.
5. To prevent from all deficiency diseases, it is very necessary to take balanced diet for everybody.
6. Obesity is caused by eating too much of fat-rich foods.
7. The main carbohydrates found in our food are in the form of starch and sugars.
8. Balanced diet provides all the nutrients that our body needs, in right quantities, along with adequate amount of roughage and water.
9. Muscles become weak and there is very little energy left to work in beriberi disease.
10. Bones become soft and bent in rickets disease.
11. Food containing proteins are also called "body building foods".
12. Rice has more carbohydrates than other nutrients, so rice is a "carbohydrate rich" source of food.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. (a) Major nutrients in our food are carbohydrates, proteins, fats, vitamins and minerals.
(b) Bones become weak and decaying of teeth are occurred in the body by the deficiency of calcium.
2. No, it is not better to eat a *katori* of fat than a *katori* of carbohydrate because eating too much of fat-rich foods can be harmful for us. Apart from that, a person may suffer from a condition called obesity.
3. Vitamins and minerals present in rice and pulses may get removed after repeated washing of rice and pulses. Hence, we should not wash rice and pulses repeatedly.
4. If nutrients like carbohydrates and proteins are deficient in people's diet, then people become lean and thin. As a result, people may not even be able to move.
5. (a) Carbohydrates and fats
(b) Proteins and minerals
(c) Vitamin A
(d) Calcium.

WORKSHEET – 10

ANSWER THE FOLLOWING

1. (a) The chemical name of vitamin A is retinol.
(b) The chemical name of vitamin D is calciferol.
2. (a) Groundnuts, meat
(b) Flour, potato
(c) Lady's finger (*bhindi*), popcorn
(d) Eggs, pulses (*dal*).
3. (a) Rickets (b) Vitamin B₁ (c) Scurvy (d) Vitamin A.
4. (a) (F) (b) (T) (c) (T) (d) (F).
5. (a) (iv) (b) (iii) (c) (i) (d) (ii).

WORKSHEET – 13

ANSWER THE FOLLOWING

1. (a) False (b) True (c) True (d) False (e) True.
2. (a) Pulses, meat (b) Carrot, eggs (c) Milk, eggs (d) Cabbage, kidney beans
(e) Saturated fat, unsaturated fat (f) Sugar, starch.
3. (a) *Balanced diet*: A diet that comprises adequate amount of all essential nutrients that are required for the proper functioning of our body.
(b) *Dietary fibre*: Part of plant food that is required for the healthy functioning of the body.
(c) *Deficiency diseases*: Diseases that occur due to the lack of nutrients for a long period of time.
(d) *Bowel movement*: Movement of faeces in the form of bowel from rectum of the digestive tract is known as bowel movement.
(e) *Starch*: It is a complex carbohydrate, which release energy slowly. It breaks down into glucose during digestion, which provide energy.
(f) *Beriberi*: It causes due to deficiency of vitamin B₁. Its symptoms are weakness, fatigue and nerve damage.

4.

Deficiency disease	Symptoms
(a) Scurvy	Weakness, bleeding gums, scaly skin, decreased ability to fight infection.
(b) Anaemia	Pale skin, frequent headaches, lack of stamina.
(c) Night blindness	Poor vision, inability to see in dim light.
(d) Rickets	Bones become soft and bend easily.
(e) Skin disorders	Skin disorder, irritation to eyes.
(f) Goitre	Swollen neck and mental disability in children.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. ORS stands for Oral Rehydration Solution. It is made by mixing salt and sugar in water.
2. Roughage does not contain any nutrients but it keeps our digestive system healthy as it helps the food to pass easily through the digestive system and thus helps in digestion.

3.

Mineral	Function
Calcium	It keeps bones and teeth healthy.
Iron	It helps in the formation of haemoglobin present in red blood cells which carries oxygen in the body.
Sodium and Potassium	They maintain the balance of water in the body.

4.	Constipation	Dehydration
	It is a condition in which difficulty is faced by a person in emptying bowels.	Excess loss of water from the body leads to a condition called dehydration.

5.	Sources	Green leafy vegetables, kiwi fruit, parsley and soybean oil.
	Importance	It helps in clotting of blood.
	Deficiency disease	It reduces blood clotting which results in excessive bleeding from the wounds.

6. Test for the presence of proteins in the food item

Material required: Food sample, water, copper sulphate solution, caustic soda solution, droppers and test tubes.

Procedure: Take a small quantity of food sample and crush it into powdered form. Put the crushed powder in the test tube and add a few drops of water to it. Now add 2 drops of copper sulphate solution and caustic soda solution to it. Shake the test tube well.

Result: Formation of violet colour indicates the presence of proteins in the tested food sample.

WORKSHEET – 14

ANSWER THE FOLLOWING

- | | |
|---------------------------------------|------------------------------------|
| 1. (a) Wheat – Starch | (b) Cooked rice – Starch |
| (c) Boiled egg – white part – Protein | (d) Boiled egg – yellow part – Fat |
| (e) Banana – Starch | (f) Milk – Protein, fat |
| (g) Pulses – Protein | |

DO AS DIRECTED

- | | | | |
|--------------|------------|------|-------|
| 1. Vitamin D | 2. Retinol | 3. T | 4. T. |
|--------------|------------|------|-------|

DOUBLE MATCHING

(A) – (b) – (iv), (B) – (e) – (i), (C) – (a) – (ii), (D) – (c) – (iii), (E) – (d) – (v).

CHAPTER – 3 (FIBRE TO FABRIC)

WORKSHEET – 16

MCQs

- | | | | | | | |
|---------|----------|---------|---------|---------|---------|---------|
| 1. (a) | 2. (a) | 3. (d) | 4. (a) | 5. (d) | 6. (c) | 7. (a) |
| 8. (c) | 9. (a) | 10. (a) | 11. (b) | 12. (b) | 13. (c) | 14. (b) |
| 15. (d) | 16. (a). | | | | | |

WORKSHEET – 17

VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. Cotton, jute, silk and wool are four kinds of natural fibres.
2. Cotton and jute are plant natural fibres.
3. The other name of cotton plant is cotton bolls.
4. Jute fibre is obtained from the stem of the jute plant.
5. Fibres are separated from seeds by combing through the process of ginning.
6. Silk fibre is drawn from the cocoon of silkworm.
7. Jute is mainly grown in West Bengal, Bihar and Assam.
8. *Takli* and *charkha* are the simple devices that are used for spinning.
9. Rope and cushions are made from coconut fibres.
10. Cotton is obtained from fruits of the cotton plant and jute is obtained from stem of the jute plant.
11. Polyester, nylon and acrylic are three synthetic fibres.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. **Natural fibres:** Wool, cotton, silk, jute.
Synthetic fibres: Nylon, polyester.
2. (a) Artificial fibres are known as man-made fibres or synthetic fibres.
(b) Wool is obtained from the fleece of sheep or goat.
3. (a) Black soil and warm climate are appropriately used for growing cotton.
(b) The jute plant is normally harvested at flowering stage.
4. The fruits of the cotton plant named cotton bolls are about the size of a lemon. The bolls burst open and seeds covered with the cotton fibres are seen after maturing. As a result, cotton is picked by hand from bolls.
5. The stems of the harvested jute plants are immersed in water for a few days. The stems rot and finally, jute fibres are separated by hands.
6. (a) The looms on which weaving of fabric is done are either hand-operated or power-operated.
(b) Spinning machines are used for spinning of yarn on a large-scale.

WORKSHEET – 18

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. (a) Stem of jute, fruit of cotton.
(b) Silk, wool.
2. (a) The best season for cultivation of jute plants is rainy season.
(b) Flax is also a plant which gives natural fibres.
3. (a) Coir fabrics are obtained from fruits of coconut.
(b) Retting process is used for obtaining jute fibre from the stem of jute plant.

4. (a) We wear clothes because they protect us from injury and bad weather conditions.
 (b) Fibres are drawn from seed of mango and leaf of banana.

WORKSHEET – 19

ANSWER THE FOLLOWING

1. (a) True (b) False (c) False (d) True (e) True (f) False (g) False.
 3. (a) (v) (b) (ii) (c) (vi) (d) (iv) (e) (i) (f) (vii) (g) (iii).

WORKSHEET – 20

ANSWER THE FOLLOWING

1. (a) Sheep and yak (b) Wool and silk (c) Rayon and nylon
 (d) Cotton and jute (e) Hand spindle and spinning wheel (f) Knitting and weaving.
 2. (a) *Ginning*: The process of separating cotton fibres from its seeds.
 (b) *Weaving*: The method in which two distinct sets of yarns or threads are interlaced at right angles to form a fabric or cloth.
 (c) *Spinning*: The process of making thread or yarn from cotton fibre.
 (d) *Knitting*: In this method, only a single yarn is used to make a piece of fabric.
 (e) *Synthetic fibres*: These fibres are obtained through chemical process. They are man-made fibres.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1.	Weaving	Knitting
	In this method, two distinct sets of yarns are interlaced at right angles to form a fabric.	In this method, only a single yarn is used to make a fabric.

