

Ultima

Science

At Work

1 to 5

A TEXT BOOK ON SCIENCE

**Teacher's
Hand Book**



R.K. Publications
(Educational Publishers)

Rs. 25/-

Published by :

R.K. Publications

(Educational Publishers)

C-9/90, Sector-7, Rohini, New Delhi-110085

Ph: +91-11-47094205, Fax: +91-1147094206

E-mail: rkpublications@hotmail.com

rkpublications@rediffmail.com

© R. K. Publications

All rights reserved; no part of this publication may be reproduced, stored in retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the publishers.

Typesetting & Designed by :

Graphic Zone, New Delhi

graphiczone.top10@gmail.com

LESSON-1

- A.** 1. Big and strong plants are called trees.
2. Big trees give us shade.
3. Small plants are called shrubs.
4. Herbs
5. Climbers.
- B.** 1. × 2. ✓ 3. × 4. ✓
- C.** Henna, Mango, Tomato, Rose, Palm, Cotton
- D.** 1. trees 2. shrubs 3. vegetables 4. climber

LESSON-2

- A.** 1. Plants have roots, stem, branches, leaves, flower and fruits.
2. Stem of a plant bears branches, leaves flowers and fruits.
3. Leaves make food for plants, so they are called kitchen of a plant.
4. Flower turns into fruit.
- B.** 1. roots 2. green 3. flowers 4. seeds 5. food

LESSON-3

- A.** 1. We eat fruits raw.
2. Cereals give us lot of energy.
3. Cereals and pulses are food grains.
4. Leaves of tea plants are dried and used as tea.
5. We get sugar from stems of sugarcane.
- B.** 1. ✓ 2. × 3. × 4. × 5. ×
- C.** 1. salad 2. pulses 3. spices
4. beverages 5. crushed

LESSON-4

- A.** 1. Animals living in forest are called wild animals.

2. They are tamed for work or food.
3. Horses, Donkeys and Camel.
4. Wings help birds to fly.
5. Insects have six legs.

B. 1. d 2. a 3. e 4. b 5. c

C. ROBIN, BUFFALO, FOX, JACKAL, LION,
PARROT, MOLE, PIGEON

LESSON-5

- A.** 1. Horse, elephant, giraffe eat plants.
2. They eat grains and nuts.
3. They like to eat insects.
4. Parrot, monkey.

B. 1. ✓ 2. ✗ 3. ✗ 4. ✓ 5. ✓

C. 1. b 2. a 3. d 4. c

LESSON-6

- A.** 1. Animals need home to rest.
2. Rabbits live in burrows.
3. They use straws, twigs, grass and leaves.
4. We keep our pet dog in kennel.
5. We keep fish in aquarium in our homes.

B. 1. rest 2. trees 3. cozy, comfortable
4. holes 5. monkey 6. homes

C. 1. c 2. d 3. a 4. b

LESSON-7

- A.** 1. No.
2. We write and wash clothes with our hands.
3. Eyes, ears, nose, tongue and skin.
4. They help us to see, hear, smell, taste and touch.
5. We become taller and heavier.
6. Skin is our largest sense organ.

B. 1. d 2. e 3. a 4. c 5. b

C. 1. false 2. true 3. false 4. False 5. true

LESSON-8

- A.** 1. We need energy to play and do work.
2. We get energy from food.
3. We should have grains, pulses, milk, milk products, vegetables, fruits and water in our daily diet.
4. We should wash our hands before and after eating. We should not talk while eating.
5. Junk food makes us lazy and fat.

B. 1. energy 2. food 3. hurry 4. roam 5. skip

C. 1. ✓ 2. ✓ 3. ✗ 4. ✓ 5. ✓

LESSON-9

- A.** 1. Habit of staying clean is called cleanliness.
2. It keeps us away from germs causing diseases.
3. We should use towel after taking bath.
4. We should wear clean and well ironed clothes.
5. It makes our hair strong and shiny.

B. 1. dirty 2. twice 3. short
4. blow 5. eight 6. fresh

C. 1. ✓ 2. ✓ 3. ✗ 4. ✓ 5. ✗ 6. ✓ 7. ✗

LESSON-10

- A.** 1. A safe and comfortable place where we live is called a house.
2. Our house keeps us safe from heat, cold, rain, thieves, and animals.
3. We do cooking in our house.
We sleep in our house.