2. Jute is majorly cultivated in Sunderbans Delta as jute crop requires hot and humid climate for growth. Light sandy or clayey loam are best suited soils for growing jute.
 3. Early men and women did not wear clothes. During the stone Age, they used to cover their bodies with the bark of trees, big-sized leaves and animal skin or fur. Then 6000 years ago, people started using wool as fabric. Cotton came into use after the early man learnt about agriculture. Earlier people used to wear unstitched clothes. Even today, people wear unstitched clothes such as *dhoti*, *lungi* and *saree*.
 4. Jute stem has thick bark and contains fibres inside it. Jute fibres are naturally glued together by sticky substance. This sticky substance is removed by a process called retting in which jute stalks are cut to the ground and tied into bundles. These are then soaked in water for about 20 days. After retting, the fibres are separated from the stem, washed, dried and tied into bundles. In this way, jute fibres are separated from jute stem.
 5. Yarns are made up of fibres. Processes by which yarns turn into fabric are weaving and knitting.

WORKSHEET – 21

ANSWER THE FOLLOWING

1. (a) Bales (b) Sliver (c) Ginning (d) Fibres (e) Weaving.

2.

Fibre	Property
Cotton	Absorbs water quickly
Flax	Strong fibre and durable
Silk-cotton	Fluffy and water repellent
Jute	High tensile strength
Hemp	High tensile strength
Coir	Waterproof and resistant to damage

DO AS DIRECTED

- | | | |
|------------|---------------------|-----------------|
| 1. Retting | 2. Nylon, polyester | 3. Cotton, jute |
| 4. T | 5. F | 6. T. |

ANALOGY TYPE QUESTIONS

- | | | |
|---------------------|---------------------|-------------------|
| 1. Cotton | 2. Silk | 3. Yarn to fabric |
| 4. Yarn into fabric | 5. <i>Charkha</i> . | |

CHAPTER – 4 (SORTING MATERIALS INTO GROUPS)

WORKSHEET – 23

MCQs

- | | | | | | | |
|--------|--------|---------|---------|---------|----------|--------|
| 1. (b) | 2. (a) | 3. (a) | 4. (a) | 5. (b) | 6. (a) | 7. (d) |
| 8. (d) | 9. (a) | 10. (a) | 11. (d) | 12. (d) | 13. (a). | |

WORKSHEET – 24

VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

- Glass bowl and steel spoon are shining objects.
- The materials through which objects can be seen are known as transparent materials.
- The materials through which objects cannot be seen are known as opaque materials.
- The materials through which objects can be seen, but not clearly are known as translucent materials.
- Metals have lustre.
- Mustard oil does not mix well with water because it is light weight as compared to water.
- Solid has definite shape and occupy definite space.
- Gases spread faster among solids, liquids and gases.
- No, ice is in solid form.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

- (a) **Round-shaped objects:** Basketball, orange, globe, apple.
Other-shaped objects: Water, sugar, earthen pitcher.

- (b) **Eatables:** Orange, sugar, apple, water.
Non-eatables: Basketball, globe, earthen pitcher.
2. (a) Baby (b) Boat (c) Sand (d) Sand.
3. (a) Materials which can be attracted by magnet are called magnetic materials.
 (b) Spreading of particles of one substance into the particles of another substance uniformly, is called diffusion.
4. **Substances which are soluble in water:** Common salt, sugar.
Substances which are insoluble in water: Chalk, milk, ink, lemon juice.
5. (a) Mercury is in liquid state.
 (b) A solution in which no more solute can be dissolved at a particular temperature is called a saturated solution.
6. (a) Butter paper is translucent material.
 (b) Yes, cloth is an insulator.
7. The things that float on water are paper, dry leaf, wax, ice, oil, plastic.
 All the above mentioned things sink in oil but float on kerosene oil.

WORKSHEET – 25

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. (a) Silver is lustrous and malleable metal. It is also good conductor of heat, therefore, it is used in making jewellery.
 (b) Plastic and wood are poor conductors of electricity.
2. Mercury is a metal which is in the liquid state. It is good conductor of heat, lustrous and expands on heating. These are the reasons why it is used in clinical thermometer.

WORKSHEET – 27

ANSWER THE FOLLOWING

1. (a) Soft (b) Non-metal (c) Gas (d) Glossy paper.
2. (a) Oil does not dissolve in water.
 (b) Liquids have fixed volume but do not have fixed shape.
 (c) Solids have fixed shape and size so they cannot occupy whatever space is available to them.
 (d) Paper boat will not sink in water.
 (e) Translucent materials allow light to pass through them partially.
3. (a) Gold and silver (b) Iron and copper
 (c) Dry leaves and paper (d) Stone and books
 (e) Feather and cotton (f) Aluminium and copper.

4. (a)

Miscible liquids	Immiscible liquids
Liquids that dissolve in water are called miscible liquids. For example: Vinegar, alcohol, etc.	Liquids that do not dissolve in water are called immiscible liquids. For example: Oil, petrol, etc.

(b)	Lustrous material	Non-lustrous material
	Materials which have shiny appearance are called lustrous materials. For example: gold, silver, etc.	Materials which do not have shiny appearance are called non-lustrous material. For example: paper, plastic, etc.
(c)	Conductor	Insulators
	Materials that allow heat and electricity to pass through them are called conductors. For example: copper, iron, etc.	Materials that do not allow heat and electricity to pass through them are called insulators. For example: plastic, glass, etc.
(d)	Transparent	Translucent
	Materials that allow light to pass through them are called transparent materials. For example: air, clean water, etc.	Materials that allow light to pass through them partially are called translucent materials. For example: butter paper, frosted glass, etc.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Properties that materials have:

- | | |
|--|------------------|
| (a) Appearance | (b) Hardness |
| (c) Conduction of heat and electricity | (d) Solubility |
| (e) Flotation | (f) Transparency |
| (g) Attraction towards a magnet | (h) State |
| (i) Roughness. | |

2. Grouping of substances helps in the study of their properties. Substances are grouped on the basis of appearance, state, hardness, transparency, etc. This helps in the proper use of material on the basis of its properties.
3. The particles in liquids are not closely packed due to which they do not have fixed shape but they have fixed volume.
4. Oxygen dissolved in water is essential for the survival of aquatic organisms.

WORKSHEET – 28

ANSWER THE FOLLOWING

- Transparent → Water, clean air, glass
Opaque → Smoke, stainless steel, milk
Translucent → Oily patch on paper, tissue paper.
- Solids → Comb, wood, common salt, ice, sound, mirror, iron metal
Liquids → Orange juice, mustard oil
Gases → Nitrogen, oxygen, smoke.

DOUBLE MATCHING

(A) – (c) – (ii), (B) – (d) – (iii), (C) – (a) – (iv), (D) – (b) – (i).

SOLVE THE CROSSWORD PUZZLE

Across

1. Copper 3. Ductility 5. Solubility.

Down

2. Wood 4. Lustre 6. Yellow.

CHAPTER – 5 (SEPARATION OF SUBSTANCES)

WORKSHEET – 30

MCQs

1. (c) 2. (b) 3. (c) 4. (d) 5. (d) 6. (d) 7. (a)
8. (c) 9. (a) 10. (a) 11. (b) 12. (c) 13. (d).

WORKSHEET – 31

VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. Decantation method is used to separate oil from water.
2. Naphthalene and iodine are two substances which sublime.
3. Ozone and chlorine are the chemicals which are added to water to kill the germs.
4. Pebbles and stones are removed from sand by the process of sieving.
5. A few drops of lemon juice are added to milk for making *paneer* at boiling stage.
6. Through sieving process, fine flour particles are passed through the holes of the sieve while the bigger impurities remain on the sieve.
7. A mixture of sand and iron-filings can be separated by the process of magnetic separation.
8. Pure crystals of solid substances are obtained by the process of crystallisation.
9. Alum (*phitkari*) is used for loading.
10. Lagoons are called shallow salt water lakes.
11. Yes, sand and black gram can be separated by sieving.
12. Filtration process is preferred for separating tea leaves from prepared tea.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. We need to separate different components of a mixture in order to extract usefull substances from the useful substances of the mixture.
Stones from sand and soil particles from rice are the two examples.
2. Yes, this mixture is dissolved in water and the solution is stirred uniformly. The sugar will get completely dissolved in water while flour remains undissolved. Now, take the sugar-water solution and boil it. As a result, the water will evaporate and the sugar will remain in the vessel.
3. In the mixture of sand and water, sand particles are heavy and insoluble which settle down at the bottom of the vessel. With the help of decantation process, we can separate them from each other.

- Husk or dirt particles are separated from pulses by sedimentation and decantation processes. Through these processes, mixture is put in water. The pulse being heavier, settles down and water along with dirt particles are removed. Cleaned pulse is used for cooking.
- (a) Threshing, (b) Churning, (c) Evaporation, (d) Filtration.
- Sugar, lemon and water solution will be having more capacity to dissolve more sugar as compared to when ice is added. Ice is hard and cool and it lessens the movement of atoms in water as it lowers the temperature of water to freezing point.

WORKSHEET – 32

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

- The process of separating lighter particles and heavier particles of a mixture with the help of wind blow is known as winnowing. It is used in separating husk from the grains.
- Sieving is a process in which fine particles are separated from the bigger particles with the help of sieve. It is used to separate filtered flour from mixture.
- (a) – (F), (b) – (F), (c) – (T), (d) – (F).
- When the rice in the mixture of dust-filled rice settles down after water is added to it, then it is called sedimentation. When water along with dust are removed completely, then it is called decantation.

WORKSHEET – 35

ANSWER THE FOLLOWING

- (a) Sand is separated from stone by sieving method.
(b) When we heat the salt solution, water converts to vapour leaving behind salt.
(c) The solid particles that settle down during sedimentation are called sediment.
(d) If the components of a mixture are of different size, they can be separated by sieving.

Column A	Column B
(a) Threshing	(iii) Beating of crops to separate grains from stalks.
(b) Condensation	(v) Changing of vapours into liquid form.
(c) Evaporation	(iv) Changing of water into vapours.
(d) Sedimentation	(ii) Settling down of heavier components in a mixture.
(e) Decantation	(i) Transfer of clear liquid after sedimentation.

- (a) *Sieving*: A method which is used to separate substances that are of different size. For examples, wheat bran from flour and sand from gravel.
(b) *Filtration*: A method of separating an insoluble solid from a liquid by passing a mixture through a filter paper or strainer, e.g., tea leaves from tea.
(c) *Condensation*: The process of conversion of vapours into liquid is called condensation.
(d) *Handpicking*: The process of removing unwanted materials by hand and separating them.
(e) *Winnowing*: The method of separating lighter particles from heavier particles with the help of wind is called winnowing.

(f) *Evaporation*: In this method, liquid part of mixture evaporates and the solid part is left behind, e.g., salt from water.

4.

Mixture	Process of separation
Sand and water	Filtration
Oil and water	Decantation
Salt from sea water	Evaporation
Husk from grains	Winnowing
Stones from rice	Handpicking
Salt and water from their solution	Condensation

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Separation of substances is done to separate useful component or to remove undesirable components from useful material or to obtain pure sample of substance.
2. Salt is obtained from sea water by the process of evaporation.
3. Saturated solution into an unsaturated solution either by adding more solvent in the saturated solution or heating of solution.

WORKSHEET – 36

DO AS DIRECTED

1. Decantation
2. Magnetic separation
3. Shallow
4. F
5. T
6. T.

ANALOGY TYPE QUESTIONS

1. Water vapour into water
2. Winnowing
3. Handpicking.

ONE WORDS SUBSTITUTION

1. Sedimentation
2. Sieving
3. Decantation
4. Sieving
5. Winnowing.

CHAPTER – 6 (CHANGES AROUND US)

WORKSHEET – 38

MCQs

1. (a)
2. (c)
3. (a)
4. (b)
5. (a)
6. (b)
7. (a)
8. (c)
9. (d)
10. (d)
11. (d)
12. (b)
13. (c)
14. (b)
15. (b)
16. (d)
17. (a)
18. (b).

WORKSHEET – 39

VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. New substance is formed in chemical change.
2. The speed of chemical reaction increases when it gets heated.
3. No, burning of fuel is a chemical change.
4. The metal rim expands when it gets heated.
5. The metal rim contracts when water is poured over heated metal rim.
6. Rusting of iron is chemical change.
7. The change which is harmful to us, is called undesirable change.
8. A change in which no new substance is formed and molecules of the substances involved therein remain unchanged, is called physical change.
9. A change in which new substance is formed and molecules of new substance are different from original substance, is called chemical change.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. No, all physical changes are not reversible. Some physical changes are irreversible also. In cutting of wood, no new substance is formed, but cannot be converted into its original form like reversible changes.
2. Pasteurisation is a process of heating milk for 15 minutes at 72°C and then cooling it quickly below 10°C, killing the harmful bacteria. This process was discovered by Louis Pasteur.
3. To prevent spoilage of food, we should dry the food like grains and spices or keep in refrigerator. Milk has to be pasteurised for preventing from spoilage.
4. Fast changes occur in short duration of time whereas slow changes occur in longer duration of time. Burning of paper is fast change whereas change of season is slow change.
5. Burning of wood is a change which is desirable sometimes whereas gases released by burning of fuel cause pollution are undesirable at other times.
6. Blacksmith heats a piece of iron till it becomes red hot. It then becomes soft and is beaten into a desired shape, *i.e.*, different tools.
7. A broken mirror and rotten food are an irreversible change whereas salt dissolved in water and turning cold milk into hot milk are reversible change. Above examples show difference between changes.
8. (a) POP cannot be reversed after drying.
(b) Change of milk to *paneer* cannot be reversed.

WORKSHEET – 40

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. (a) – (iii), (b) – (iv), (c) – (ii), (d) – (i).
2. (a) Physical change
(b) Chemical change
(c) Chemical change
(d) Physical change.

WORKSHEET – 42

ANSWER THE FOLLOWING

- (a) In a physical change, no new substance is formed.

(b) Heating of a substance results in the increase in its size.

(c) We cannot get back the products in their previous form in an irreversible change.

(d) All physical changes are not irreversible.
- (a) Cutting of vegetables and tearing of paper.

(b) Melting of ice cream and inflation and deflation of balloon.

(c) Cooking of food and burning of paper.

(d) Growing of plants and boiling of eggs.
- (a) Gaps are left in between the railway tracks so that some space is available for the tracks to expand during summer.

(b) Cooking of *chapati* from dough is a chemical change as it involves the formation of new substance and it is irreversible in nature.

(c) Heat from hot water expands the bottle and when cold water is poured on it, due to sudden contraction, bottle breaks.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

- Gases show the maximum contraction and maximum expansion.
- The air particles contract on decreasing the temperature, thus, an inflated balloon shrinks when kept in a refrigerator.
- Tearing of paper is a physical change as no new substance is formed while the growth of living being is a chemical change as it is permanent and change in molecular structure of living being occurs.
- All physical changes are not reversible in nature. For example, tearing of paper into small pieces is a physical change but not reversible as one cannot change pieces into paper.
- During the conversion of ice into water, no change in the molecular structure is observed and no new substance is formed. Hence, conversion of ice into water is not a chemical change.

WORKSHEET – 43

ANSWER THE FOLLOWING

1.	Physical changes	Chemical changes
	1. Dissolving sugar in water.	1. Development of fruit from flower.
	2. Melting of ice.	2. Burning of wood.
	3. Blow air in balloon.	3. Growth in living organism.
	4. Breaking of glass.	4. Cooking of food.
	5. Melting of wax, ghee, etc.	5. Spoilage of food by bacteria, fungi, etc.

- 2. Change in shape: Cutting of paper, blowing of balloon
- Change in size: Melting of ice, growth in plants
- Change in state of matter: Ice \rightleftharpoons water \rightleftharpoons gas
- Change in colour: Colour change in fruits after ripening.

CLASSIFY THE CHANGES GIVEN BELOW IN TABLE

- Boiling an egg \rightarrow Fast \rightarrow Desirable \rightarrow Chemical \rightarrow Irreversible
- Rusting of iron \rightarrow Slow \rightarrow Undesirable \rightarrow Chemical \rightarrow Irreversible
- Lighting a match \rightarrow Fast \rightarrow Either desirable or undesirable \rightarrow Chemical \rightarrow Irreversible
- Burning wood \rightarrow Slow \rightarrow Either desirable or undesirable \rightarrow Chemical \rightarrow Irreversible
- Inflating a balloon \rightarrow Fast \rightarrow Either desirable or undesirable \rightarrow Physical \rightarrow Reversible.

ANALOGY TYPE QUESTIONS

1. Physical change
2. Desirable change
3. Physical change
4. Undesirable change
5. Slow change.

CHAPTER – 7 (GETTING TO KNOW PLANTS)

WORKSHEET – 45

MCQs

- | | | | | | | |
|---------|---------|---------|----------|---------|---------|---------|
| 1. (d) | 2. (b) | 3. (b) | 4. (d) | 5. (a) | 6. (a) | 7. (b) |
| 8. (b) | 9. (c) | 10. (b) | 11. (a) | 12. (d) | 13. (a) | 14. (a) |
| 15. (c) | 16. (b) | 17. (c) | 18. (d). | | | |

WORKSHEET – 46

VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. Plants with green and tender stems along with short in heights and without many branches are called herbs.
2. Creepers have weak stems that cannot stand upright and spread on the ground.
3. Petiole is the part of a leaf by which it is attached to the stem.
4. Lamina is the broad and green part of the leaf.
5. The stem bears leaves, flowers and fruits.
6. Flowers help in reproduction.
7. Sugar cane and money plant have fibrous roots.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

- (a) Green leaf of the plant produces its food. The process used in this is photosynthesis.