4. Well lit and airy, clean surrounding.

B. Cement, Bangalow, Multi-storeyed building, bricks.

C. 1. ✗ 2. ✗ 3. ✓ 4. ✓

LESSON-11

- A.** 1. We should follow safety rules to be safe.
2. a) We should not play with sharp objects.

b) We should not play on stairs.

- 3. We may fall down and get hurt.
- 4. We should use a zebra crossing to cross a busy road.
- 5. We should not go alone.

We should use swimming tubes.

- B.** 1. wet 2. run 3. bare footed
4. road 5. accident

- C.** 1. × 2. ✓ 3. ✓ 4. × 5. ✓ 6. ×

LESSON-12

- A.** 1. We need air to breathe.
2. If we stand under the fan or we blow on our hands we can feel air.
3. Air helps in burning things.
4. Air filled in objects make them big.

- B.** 1. Air 2. Breeze 3. Storm 4. Wind

- C.** 1. fresh 2. see 3. parachutes, kites
4. burning 5. breathe

LESSON-13

- 1. Plants need water to make their food.
- 2. a) We need water to drink and bath.
b) We need water for washing.
- 3. We should drink clean and pure water.
- 4. Rain is the main source of water.
- 5. We get underground water from wells and pumps.

- B.** 1. × 2. × 3. ✓ 4. ✓ 5. ✓

- C.** 1. alive 2. drink 3. sea
4. underground 5. waste

LESSON-14

- A.** 1. Weather is a state of a day.
2. We like to have ice-cream, cold drinks and chilled juice.
3. We like to have hot soup, tea, coffee, etc. on cold days.
4. We save ourselves from getting wet by wearing rain coats, gum shoes and using umbrellas.

- B.** 1. hot, sunny 2. warm 3. snows 4. clouds

- C.** 1. × 2. × 3. ✓ 4. ✓

LESSON-15

- A.** 1. The sun is a very big star.
2. We have night when the sun sets.
3. Moon shines with light of the sun.
4. We cannot see the moon on cloudy night sky.

- B.** 1. east 2. big 3. bright 4. day

- C.** 1. × 2. ✓ 3. × 4. ✓ 5. ✓

TEST PAPER -1

- A.** 1. Small plants are called shrubs.
2. Stem of a plant bears branches, leaves, flowers and fruits.
3. We get sugar from stems of sugarcane.
4. Wings help birds to fly.

- B.** 1. trees 2. green 3. salads 4. six

- C.** Butterfly, Cotton, Pony

- D.** 1. (F) 2. (T) 3. (T)

TEST PAPER -2

- A.** 1. They eat grains and nuts.
2. Rabbits live in burrows.
3. They help us to see, hear, smell, taste and touch.
4. We get energy from food.

- B.** 1. food 2. dirty 3. insects 4. trees

- C.** Ant-hills, Flesh Eaters, Aquarium

- D.** 1. True 2. True 3. True

TEST PAPER -3

- A.** 1. Well clean and airy, clean surrounding
2. We should follow safety rules to be safe.
3. We need air to breathe.
4. Plants need water to make their food.

- B.** 1. wet 2. burying 3. underground 4. snow

- C.** 1. Gibbous Moon, Strong Wind, Rainy Day.

- D.** 1. Air 2. Breeze 3. Sun

Book-2

LESSON-1

- A.** 1. Most varieties of plants grow on land.
2. Trees have hard and woody stems.
3. They are called climbers.
4. Creepers grow along the ground.
- B.** 1. lilly, lotus 2. rose, jasmine 3. spinach, grass
4. grapevine, pea. 5. watermelon, pumpkin
- C.** 1. trunk 2. trees 3. vegetables 4. weak
- D.** 1. false 2. true 3. false 4. true 5. false

LESSON-2

- A.** 1. cereals, pulses, vegetables, fruits.
2. Sweet smelling flowers are used in making perfume.
3. Rubber is a white liquid obtained from the rubber tree.
4. We eat seeds of plants as cereals and pulses.
5. We can make furniture, door, windows, pencils, etc. from the wood of plants.
- B.** 1. sugarcane 2. cotton 3. radish, carrot
4. bamboo 5. jasmine, rose 6. tulsi, neem
- C.** 1. food 2. nuts 3. flavour and taste
4. seeds 5. fresh

LESSON-3

- A.** 1. Animals living in forests are called wild animals.
For example : lion and tiger.
2. Lions and foxes live in dens.
3. Scavengers help in maintaining the cleanliness of the forest.
- B.** 1. X 2. X 3. ✓ 4. ✓ 5. X
- C.** 1. shells 2. herbivores 3. omnivores
4. nests 5. rest
- D.** 1. B, S, V.