(b) Pistil is the innermost part of the plant.
- The following plants have flowers:**

Grass, banyan, mango, *jamun*, guava, pomegranate, papaya, banana and lemon.
- (a) We cannot grow plants without light, because they prepare food in presence of light through process of photosynthesis.

(b) Sepals are green coloured whorl of flower. They protect flower in bud condition and prepare food also.
- (a) Flowers show variety to attract bees and birds which help in pollination.

(b) Eucalyptus.
- (a) Roots absorb water and minerals from the soil.

(b) Stems hold the plant upright.

(c) Stems conduct water to leaves.

(d) If the sepals of a flower are joined together, then its petals may or may not be joined together.

(e) If the petals of a flower are joined together, then the stamen may or may not be joined together.

WORKSHEET – 47

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

- If design made by veins in a leaf is net-like on both sides of midrib, then the venation is called reticulate venation.

If design made by veins in a leaf is parallel, then the venation is called parallel venation.
- (a) *Tulsi*, coriander (*dhania*), china rose.

(b) Carbon dioxide, water and sunlight are the constituents used by green leaves to make their food.
- (a) Bean plant possessing weak stem, is a member of climber plants.

(b) The small bead-like structures inside the ovary are called ovules.
- (a) Stem conducts water and minerals from roots to leaves and other parts attached to it and food from leaves to roots through thin tubes.

(b) The plant bearing fibrous root will be having parallel venation in the leaves.
- Yes, if the plant is perennial with stout stem and tap root, then its leaves will be petiolated with reticulate venation.
- (a) The plant having leaves with reticulate venation will be having tap roots.

(b) Leaf removes the excess of water absorbed as water vapour under the process of transpiration.
- The plants that take support on neighbouring structures and climb up are called climbers, *e.g.*, bitter gourd (*Karela*).

Plants with weak stem that cannot stand upright but spread on the ground after growing on the surface of ground, are called creepers.
- Root system consists of parts of plant that is under the ground. It has main roots and its branches. Shoot system consists of parts of plant that is above the ground. It has branches, leaves, buds and flowers.

WORKSHEET – 50

ANSWER THE FOLLOWING

- (a) Ovules (b) Parallel venation (c) Dahlia
(d) Pea (e) Leaves
- (a) Neem and carrot (b) Sweet potato and turnip
(c) Wheat and rice (d) Potato and ginger
(e) Wheat and maize (f) *Bryophyllum* and cactus
(g) Rose and mango (h) Venus flytrap and pitcher plant
- (a) *Climbers*: Climber are kinds of plants that need support of some kind.
(b) *Fibrous root*: In such type of root system many thin fibre-like roots grow from the base of the stem, e.g., grass, maize, wheat, rice, etc.
(c) *Lamina*: The flat, broad, green part of leaf is known as lamina. It is responsible for photosynthesis.
(d) *Lateral roots*: The roots which arise from the taproot or primary root is known as lateral roots.
(e) *Parallel venation*: The veins that run parallel to each other from the base to the tip of the leaf is called parallel venation.
(f) *Pistil*: Pistil or carpel is the female part of plant reproductive system. It consists of stigma, style and ovary.
(g) *Sepal*: Outer whorl of flower, green in colour, protects flower in bud condition and prepare food.

WORKSHEET – 51

DO AS DIRECTED

- Food
- Reticulate
- Tendrils
- F
- T.

ANALOGY TYPE QUESTIONS

- Calyx
- Stamen
- Transpiration
- Reticulate venation.

SOLVE THE CROSSWORD PUZZLE

- | Across | Down |
|--------------|----------------|
| 1. Corolla | 2. Ovary |
| 3. Stamen | 4. Node |
| 5. Internode | 6. Androecium. |

CHAPTER – 8 (BODY MOVEMENTS)

WORKSHEET – 53

MCQs

- | | | | | | | |
|----------|--------|---------|---------|---------|---------|---------|
| 1. (b) | 2. (d) | 3. (a) | 4. (d) | 5. (a) | 6. (c) | 7. (c) |
| 8. (c) | 9. (b) | 10. (b) | 11. (b) | 12. (b) | 13. (c) | 14. (b) |
| 15. (c). | | | | | | |

WORKSHEET – 54

VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. Skeletal system in humans is made up of bones and cartilage.
2. Blood cells are produced in bone marrow.
3. The joint where our neck joints the head is called a pivotal joint.
4. Pelvic bones enclose the portion of our body below the stomach.
5. The skeleton present outside the body of animal is called exoskeleton, *e.g.*, snail.
6. The skeleton present inside the body of animal is called endoskeleton, *e.g.*, human body.
7. Vertebral column of man has 33 vertebrae (bones).
8. Elbow joint is an example of hinge joint.
9. Organs are formed on combining a group of tissues.
10. Yes, shoulder joint has a ball and socket joint.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. (a) The muscles of the breast connected with three pairs of legs and two pairs of wings help the cockroach to walk and fly.
(b) The hard covered body and legs of cockroaches form an outer skeleton.
2. (a) Skull encloses and protects a very important part of the body named brain.
(b) The upper part of the ear has cartilage.
3. (a) A tissue consisting of sheets or bundles of shells that are capable of contraction, so producing movement or tension in the body is called muscle. A muscle can be only pulled, cannot be pushed.
(b) Our elbow has a hinge joint which can bend only in one direction like a hinge. So, it cannot move backwards.
4. Fracture is a break of bone. It may be a hairline crack or serious break at one or many places on a bone. It causes pain and swelling.
5. (a) Skeleton protects the inner organs of the body.
(b) The bones are moved by alternate contractions and relaxations of two sets of muscles.
6. (a) Movement of the body as a whole from one place to another in search of food, shelter and mate is called locomotion.
(b) The locomotory organ of fish is fins.

7. Snakes slither on the ground by looping sideways. A large number of bones and associated muscles push the body forward.

WORKSHEET – 55

ANSWER THE FOLLOWING

- (a) Movement (b) Skeleton
(c) Hinge (d) Muscles.
- (a) False, (b) False, (c) False, (d) True.
- (a) (iv) (b) (vii) (c) (v) (d) (vi) (e) (i).
- (a) When one ball-like bone fits into a socket of another bone, then it is called ball and socket joint.
(b) The facial bones of skull bones comprise the upper and lower jaw. The lower jaw is movable.

WORKSHEET – 57

ANSWER THE FOLLOWING

- (a) Endoskeleton (b) Invertebrates
(c) Hinge joint (d) earthworm
(e) Ribcage.
- (a) Skull: Immovable joint (b) Hip: Ball and socket joint
(c) Shoulder: Ball and socket joint (d) Finger: Hinge joint
(e) Neck region: Pivot joint (f) Elbow: Hinge joint.
- (a) *Backbone*: The long bony structure at the back is called the backbone. It is made up of 33 small bones called vertebrae.
(b) *Ball and socket joint*: In this type of joint, the rounded head of one bone fits into the hollow, cup-shaped socket of another bone, e.g., hip and shoulder joint.
(c) *Pelvic bones*: The pelvic skeleton is formed posteriorly by the sacrum and coccyx. It laterally and anteriorly formed by a pair of hip bone. Hip bone consists of ilium, ischium, and pubis.
(d) *Fixed joint*: Such type of joints are present in skull. These joints are fixed or immovable.
(e) *Hinge joint*: This joint allows the bones to glide over each other and facilitates movement in all direction, e.g., joint of ankle and wrist.
(f) *Skeleton*: The framework of bones is called skeleton. It provides support, protection and movement to our body.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

- The fixed joints such as skull in our body do not allow any movement as they provide protection.
- Two features of bird that help them to fly are:
 - Hollow and light bones reduce their body weight.
 - Breast bones of birds are strong and enlarge which provide a surface for attachment of flight muscles which enables them to fly.

3. The lower body part of the earthworm has hair-like structures that help it to fix itself on the ground during the movement.
4. The body of the snail produces slime that makes the surface slippery and helps snail in its movement.
5. Earthworm has liquid skeleton system. It is invertebrate and has no bones.

WORKSHEET – 58

DO AS DIRECTED

1. Femur
2. Cartilage
3. Yellow
4. T
5. F.

ANALOGY TYPE QUESTIONS

1. Fins
2. Snake
3. Hinge joint
4. Breaking of bones or joints
5. Involuntary movements.

ONE WORDS SUBSTITUTION

1. Skeletal system
2. Bone
3. Gliding joints
4. Immoveable joints.

DOUBLE MATCHING

(A) – (b) – (i), (B) – (a) – (iv), (C) – (d) – (ii), (D) – (c) – (iii).

CHAPTER – 9 (THE LIVING ORGANISMS AND THEIR SURROUNDINGS)

WORKSHEET – 60

MCQs

- | | | | | | | |
|--------|--------|---------|---------|---------|----------|--------|
| 1. (a) | 2. (d) | 3. (c) | 4. (c) | 5. (c) | 6. (a) | 7. (a) |
| 8. (a) | 9. (c) | 10. (b) | 11. (d) | 12. (d) | 13. (d). | |

WORKSHEET – 61

VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. The nature of climate of the desert is very hot in the day and very cold at night.
2. Dolphins and whales do not have gills.
3. Two sea animals like squids and octopus do not have streamlined shape.
4. When we inhale, the air moves from outside to the inside of the body.
5. When we breathe out, the air moves from inside of our body to outside.

(c) Polar bear and penguin

(d) Pines and ferns

(e) Maple and oak

(f) Fish and whales.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Types of aquatic habitats are marine, freshwater and coast.
2. Types of terrestrial habitats are grassland, desert, polar region, mountain and forest.
3. If animals do not adapt, *i.e.*, if they cannot change their behaviour or structure according to their surroundings, they cannot survive. For example: fish lives in waterbodies but it cannot survive on land because it does not develop particular structural modification which enables it to live on land.
4. Some animals undergo a deep sleep throughout the winter. This is known as hibernation. In this state, animal has low body temperature, low rate of breathing and low heart rate. It helps in conserving energy. Animals like polar bear, frogs, goldfish, etc., undergo hibernation.
5. *Camouflage*: It is the technique used by animals to protect themselves from their predators and also helps them to catch their prey. For example: leaf tailed gecko, stick insect, etc., show camouflage.
6. Adaptations by polar bear:
 - (i) It undergoes hibernation which helps it to conserve energy.
 - (ii) They are good swimmers and while swimming they close their nostrils to avoid cold water from entering their nose.
7. (a) *Habitat*: The place where an organism lives naturally is called habitat.
(b) *Adaptive features*: The modification in structure or behaviour of an organism which enables it to live in a particular kind of environment is called adaptation and such features are called adaptive features.
(c) *Drip tips*: Some leaves have special tips which help rainwater to slide off from their surface and protect the leaves from rotting. Such tips are called drip tips.
(d) *Estuary*: The region where a river meets the sea is called estuary.
8. Coral reefs are the rock-like structures made from calcium carbonate secreted by corals. They are also known as rainforests of the sea and are found in aquatic habitat.

GIVE REASONS FOR THE FOLLOWING

1. In tropical rainforest, rate of rainfall is high and drip tips help rainwater to slide off from the surface of leaves and protect them from rotting.
2. The cone shape of trees helps in sliding down of the snow and does not allow snow to collect on the surface of the leaves.
3. Animals in mountain region have thick fur on their body as it provides warmth to the body.
4. In submerged plants, leaves are finely dissected to withstand with water currents without getting damaged.
5. Dolphins and whales do not have gills to breathe in oxygen. They have lungs. They have blowholes located on the upper part of their head. They have to come to the water surface to breathe in air through the blowholes. This allows them to stay under water for a long time.
6. Boreal forest trees are found in mountain regions. The soil of mountain regions does not have nutrients. Trees in these region save their energy by not shedding their leaves.

WORKSHEET – 66

DO AS DIRECTED

1. Gills 2. Water 3. Habitat 4. T 5. F.

ANALOGY TYPE QUESTIONS

1. Water 2. Xerophytes 3. Tendril
4. Terrestrial habitat 5. Forest habitat.

FILL UP THE BLANKS

1. 20 minutes 2. Housefly 3. 15 days 4. Tortoise.

DOUBLE MATCHING

(A) – (b) – (ii), (B) – (c) – (i), (C) – (a) – (iii).

CHAPTER – 10 (MOTION AND MEASUREMENT OF DISTANCES)

WORKSHEET – 68

MCQs

1. (b) 2. (c) 3. (a) 4. (a) 5. (d) 6. (c) 7. (b)
8. (b) 9. (b) 10. (d) 11. (d) 12. (b) 13. (d).

WORKSHEET – 69

VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. When an object changes its position with time with respect to a stationary body, it is said to be in motion.
2. When an object does not change its position with time with respect to a stationary body, it is said to be in rest.
3. Periodic motion defines with respect to motion of a pendulum.
4. 1 millimetre < 1 centimetre < 1 metre < 1 kilometre.
5. Motion of a child on a swing and a branch of tree moving to and fro are periodic motion.
6. Yes, motion of wheel of a bicycle is circular motion.
7. Distance between Hemant's home and his office = 3,250 m = 3.25 km.
8. Height of a person is = 1.65 m × 100 = 165 cm × 10 = 1,650 mm.
9. The correct length of knitting needle = 33.1 – 3 = 30.1 cm.
10. Mass, length and time are three fundamental quantities of measurement.
11. Periodic motion is used in strings of a guitar being played.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. A pace or footstep of different persons are different and they are not indication of standard measurement. Hence, they are not used as standard unit of length.

2. (a) km
(b) Second.
3. (a) Centimetre is the submultiple of length.
(b) Two wooden blocks and scale are convenient to use for measuring the diameter of ball.
4. (a) Second's hand of clock and table are the examples of motion and rest respectively.
(b) $1 \text{ m} = 0.001 \text{ km}$.
5. The wheel and pedal of bicycle are in circular motion but bicycle moves in rectilinear motion. On the contrary, despite some parts remains static, a ceiling fan is in circular motion.
6. **Land transport:** Rail, bus
Water transport: Ship, motor boat
Air transport: Aeroplane, Helicopter.
7. International System of Unit (SI unit) is used to remove the confusion of different units used by people in ancient times. Nowadays, this uniform system is accepted all over the world.

WORKSHEET – 70

ANSWER THE FOLLOWING

1. (a) – 100 (b) – 5,000 (c) – Curved (d) – Periodic.
2. (a) – (iv) (b) – (iii) (c) – (i) (d) – (ii).
3. (a) Yes, a flying bird is in motion.
(b) Rectilinear motion signifies sprinters in a 100 m race.
4. (a) Rectilinear motion by car and circular motion by wheels.
(b) Circular motion
(c) Non-linear motion by child and rotation motion by top.
(d) Rectilinear
(e) Rotational motion
(f) Periodic motion.

WORKSHEET – 73

ANSWER THE FOLLOWING

1. (a) Rectilinear motion (b) Rotational
(c) Periodic motion (d) Rectilinear by car and rotational by wheel
(e) Periodic (f) Circular & periodic.
2. (a) When a body moves in a straight line, it is said to be in a rectilinear motion.
(b) The SI unit for length is metre.
(c) We always express our measurement in non-standard units.
(d) In rotational motion, all the parts of the moving object do not cover the equal distance.
(e) Cubit is a non-standard unit of length.

3. (a) 20 m to cm
 $1 \text{ m} = 100 \text{ cm}$
 $20 \text{ m} = 100 \times 20 = 2000 \text{ cm}$
- (b) 1000 km to m
 $1 \text{ km} = 1000 \text{ m}$
 $1000 \text{ km} = 1000 \times 1000 = 1000000 \text{ m}$
- (c) 10 m to dm
 $1 \text{ m} = 10 \text{ dm}$
 $10 \text{ m} = 10 \times 10 = 100 \text{ dm}$
- (d) 30 cm to mm
 $1 \text{ cm} = 10 \text{ mm}$
 $30 \text{ cm} = 10 \times 30 = 300 \text{ mm}.$

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. When object does not change its position with time, it is said to be at rest.

2. Initial point – 3.5 cm

Final point – 22.5 cm

Actual length of line segment = Final point – Initial point

$$= 22.5 \text{ cm} - 3.5 \text{ cm}$$

$$= 19 \text{ cm}.$$

3.

Periodic motion	Non-periodic motion
The motion that is repeated after regular interval of time is called periodic motion.	The motion that is repetitive but does not occur at a regular interval of time is called non-periodic motion.
For example: Motion of pendulum of clock.	For example: Children playing in a park.

4. (a) Arrow released from bow

(b) Rotation of earth

(c) Hands of a clock

(d) Birds flying in the sky.

5. Benefits of having a common system of measurement is that it gives units that are more accurate and reliable and can be used by everyone to get the same results. Also they do not vary from person to person and place to place.

6. (i) *Cubit*: It is the distance from the tip of the middle finger to the elbow.

(ii) *Handspan*: It is the length of the stretched out hand.

(iii) *Footstep*: It is the length of the one footstep.

WORKSHEET – 74

DO AS DIRECTED

1. Oscillatory 2. Periodic 3. Circular 4. T 5. F.

DOUBLE MATCHING

(A) – (c) – (iii), (B) – (a) – (ii), (C) – (b) – (i).