LESSON-4

- A.** 1. Domestic animals live in the house of their keepers.
2. Donkeys, horses, oxen, camels are called the beast of burden.

3. cow camel buffalo
4. We get wool from sheep.
5. We should keep our pets lovingly and carefully.

- B.** 1. III 2. IV 3. I 4. II
- C.** 1. ✓ 2. X 3. ✓ 4. X 5. ✓
- D.** 1. DUCK 2. GOAT 3. HEN 4. HORSE
5. COW 6. SHEEP

LESSON-5

- A.** 1. The place where we live safely is called our house.
2. House protects us from heat, cold, rain, animals, thieves, wind, etc.
3. Things like wood, bricks, sand, cement, stones, iron, etc. are used to make a permanent house.
4. Wooden houses made on boats are called house boats.
5. People build houses with sloping roofs so that the rain water or snow slips down from such roofs.
- B.** 1. ✓ 2. X 3. ✓ 4. X
- C.** 1. d 2. e 3. a 4. c 5. b

LESSON-6

- A.** 1. The special frame work of bones in our body is called the skeleton.
2. There are 206 bones in an adult human body.
3. We should do exercise to stay fit and healthy.
4. Posture is the position of our body when we sit, stand or move.
- B.** 1. c 2. c 3. a
- C.** 1. skeleton 2. exercise 3. skin
4. muscles 5. posture
- D.** 1. true 2. false 3. true
4. true 5. false 6. true

LESSON-7

- A.** 1. Food helps us to stay alive, grow and be healthy.
2. We need energy to work and play.
3. Food that helps in our growth, building bones and muscles is called body-building food.
4. We should drink 6-8 glasses of water daily.

5. We should not eat stale or uncovered food because it can make us sick.
- B.** 1. food 2. grow, bones 3. water
4. river 5. slowly, chew
- C.** 1. yes 2. yes 3. no 4. no 5. yes 6. no
- D.** 1. pulses, eggs 2. fruits and green vegetables
3. rice, butter

LESSON-8

- A.** 1. Safety rules help us in being safe.
2. We should not play on roads and stairs.
3. We should use swimming tubes, floaters or armbands while swimming.
4. We should not do so because we may trip and fall down.
- B.** 1. safety 2. driving 3. patiently
4. sockets 5. crowd
- C.** 1. yes 2. no 3. yes 4. yes 5. no
- D.** 1. false 2. false 3. true 4. false
5. false 6. true

LESSON-9

- A.** 1. Plants need water to grow and make food.
2. Animals need water to drink and wash themselves.
3. Human beings need water for drinking, bathing, washing, cooking, etc.
4. Rain is the main source of water on earth.
5. We boil water to make it free from germs.
- B.** 1. surface 2. rain 3. ground water
4. tap 5. water 6. wastes
- C.** 1. furniture 2. stream 3. river 4. jumping

LESSON-10

- A.** 1. The three forms of water are :
i) ice (solid) ii) water (liquid) iii) steam (gaseous)
2. It becomes solid.
3. It gets changed into water vapours.
4. It becomes water again.
- B.** 1. liquid 2. shape 3. condensation
4. colourless, odourless 5. rain
- C.** Do it yourself.

LESSON-11

- A.** 1. i) Air is colourless.
ii) It has weight.
iii) It occupies space.
2. Due to dusting, sweeping etc. dust particles get mixed in air.
3. Impure air is called polluted air.
4. We should plant more and more trees to keep air fresh and clean.
- B.** 1. water vapour 2. health 3. dust particles
4. weight 5. space
- C.** 1. yes 2. yes 3. no 4. no 5. no 6. yes

LESSON-12

- A.** 1. Moving air is called wind.
2. A wind vane helps us to know the direction of the wind.
3. The strong and fast wind is called storm.
4. Storms can cause a lot of damage to houses, crops, trees and animals.
- B.** 1. WIND VANE 2. BREEZE
3. WIND MILL 4. STORM
- C.** 1. × 2. × 3. ✓ 4. ✓ 5. ✓ 6. ✓
- D.** 1. wind vane 2. breeze 3. sail boats
4. sea 5. windmill

LESSON-13

1. Sun gives us light and heat.
2. Sun rises in the east.
3. It becomes dark.
4. Light creates shadows.
5. Shadow is a region of darkness where light is blocked.
- B.** 1. × 2. ✓ 3. × 4. ✓ 5. ×
- C.** 1. kill 2. shadow 3. opposite
4. base 5. shines

LESSON-14

- A.** 1. Moon does not have water and air so, life is not possible on moon.
2. When we see only a part of the moon, we call it a crescent moon.