ANALOGY TYPE QUESTIONS

1. Angstrom 2. 10^{-10} 3. 1/1000
4. SI unit of mass 5. Metre.

CHAPTER – 11 (LIGHT, SHADOWS AND REFLECTIONS)

WORKSHEET – 76

MCQs

1. (c) 2. (d) 3. (c) 4. (a) 5. (a) 6. (c) 7. (d)
8. (b) 9. (b) 10. (c) 11. (a) 12. (a) 13. (b) 14. (d).

WORKSHEET – 77

VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. An object which gives out light is called source of light.
2. Yes, stars are natural sources of light.
3. Yes, candle is the man-made source of light.
4. The opaque materials do not allow light to pass through them because they absorb all the light radiations falling on them.
5. Mirror reflection gives us clear images.
6. Yes, moon and earth are opaque objects.
7. Shadows are of two kinds named umbra and penumbra.
8. A lunar eclipse occurs when earth comes between sun and moon in a straight line.
9. Periscope is a device used to see the object at higher level.
10. When we walk in the sunlight, our shadows follow us.

ANSWER THE FOLLOWING

1. (a) – (F) (b) – (F) (c) – (T) (d) – (T).
2. (a) Shadow, (b) Opaque, (c) Mirror, (d) Sundial.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. **Two characteristics of shadows are given below:**
(a) Shadow gives us information about the shapes of objects.
(b) Shadows of objects were used to measure time in ancient times.

2. **OPAQUE**

OBJECTS

MAKE

SHADOWS

3. Yes, if we hold a round cardboard in facing the source of light, it will create a round (circular) shadow on the ground. If we hold it in vertical or horizontal position, it will create a rectangular shadow.
4. In a completely darkroom, we cannot see our reflection in the mirror due to the absence of source of light. It is possible only in the presence of light.
5. **Transparent objects:** Air, glass, water.
Opaque objects: Plastic scale, cardboard, book, moon, notebook.
Translucent objects: Butter paper, tissue paper, single sheet of paper.
6. When light falls on a non-luminous object, it is reflected from an object and enters our eyes. This reflected light enables us to see non-luminous object.

WORKSHEET – 78

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. When an object is placed in front of a plane mirror, then the right side of an object appears to become left side of image and left side of an object appears to become the right side of image. This occurrence is called lateral inversion.
2. The materials which allow the light to pass through them are called transparent materials, *e.g.*, beakers. The materials which allow the light to pass through them partially are called translucent, *e.g.*, ground glass.

WORKSHEET – 81

ANSWER THE FOLLOWING

1. (a) True (b) False (c) True
(d) False (e) True.
2. (a) Tubelight (b) Air (c) Lighted lamp
(d) Wooden block (e) Glass.
3. (a) *Luminous object:* Objects which give out light of their own are called luminous object, *e.g.*, torch, bulb, sun, etc.
(b) *Mirror:* A polished or smooth surface of glass which forms image by reflection is called mirror.
(c) *Opaque object:* Those objects which do not allow light to pass through them are known as opaque objects, *e.g.*, book, wall, wood, etc.
(d) *Pinhole camera:* A pinhole camera can be made with simple material and used to get image of the sun and brightly lit objects.
(e) *Reflection:* The phenomenon of change in direction of light when it strikes the body or a surface is called reflection of light.
(f) *Shadow:* When an opaque object comes in the path of the light, shadows are formed. It gives us idea about the shape of the object.

- (g) *Translucent object*: Those objects which allow light to pass through them not very clearly are known as translucent objects, *e.g.*, butter paper, ground glass, etc.
- (h) *Transparent object*: Those objects which allow light to pass through them are known as transparent objects, *e.g.*, clear glass.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

- Such objects reflect the light of the luminous objects and thus appear to be visible. For example: Moon is a non-luminous object which reflects the light of sun and thus, visible at night.
- Source of energy in stars: Fusion reaction.
Source of energy in torch: Chemical reaction takes in batteries.
- (a) *Luminous objects*: The objects that have light of their own are called luminous objects. For example: stars, tubelight, sun, etc.
(b) *Reflection of light*: The phenomenon of change in the direction of light when it strikes the body or a surface is called reflection of light.

WORKSHEET – 82

DO AS DIRECTED

- | | | |
|--------------------|-----------|----------------|
| 1. Luminous object | 2. Opaque | 3. Transparent |
| 4. F | 5. T | 6. T. |

ANALOGY TYPE QUESTIONS

- | | | |
|-------------------|----------------|----------|
| 1. Burning candle | 2. Translucent | 3. Umbra |
| 4. Solar eclipse | 5. Lamp. | |

DOUBLE MATCHING

(A) – (c) – (ii), (B) – (d) – (iv), (C) – (a) – (i), (D) – (b) – (iii).

CHAPTER – 12 (ELECTRICITY AND CIRCUITS)

WORKSHEET – 84

MCQs

- | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|
| 1. (b) | 2. (d) | 3. (a) | 4. (a) | 5. (a) | 6. (a) | 7. (a) |
| 8. (c) | 9. (a) | 10. (c) | 11. (b) | 12. (c) | 13. (a) | 14. (c) |
| 15. (d) | 16. (c) | | | | | |

WORKSHEET – 85

VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

- The metal cap is the positive terminal and the metal disc is the negative terminal in electric cell.
- The bulb glows only when current flows through the circuit.
- When bulb gets fused, it does not glow even if it is connected to the cell.

WORKSHEET – 89

ANSWER THE FOLLOWING

1.

Column A	Column B
(a) Filament of a bulb	(vi) Tungsten
(b) Conductor	(v) Iron, copper, silver
(c) Insulator	(i) Plastics, glass, wood
(d) Combination of cells	(vii) Battery
(e) Path of current flow	(iv) Electric circuit
(f) Rechargeable cells	(ii) Secondary cells
(g) Non-rechargeable cells	(iii) Primary cells

2. (a) Plastics (b) Wood (c) Switch (d) Tungsten.

3. (a) *Conductor*: A material that allows electric current to pass through it, e.g., metals.

(b) *Electric cell*: It is the source of electric current that converts chemical energy stored in it to electrical energy.

(c) *Electric circuit*: The complete path that allows current to flow through it is called an electric circuit or an electric path.

(d) *Filament*: Thin wire in the bulb that glows and gives light on passage of electricity.

(e) *Insulator*: A material that does not allow electric current to pass through it, e.g., wood, plastic, etc.

(f) *Switch or key*: A device in an electric circuit that controls the flow of electric current through electric circuit is called switch.

(g) *Terminal*: Each cell consist of two ends called terminals. The metal cap on one side of cell is positive terminal, while the metal disc at the other side is negative terminal of cell.

4. (a) To avoid the electrical shock, the handles of the screwdrivers used by electricians are usually made of plastic.

(b) When the switch is in ON position, it means circuit is closed and current flows through it without any obstruction due to which electric bulb connected to it glows.

(c) Rubber slippers and gloves are insulators, i.e., they do not allow the flow of current through them. So, they are worn while carrying out electrical repair to avoid electric shock.

(d) An electric bulb does not glow even if it is connected to the cell. This is because, switch is in OFF position which means no current flows through the electric circuit.

(e) Metal wires carrying electricity are covered with plastic because plastic is an insulator which does not allow the flow of current through it.

5. (a)

Closed circuit	Open circuit
When the electric circuit allows current to flow through it so that the electrical appliance connected to it works, then it is said to be closed.	When the electric circuit does not allow current to flow through it so that the electrical appliance connected to it does not work, then it is said open circuit.

(b)	Conductors	Insulators
	The substances that allow the flow of current to pass through them. For example: Copper, silver, aluminium, etc.	The substances that do not allow the flow of current to pass through them. For example: Plastics, glass, wood, etc.

WORKSHEET – 90

ONE WORD FOR THE FOLLOWING

- (a) Cell or battery (b) Filament (c) Circuit
(d) Fused (e) Switch.

DO AS DIRECTED

1. Switch 2. Black 3. Positive terminal, Negative terminal
4. F 5. F 6. T.

DOUBLE MATCHING

(A) – (c) – (ii), (B) – (a) – (iv), (C) – (b) – (iii), (D) – (d) – (i).

CHAPTER – 13 (FUN WITH MAGNETS)

WORKSHEET – 92

MCQs

1. (d) 2. (b) 3. (d) 4. (c) 5. (d) 6. (d) 7. (c)
8. (a) 9. (d) 10. (d) 11. (a) 12. (c) 13. (c).

WORKSHEET – 93

VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

- When magnets are heated, they lose their properties.
- Poles of a bar magnet are located at North and South directions.
- Iron is odd among aluminium, brass, copper and iron.
- Magnetite was first discovered at a place called magnesia.
- Travellers use property of magnets to find directions.
- When magnets are dropped from some height, they lose their properties.
- Soft iron pieces are called keepers.
- When some iron-filings are spread and a magnet is placed in it, then they cling to the end of magnet mostly and few near middle.
- Wood, cloth, paper and glass are used for making screen through which magnetic effect can pass.
- Only one iron piece (keeper) across the poles is necessary for horse-shoe magnet.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

- (a) The mineral magnetite is mainly composed of oxides of iron.
(b) At the time of travelling on the sea or in air it helped sailors to find the directions in ancient times.
- A magnetic compass is nothing but a small magnet enclosed in a glass case which is pivoted at its centre so that it can rotate freely. When it is placed on a flat surface, the needle of compass will come to rest pointing in the North–South direction.
- Magnets are now used for a variety of purposes:**
 - They are used as an essential components of generator, motor and many other machines.
 - Magnets are used in gadgets like radio, tape recorder and television.
- Two properties of a magnet are given below:**
 - All the magnetic materials such as iron, nickel and cobalt are attracted towards magnet.
 - When a bar magnet is suspended freely, it aligns in the North–South direction.
- Though the body of pencil sharpener is made up of plastic but its blade is made up of iron which has the property to be attracted towards magnets. That is why, it is attracted towards both the poles of the magnet.
- Bring the north pole of another bar magnet near one end of the non-indicated magnet. If this end repels, it shows that it is north pole and if it is attracted, it is south pole.

7.

Column I	Column II
N – N	Repulsion
N – S	Attraction
S – N	Attraction
S – S	Repulsion

WORKSHEET – 94

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

- When a bar magnet is broken into two pieces, each piece behaves as a whole magnet. It shows new poles are formed at broken ends. If you break these pieces again, each smaller pieces behave as a whole magnet with two opposite poles. Hence, the poles of magnet always exist in pairs.
- Magnetic materials:** Iron nail, sewing needle, safety pin, shaving blade, spoon.
Non-magnetic: Brass, copper wire, paper clip, eraser, cork, rubber band, toothbrush.
- Take one bar magnet and two identical iron bars. Bring the magnet near the first iron bar and then near the other at both ends. The bar made of iron will be attracted towards the magnet at both ends whereas bar magnet will show repulsion for like poles and attraction for unlike poles, so repulsion is sure test of magnetism.

WORKSHEET – 96

ANSWER THE FOLLOWING

- (a) False (b) False (c) True (d) True (e) False.

2. (a) Magnetic keeper are used to store magnets as they protect the magnets from losing their magnetic properties.
- (b) Two magnets should not be rubbed against each other as they can lose their magnetic properties.
3. (a) *Compass*: A magnetic compass is a device used to determine the direction on the surface of the earth.
- (b) *Magnet*: The substance that has the property of attracting objects made up of certain substances like iron, cobalt and nickel is called a magnet.
- (c) *Magnetite*: A rock in Northern Greece that was named magnetite after discovery of magnet by Magnes.
- (d) *North pole*: North pole of a magnet seeks the north pole of the earth.
- (e) *South pole*: South pole of a magnet seeks the south pole of the earth.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. It is believed that a shepherd named Magnes discovered the magnet in the area called Magnesia that lies in the Northern Greece. It is said that while herding his sheep, the metal end of his stick got stuck to a large, black coloured rock. This rock was later named as Magnetite and is said to be a natural magnet.
2. Magnets are classified into:
 - (a) *Permanent magnet*: Magnets that retain their magnetic properties for a longer period of time.
 - (b) *Temporary magnet*: Magnets that retain their magnetic properties for a short period of time.
3. Bar magnets are stored in pairs with their unlike poles alongside each other and separated by a piece of wood. Pieces of iron, called keepers, should be kept at the poles.
4. A freely suspended bar magnet always aligns in the North-South direction.
Yes, the result would be different if we keep an iron needle close to such a magnet as it will attract the needle towards itself causing its direction to change.
5. The mixture of iron filings and sand can be separated by using a magnet as it attracts the iron filings from the mixture.
6. Taking care of magnets:
 - (a) Bar magnets are stored in pairs with their unlike poles alongside each other and separated by a piece of wood. Pieces of iron, called keepers, should be kept at the poles.
 - (b) For a horseshoe-shaped magnet, only one keeper is required.
 - (c) Magnets should be heated, hammered, kept in sun or dropped from a height. All these activities lead to demagnetisation of magnet.
 - (d) Magnets should be kept away from cell phones, televisions, radios, computers and CDs.

WORKSHEET – 97

DO AS DIRECTED

- | | | |
|--------------|-------------------|--------------|
| 1. Lodestone | 2. Oxides of iron | 3. Magnetism |
| 4. F | 5. T | 6. T. |

ANALOGY TYPE QUESTIONS

1. Copper 2. Near the end of magnet 3. North pole 4. Repulsion, Attraction.

MATCH THE COLUMNS

- (a) (iv) (b) (v) (c) (ii) (d) (i) (e) (iii).

CHAPTER – 14 (WATER)

WORKSHEET – 99

MCQs

1. (b) 2. (a) 3. (c) 4. (b) 5. (a) 6. (d) 7. (c) 8. (a)
9. (c) 10. (c) 11. (d) 12. (d) 13. (c) 14. (c) 15. (c).

WORKSHEET – 100

VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. The condensation process plays an important role in bringing water back to the surface of the earth.
2. The amount of usable water on earth is limited, so it needs to be used carefully.
3. Water is required for maintaining body temperature.
4. Underground water is the water which is collected below the ground surface.
5. The 75% of earth's surface is covered by ocean and sea with water.
6. Collecting rainwater and storing it for later use for increasing the availability of water is called rainwater harvesting.
7. Plants release water vapour by the process of transpiration.
8. The process of falling down of water in the form of rain, snow or hail is called precipitation.
9. The two main sources of water rich in salt are ocean and sea.
10. Rainwater harvesting method is an important method for conservation of water.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. (a) The process of conversion of water into water vapour is called evaporation.
(b) The solid state of water is ice, the liquid state of water is water and the gaseous form of water is water vapour.
2. As we know, air is full of water vapours. These water vapours condense into tiny droplets of water when they come in contact with bottle filled with water and ice.
3. (a) Evaporation and transpiration help in producing water vapour in air.
(b) The process of converting liquid matter into gaseous form is called boiling.
4. (a) The process of conversion of water vapour into water is called condensation.
(b) The two lakes are Naini and Salt lake. These are located in Kashmir region.
5. (a) Ganga and Yamuna are formed due to melting of ice.
(b) Snow is formed at 0°C temperature.

6. (a) Condensation process is opposite to evaporation.
- (b) Substance which has large amount of space in between their molecules is called a porous substance, e.g., chalk, sand.

WORKSHEET – 101

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. (a) Digestion, (b) Ocean, (c) Cycle, (d) Heating.
2. The water from the open surfaces of oceans, rivers, ponds and lakes evaporates in the air. The resulting water vapours condense to form tiny water droplets whose upper layer form clouds.
3. When the people breathe out on the glasses of the spectacle, the exhaled water vapours condense by giving out their heat to the air. As a result, the glasses become wet.
4. Yes, *angithi* or heater can help in drying the wet school uniform quickly because they also emit heat energy which converts the water present in clothes into water vapours.

WORKSHEET – 104

ANSWER THE FOLLOWING

1. (a) *Condensation*: Conversion of water vapour into water on cooling.
 (b) *Drought*: A condition that occurs when an area receives less or no rainfall for a long period.
 (c) *Evaporation*: Conversion of water into water vapour on heating.
 (d) *Flood*: A condition that arises due to prolonged periods of heavy rains in an area.
 (e) *Groundwater*: Water present below the ground.
 (f) *Hail*: It is the precipitation in the form of small balls or lumps consisting of clear ice and compact snow.
 (g) *Snow*: When clouds cannot hold anymore droplets, they burst and the water droplets come down on earth's surface in the form of snow.
2. (a) Lakes and ponds
 (b) Rooftop rainwater harvesting and surface rainwater harvesting
 (c) Rain and snow
 (d) Ice (solid) and steam (gaseous)
 (e) Typhoid and cholera
 (f) Flood and draught.
3. (a) False (b) False (c) True (d) True (e) True.
4. (a) (iii) (b) (iv) (c) (v) (d) (ii) (e) (i).

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Sea water contains high amount of salts and minerals dissolved in it which makes it unfit for drinking and other purposes.
2. Advantages of rainwater harvesting:
 - (i) It restores the surface water back to normal levels.

- (ii) It recharges groundwater.
 - (iii) It maintains the level of water table.
 - (iv) The collected rainwater can be used for many purposes such as washing clothes, cleaning dishes, etc.
3. *Water pollution*: The contamination of the water with the harmful substances such as sewage and waste that bring the changes in the physical and chemical properties of water is called water pollution.
 4. When water evaporates, it forms vapours which rise up and form tiny droplets of water. These tiny droplets collect to form clouds.