3. Neil Armstrong was the first astronaut to walk on the moon.
 4. We see stars in night.
- B.** 1. sets 2. earth 3. light 4. rocks, soil 5. star
- C.** 1. false 2. false 3. true 4. true 5. true
- D.** 1. e 2. d 3. b 4. a 5. c

TEST PAPER -1

- A.** 1. Most varieties of plants grow on hand.
2. Sweet smelling flowers are used in making perfume.
3. Lions and foxes live in dens.
4. Domestic animals live in the house of their keepers.
5. We wear woollen clothes in winter.
- B.** 1. trees 2. seeds 3. omnivores 4. fresh 5. weak
- C.** 1. False 2. True 3. False 4. False 5. True
- D.** 1. SPICES, CARNIVORES, DOMESTIC ANIMALS

TEST PAPER -2

- A.** 1. The special frame work of bones in our body is called the skeleton.
2. We need energy to work and play.
3. We should use swimming tubes, floaters or armbands while swimming.
4. Plants need water to grow and make food.
5. It gets changed into water vapours.
- B.** 1. exercise 2. water 3. driving
4. crowd 5. underground
- C.** 1. (c) 2. (e) 3. (a) 4. (b) 5. (d)
- D.** 1. HOUSE BOAT, ELBOW JOINT, PROTECTIVE FOOD

TEST PAPER -3

- A.** 1. Impure water is called polluted air.
2. A windvane helps us to know the direction of the wind.
3. Sun gives us light and heat.
4. Moon does not have water and air so, life is not possible on moon.
5. The strong and fast wind is called storm.
- B.** 1. health 2. sailboats 3. shines 4. earth 5. sea
- C.** 1. True 2. True 3. False 4. True 5. True
- D.** Electronic Water Filter, Storms at sea, Astronauts

Book-3

LESSON-1

- A.** 1. Root of a plant is different from its shoot :
i) The root grows down, below the soil, shoot grows above the soil.
ii) The root absorbs water and nutrients from soil, shoot transports it to other parts of plant.
2. Two functions of root are :
i) it holds the plant into the soil.
ii) it absorbs water and nutrients from soil for plant.
3. Most of the leaves are green in colour because they have a green pigment called chlorophyll.
4. Leaves are called food factories of plant because they make food for the plant.
5. Flowers are the reproductive part of the plant. They turn into fruits and seeds. Which give birth to a new plant.
6. The seed contains food for the baby plant.
- B.** 1. grape vine and pea 2. midrib and veins
3. stomata 4. stalk 5. potato and ginger
6. spinach and lettuce.
- C.** 1. d 2. e 3. a 4. c 5. b

LESSON-2

- A.** 1. All animals need food to live and grow.
2. Animals biting fruits and seeds with their flat, strong and sharp front teeth are called gnawing animals.
3. Flesh eaters have very sharp, pointed and curved front teeth.
4. Animals like cow swallow whatever they eat later they bring back their food into their mouth and chew it well this is called chewing the cud.
5. Butterfly sits on flowers and suck its nectar through its hollow tube like mouth.
6. In nature every living being depends on other for its food. This is called food chain.
- B.** 1) Herbivores : Animals that eat only plants are called herbivores.

- 2) Omnivores : Animals that feed on flesh of other animals and plants are called omnivores.
 3) Carnivores : Animals eating only flesh are called carnivores.

C. 1. DOG 2. LEECH 3. ELEPHANT 4. SNAKE

D. 1. b 2. c 3. a

LESSON-3

- A.** 1. Birds those crack nuts and eat grain and seeds have short, hard and horny beaks.
 2. Woodpecker have chisel shaped beak because they have to tap the barks of the tree to bring out insects.
 3. Hoopoe has long slender and curved beak, it helps to pull out insects from the holes in the ground.
 4. Birds have three front toes and one back toe. They go round the branch and hold it firmly, so that they do not ever fall when they are asleep.
 5. The webbed feet of ducks help them to swim.
- B.** 1. beaks 2. hooked 3. flat and hole
 4. sticky 5. wading
- C.** 1. e 2. a 3. b 4. d 5. c
- D.** 1. ducks and geese 2. sparrows and pigeon
 3. eagle, kite 4. hen, cock 5. duck, geese
- E.** 1. false 2. false 3. true 4. false 5. false

LESSON-4

- A.** 1. A bird has following parts :
 head, eyes, beak, claws, feathers, wing and a tail.
 2. Birds change their direction with help of their tails while flying.
 3. Birds have three types of feathers. Down feathers, Body feathers, Flight feathers.
 4. Birds need nest to lay eggs and take care of them.
 5. Penguins collect few pebbles and stones to make their nests on ground.
 6. Birds take proper care of their young ones. Mother sits on eggs for warmth. They bring food for the babies and help them learn flying.
- B.** 1. hollow bones and feathers 2. up stroke
 3. feathers 4. body 5. nest 6. pigeon
- C.** 1. cock and duck 2. crane and swift 3. kiwi and emu

LESSON-5

- A.** 1. Group of tissues that work together is called an organ. Eye and leg are two of our organs.
 2. We have five sense organs :
 i) eyes ii) ears iii) nose
 iv) tongue v) skin.
 3. Our skeleton gives shape to our body. It protects all the internal organs of our body and support them.
 4. Organs of our breathing system are :
 i) nose ii) wind pipe iii) lungs.
 5. The food converted into the simplest form get absorbed into the blood in small intestine.
 6. Organs constituting our circulatory system are :
 i) heart ii) blood iii) blood vessels.
- B.** 1. cells 2. sense 3. skeletal
 4. contract 5. heart 6. brain
- C.** 1. e 2. f 3. a 4. c 5. b 6. d

LESSON-6

- A.** 1. We need house to live in and to protect our selves from heat, cold, rain, thieves and animals.
 2. Three features of a good house are :
 i) provision for plenty of sunlight, ii) air
 iii) proper drainage system.
 3. We need clothes to cover our body and protect it from heat and cold.
 4. Natural fibres are obtained from either plants or animals synthetic fibre is man made.
 Cotton and wool are natural fibres while nylon and polyester are synthetic fibres.
 5. We wear cotton clothes in summer because they keep our body cool. We wear woollen clothes in winter to keep our body warm.
 6. Materials like bricks, stones, cement, wood etc. are used to build houses.
- B.** 1. house 2. bricks 3. airy 4. cotton 5. wool
- C.** 1. b 2. a 3. b 4. a

LESSON-7

- A.** 1. We can classify the things around us in two categories living thing like plants and animals and non-living things like water and T.V., etc.
2. Living things move with help of their organs. They walk, run, jump, hop, crawl, etc. in search of their food.
3. Living things need food to grow and perform their day-to-day activities.
4. Giving births to the young ones of their own kind by the living being is called reproduction.
No, non-living things cannot reproduce.
5. Plants reproduce through their seeds, stems, leaves or roots.
6. When we touch some hot object, we immediately pull our hand back, similarly, when we touch the plant of touch-me not it closes its leaves.
- B.** 1. close 2. oxygen, carbon dioxide 3. respond
4. seeds 5. photo synthesis 6. food 7. breathe
- C.** 1. a 2. b 3. c 4. a 5. c
- D.** 1. d 2. a 3. e 4. b 5. c

LESSON-8

- A.** 1. Anything that has mass and occupies space is called matter.
2. i) solids have definite shape
ii) solids are hard.
3. Shape of the liquids is not definite. It changes according to the container in which they are poured.
4. Gases do not occupy a definite shape.
5. Gases flow fastest.
6. States of matter are interchangeable. Water can be changed into ice and vice-versa, similarly water can change into steam and vice-versa.
- B.** 1. X 2. X 3. X 4. ✓ 5. X 6. ✓
- C.** 1. solids 2. transferred 3. spread
4. water vapour 5. water 6. weight

LESSON-9

- A.** 1. There is sky above the earth. It looks blue during day and dark during night

2. Sun is bright and hot because it is a ball of fire.
3. We should not look at the sun directly because it is harmful for eyes.
4. The full moon night is called poornima.
5. Stars are round in shape.
6. A group of stars having a recognisable shape is called a constellation.