WORKSHEET – 105

NAME THE FOLLOWING

- | | | |
|-----------------|-------------------|-----------|
| 1. Condensation | 2. Evaporation | 3. Clouds |
| 4. Oceans/Seas | 5. Precipitation. | |

DOUBLE MATCHING

(A) – (c) – (ii), (B) – (b) – (iii), (C) – (a) – (i).

ANALOGY TYPE QUESTIONS

- | | | |
|------------------------------------|----------------------|----------------|
| 1. Drought | 2. Forest and others | 3. Groundwater |
| 4. Freshwater, Climate of a place. | | |

CHAPTER – 15 (AIR AROUND US)

WORKSHEET – 107

MCQs

- | | | | | | | |
|---------|---------|---------|----------|---------|---------|---------|
| 1. (b) | 2. (a) | 3. (b) | 4. (b) | 5. (c) | 6. (b) | 7. (b) |
| 8. (a) | 9. (d) | 10. (b) | 11. (a) | 12. (a) | 13. (a) | 14. (b) |
| 15. (b) | 16. (b) | 17. (d) | 18. (a). | | | |

WORKSHEET – 108

VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. Oxygen gas is necessary for burning and respiration.
2. Nitrogen gas is major part of air.
3. Smoke contains a few gases and fine dust particles which are often harmful.
4. The presence of water vapour in air is important for the water cycle in nature.
5. Yes, air is present in water and soil.
6. Wind makes the windmill rotate.
7. 21 per cent oxygen is present in air.
8. A small region where fishes are kept is called aquarium.

9. The process of breaking down of food in the presence of oxygen to produce energy is called respiration.
10. We use blanket because it does not allow oxygen to reach inside the fire and resultantly fire is extinguished.
11. Air acts as a medium for dispersal of seeds and helps in wind pollination.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. The three important uses of air are given below:

- (i) Air is the medium in which birds and insects fly.
 - (ii) Air helps in drying of clothes.
 - (iii) Air helps in breathing, burning and respiration.
2. As we know, plants take CO_2 produced by living organisms for photosynthesis and produce O_2 which is panacea for atmosphere. If plants stop taking CO_2 , then the atmosphere will be devastated.
 3. When mountaineers go higher and higher, the layer of air becomes thin and deep inside the earth. As a result, to fulfil the requirement of O_2 , mountaineers carry O_2 cylinders.
 4. Oxygen is necessary for all living beings. Closed room does not allow air containing oxygen to enter in it. As a result, we start feel suffocating.
 5. Cotton lump contains air in its inter-fibril space. As this lump is dipped in the water, air gets dissolved in water. As a result, fibres are attracted towards the water and lump of cotton wool gets shrinked.

WORKSHEET – 109

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Plants take in CO_2 from the atmosphere for photosynthesis and give out O_2 . On the other hand, animals take in oxygen from the atmosphere for respiration and give out CO_2 . That is why, plants and animals help each other in the exchange of gases in the atmosphere.
2. Take a beaker with half-filled water. Place it over a tripod stand and heat water in the beaker. As a result, tiny bubbles start coming out from the water. It shows that air is dissolved in water.
3. When air comes in contact with cold glass bottle, we will see water vapour in air condenses to form tiny droplets of water inside the bottle. This proves that air contains water vapour.

WORKSHEET – 110

ANSWER THE FOLLOWING

1. (a) – (iii), (b) – (i), (c) – (iv), (d) – (ii).
2. (a) Atmosphere (b) Carbon dioxide.

WORKSHEET – 112

ANSWER THE FOLLOWING

1. (a) *Atmosphere*: Thick blanket of air surrounding the earth's surface.
- (b) *Aquatic animal*: Animals living in water is called aquatic animals, e.g., fish, whale, etc.
- (c) *Smoke*: It is collection of solid, liquid and gases which arise when a material undergoes combustion.

- (d) *Combustion*: It is the burning of something in presence of oxygen. Combustion is a exothermic process which produces heat and light.
- (e) *Water vapour*: Water vapour is the gaseous form of water present in air. Water evaporates as vapour from water bodies like rivers, seas, oceans, etc.
- (f) *Wind*: Blowing air is called wind.
2. (a) Air contains different amount of water vapour.
 (b) Oxygen gas supports burning.
 (c) Air is a mixture of gases like nitrogen, oxygen, carbon dioxide, etc.
 (d) Air has mass and occupies space.
 (e) When we heat water, it expels the dissolved air.

3.

Column A	Column B
(a) Lungs	(iv) Humans
(b) Stomata	(iii) Plants
(c) Gills	(i) Fish
(d) Skin	(ii) Earthworm

4. (a) As we move up, the air gets thinner and it becomes difficult to breathe. Because of this reason, mountaineers carry oxygen cylinders with them while climbing the mountains.
 (b) Earthworms come out of soil in rainy season to breathe air as the soil pockets become filled with water that unable them to breathe.
 (c) Plants die in waterlogged conditions as excess waterlogging causes decrease in the oxygen supply which leads to the decreased respiration, causing plants to die. Excess of water also promotes the growth of harmful microorganisms.
 (d) Stomata present on leaf surface help the plants in the exchange of gases and transpiration. Since, aquatic plants do not have the need to exchange gases, they do not have stomata.
 (e) Carbon dioxide is used by plants to prepare their food by the process of photosynthesis. During this process, plants give out oxygen as the by-product which is used by animals and humans for respiration. So, the presence of carbon dioxide is beneficial for living beings.

WORKSHEET – 113

DO AS DIRECTED

- | | | |
|------------------|-----------|-----------|
| 1. Water vapours | 2. Matter | 3. Oxygen |
| 4. T | 5. F | 6. T. |

ANALOGY TYPE QUESTIONS

- | | | |
|-----------|---------------------------|--------|
| 1. 0.03% | 2. Oxygen, carbon dioxide | 3. 80% |
| 4. Oxygen | 5. Wind. | |

NAME THE FOLLOWING

- | | | | |
|-------------|--------|----------------|----------|
| 1. Aquarium | 2. Air | 3. Respiration | 4. Soil. |
|-------------|--------|----------------|----------|

CHAPTER – 16 (GARBAGE IN, GARBAGE OUT)

WORKSHEET – 115

MCQs

- | | | | | | | |
|---------|---------|----------|---------|---------|---------|---------|
| 1. (b) | 2. (d) | 3. (d) | 4. (c) | 5. (d) | 6. (d) | 7. (a) |
| 8. (d) | 9. (b) | 10. (a) | 11. (d) | 12. (b) | 13. (c) | 14. (d) |
| 15. (b) | 16. (d) | 17. (c). | | | | |

WORKSHEET – 116

VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. Yes, burning of leaves produces harmful gases.
2. Vegetable peels and paper are the two examples of materials that can be recycled.
3. 5th June is celebrated as World Environment Day.
4. Non-rottening wastes can be reused by recycling them.
5. Green garbage bin is used for collecting kitchen, plant and animal wastes.
6. Blue garbage bin is used for collecting material wastes, such as plastics, metals and glasses, etc.
7. Redworms feed on the wastes, soil and convert it into compost.
8. Microorganisms support decay of biodegradable wastes.
9. Land pollution is caused by dumping of solid wastes.
10. Composting – converting plant and animal wastes into manure.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. (a) The chemicals, glazed papers, plastic, rubber, metals, etc., are not converted into compost by the redworms.
(b) No, all wastes are not biodegradable.
2. Yes, bacteria, moulds, microorganisms, small insects, etc., can also be seen in the pit other than redworms. Picture will be made by students.
3. If we throw the wastes in plastic bags, they will not rot because plastics are non-biodegradable materials. They are not easily decomposed by natural processes.
4. (a) As plastic is non-biodegradable material, it produces harmful gases due to incomplete combustion that causes cancer and other problems related to health.
(b) Yes, aluminium foil is non-biodegradable.
5. Yes, dumping of wastes anywhere will harm the natural surroundings. The dumped place looks dirty and emits foul smell. The beauty of the place is spoiled and surrounding gets polluted. The straying animals spread diseases.

WORKSHEET – 118

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. We should utilise the leftover food at home by giving them to our pets. We can also collect the leftover food in the biodegradable waste bin. Hence, it may be converted into the composting.

WORKSHEET – 121

DO AS DIRECTED

1. Land 2. Cow dung 3. Reduce 4. F 5. T 6. T.

ANALOGY TYPE QUESTIONS

1. Non-biodegradable 2. Glasses 3. Composting
4. Recycling 5. World water day.

ANSWER THE FOLLOWING

1. **Green garbage bin:** Plant wastes, kitchen wastes, animal wastes.
Blue garbage bin: Plastics, metals, glasses.
2. **Biodegradable wastes:** Vegetable peels, cutting of fruits, cow dung, plant residue, agricultural wastes, urine, flowers, pencil shavings.
Non-biodegradable wastes: Plastic bags, glass, metal, buckets, polythene.

□□