- B.** 1. A star 2. P ole Star
3. S un 4. A ma va sy a
- C.** 1. earth 2. moon 3. shape
4. light 5. constellation
- D.** orion, great bear, scorpio
- E.** 1. a 2. b 3. a 4. b

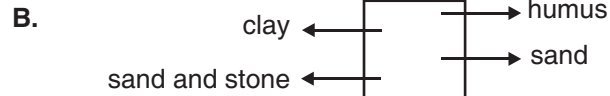
LESSON-10

- A.** 1. We should not leave toys or other objects on the floor as some one may get slipped over it and get hurt.
2. Three important safety rules to be followed on the road are :
i) Always walk on the foot path.
ii) Cross the road at the zebra crossing.
iii) Do not put any part of your body out of moving vehicle.
3. The first medical aid given to an injured person before the doctor arrives is called the first aid.
4. The important things to be kept in a first aid kit are bandages, cotton, antiseptic, pain killer, etc.
- B.** 1. carelessness 2. wet 3. first aid 4. foot path
- C.** 1. false 2. false 3. true 4. true 5. true

LESSON-11

- A.** 1. The uppermost layer of the earth in which plants grow is called soil.
2. Soil got formed when big rocks broke due to action of sun, water, ice, wind, etc.
3. Braking of rocks into small particles due to action of the sun wind, water, etc. is called weathering of rocks.
4. Four types of soil are :
gravel, sandy soil, clayey soil, loamy soil.

5. The top most fertile layer of earth is called top soil.
6. The loosely packed layer of soil containing rock pieces under the top soil is called sub soil.
7. Loamy soil can hold enough air and water. It also has lot of humus, so it is considered best for the growth of plants.
8. We add manure to the soil because it contains a high degree of humus.



- C.** 1. colour 2. loamy 3. humus
4. sub soil 5. bed rock
- D.** 1. It has large particles. They do not hold water.
2. It contains particles of rocks, smaller than gravel.
It is light brown or grey in colour.
3. It is very sticky.
It can hold a lot of water.
- E.** 1. true 2. true 3. false 4. false 5. false
- F.** 1. b 2. a 3. a

LESSON-12

- A.** 1. The condition of air that surrounds the earth is called weather.
2. The major factors that affect the weather of a place are the sun, the wind, the clouds and the rain.
3. The heat of the sun can cause changes in weather when sunrays fall directly, the weather is hot and when the sun is about to set, it becomes cool.
4. The process of changing of water into the water vapours is called evaporation.
5. The process in which evaporation and condensation take place side by side is called water cycle.
- B.** 1. The process of changing water vapours into water is called condensation.
2. Moving air is called wind.
3. Fast moving wind is called gale.

4. slow moving gentle wind is called breeze.
5. Predicting the weather of the day is called weather forecasting.

- C.** 1. light and heat 2. continuous 3. wind
4. uproot 5. fog 6. three
- D.** 1. true 2. true 3. false
4. true 5. false 6. false

LESSON-13

- A.** 1. All the living and non-living things constitute our environment.
2. The surrounding in which we live like our home, school, city, etc. is our immediate environment.
3. Cutting of trees, throwing and burning garbage in open and littering in open damage our environment.
4. We can prevent our environment by taking following steps :
i) Garbage should be thrown in dustbin.
ii) There should be a proper drainage system in the house.
iii) We should not burn fire or garbage in open.
iv) Water and electricity should not be wasted.
- B.** 1. environment 2. damage 3. protect
4. covered 5. plantation
- C.** 1. ✓ 2. × 3. ✓ 4. × 5. ✓

TEST PAPER -1

- A.** 1. Flowers are the reproductive part of the plant. They turn into fruits and seeds. Which give birth to a new plant.
2. Midrib and veins.
3. Animals biting fruits and seeds with their flat, strong and sharp front teeth called gnawing plants.
4. Woodpecker have chisel shaped beak because they have to tap the barks of the tree to bring out insects.
5. Birds have three types of feathers.
a) Down feathers b) Body feathers c) Flight feathers
- B.** 1. stalk 2. elephant 3. flat and hole
4. up stroke 5. weak

- C. 1. (d) 2. (c) 3. (e) 4. (a) 5. (b)
 D. 1. Claws of crane Nest of Tailer Bird Fibrous root.

TEST PAPER -2

- A. 1. Group of tissues that work together is called an organ. Eye and leg are two of our organs.
 2. The food converted into the simplest form get absorbed into the blood in small intestine.
 3. We wear cotton clothes in summer because they keep our body cool. We wear woollen clothes in winter to keep our body warm.
 4. Giving births to the young ones of their own kind by the living being is called reproduction. No, non- living things cannot reproduce.
 5. i) Solids have definite shape.
 ii) Solids are hard.
- B. 1. skeletal 2. wool 3. photosynthesis 4. water vapour
- C. 1. False 2. True 3. False 4. False 5. False
- D. 1. A house on stilts, breathing System, Dining Room

TEST PAPER -3

- A. 1. We should not look at the sun directly because it is harmful for eyes.
 2. The first medical aid given to an injured person before the doctor arrives is called the first aid.
 3. Loamy soil can hold enough air and water. It also has lot of humus, so it is considered best for the growth of plants.
 4. The heat of the sun can cause change in weather when sunrays fall directly, the weather is hot and when the sun is about to set, it becomes cool.
 5. We can prevent our environment by taking following steps:
 i) Garbage should be thrown in dustbin.
 ii) There should be a proper drainage system in the house.
 iii) We should not burn fire or garbage in open.
 iv) Water and electricity should not be wasted.
- B. 1. moon 2. carelessness 3. humus 4. fog
- C. 1. (d) 2. (e) 3. (a) 4. (c) 5. (b)

Book-4

LESSON-1

- A. 1. Leaves appear green due to the presence of a green pigment called chlorophyll in them.
 2. Autotrophs can produce their own food by the process of photosynthesis. On the other hand the heterotrophs cannot prepare their own food and depend on autotrophs for it.
 3. Green leaves are called the kitchen of the plants, because they prepare food through photosynthesis.
 4. Leaves having combination of two or more colours are called variegated leaves.
 5. i) A leaf has a flat broad portion called leaf blade.
 ii) A stalk which attaches the leaf to the stem is called petiole.
 iii) Main vein of the leaf blade is called midrib which have many veins spreading into the whole leaf blade.
6. When the veins go side by side in the leaf blade, they are called parallel venation. When the veins form a network in the whole leaf blade it is called reticulate venation.
7. Photosynthesis is the process by which the green plants make their food and release oxygen and energy using sunlight, water, carbon dioxide and the green pigment called chlorophyll.
8. Plants depend on animals for carbon dioxide which plants consume for photosynthesis. They also depend on animals for their care and dispersal.
- B. 1. venation 2. petiole 3. veins
 4. ornamental plants 5. oxygen
- C. 1. false 2. true 3. false 4. true 5. false
- D. 1. c 2. e 3. d 4. b 5. a

LESSON-2

- A. 1. A place where a plant lives is called its habitat. They prefer to live where they can find food, where the climate suits them and where they are safe and can reproduce.

2. Plants growing in hilly areas are tall and straight. They have needle like leaves, they bear cones instead of flowers. They also have thick and straight stem.
 3. We can find trees with a number of branches and leaves in plain areas.
 4. Plants growing in desert areas have thick and fleshy stem. Their leaves are modified into spines to reduce the evaporation of water.
 5. Sundews have sticky leaves. Any insect, that sits on them get stick to the leaf and hair of the leaves slowly enclose to trap the insect.
 6. Plants like maize, wheat, rice, barley and oat belong to grass family. Most of these plants are used as food by man and animals.
- B.**
- 1) Deciduous plants shed their leaves periodically. But the ever green plants bear the leaves throughout the year.
 - 2) The roots of the fixed plants are attached to the bottom of the pond. They have long hollow stem and broad floating leaves.
The underwater plants are fixed to the bottom of the pond and they remain under the water. Their leaves are narrow.
 - 3) Terrestrial plants grow on land, while aquatic plants grow in water.
- C.**
- 1) Coconut and rubber 2) Pines and Deodar
 - 3) Cactus and prickly pear 4) Hydrilla and pondweed
 - 5) Pitcher plant and sundew
- D.**
- 1) short-straight 2) flower 3) cannot
 - 4) desert 5) strong 6) wheat
- E.**
- 1) Adaptation : The process of adjustment in a particular environment is called Adaptation.
 - 2) Xerophytes : Plants which can live in the areas where there is acute shortage of water are called Xerophytes.
 - 3) Mangroves : The plants whose roots grow above the ground to breathe are called Mangroves.
 - 4) Cereals : The grains we use to eat are called cereals like wheat, maize, etc.

- 5) Insectivorous Plants: Insects eating plants are called Insectivorous Plants.

- F.** 1. c 2. e 3. a 4. b 5. d
- G.** 1. true 2. true 3. true 4. false

LESSON-3

- A.**
1. A place where an animal lives is called a habitat. Animals can be classified in the following groups on the basis of their habitat; Terrestrial Animals, Aquatic Animals, Amphibians, Aerial and Arboreal Animals.
 2. Animals living on land are called terrestrial animals. Camel, lion, monkey, polar bear etc. are some terrestrial animals.
 3. Amphibians are those which can live in water as well as on the land. Their moist skin helps to breathe in water and lungs to breathe on land.
 4. Plant eating animals are called herbivores and flesh eating animals are called carnivores.
 5. Herbivores have sharp and flat biting teeth and grinding teeth.
 6. Such animals, which lived in the past but are not present today are called extinct animals. These animals could not change themselves according to the changing surrounding, so they died.
- B.**
1. 1) adaptation 2) skins and fur
 - 3) limbs 4) tearing 5) parasite
- C.**
1. monkey, lizard 2. frog, toad 3. lion, cow
 4. bat, sparrow 5. fish, turtle
- D.**
- 3, 4, 6.
- E.**
1. b 2. c 3. c 4. c 5. a

LESSON-4

- A.**
1. The process by which the living beings give birth to young ones of their own kind is called reproduction. Animals can be Egg-laying animals and live bearing animal.
 2. 1) Hinge joints 2) Sliding joint 3) Pivot joint
 3. The baby of a cockroach hatches out of an egg laid by the mother cockroach. It is called nymph. A nymph develops into an adult by shedding its old skin. This is

called moulting. Many moulting take place to the nymph to become an adult.

4. The black dot in the frogs egg develops into a tadpole. The tadpole gets hindlegs and then the front legs. Slowly it becomes an adult frog.
5. The animals which feed their young ones with their milk are called mammals. They carry their babies in their womb for some period before giving birth to them. Whales, cats, dogs, elephants, horses, etc. are mammals.

- B.** 1. d 2. e 3. a 4. c 5. b
- C.** 1. yolk 2. maggot 3. caterpillar
4. tadpole 5. nymph
- D.** 1. life span 2. yolk 3. sheds, grows
4. jelly 5. insects 6. mammals

LESSON-5

- A.** 1. Our teeth are very important for us. They give shape to our face. They help in cutting and chewing our food, which is very important for the digestion of food.
2. The temporary twenty teeth, which a child gets at the age of three years are called milk teeth.
3. Our teeth are hard. They have roots which are invisible to us, and are embedded in the gums. The upper visible part is called crown and neck. The enamel covers the teeth and it looks white.
- Dentine below the enamel form the main tooth which has pulp inside it containing blood vessels and nerves.
4. Bits of food particles get deposited on our teeth. The bacteria get formed in them and produce acids. These acids cause decay of teeth. Foul smell, holes or cavities, toothache, stomach disorder etc. are caused due to tooth decay.
5. Steps to take care of our teeth are :
- i) brushing properly twice daily.
 - ii) not eating too much chocolates or sweets.
 - iii) eating calcium rich food.
6. Microbes are the extremely small organisms which are not visible to our naked eyes. They are of four types :
- i) bacteria ii) virus iii) protozoa iv) fungi
7. Microbes are useful to us as they help in curdling of milk,

baking and breaking down the complex material of dead and decaying organism into simpler ones.

- B.** 1. Incisors are front four teeth of our jaw. Canines are two in each jaw next to incisors.
Incisors are cutting teeth and canines are tearing teeth.
2. Premolars are called cracking teeth molars are called grinding teeth.
Premolars are four in each jaw, molars are six in each jaw.
3. Bacteria are bigger than virus.
Bacteria cause diseases like cholera, typhoid, T.B. etc. The virus cause polio, small pox, common cold, chicken pox, AIDS, etc.
- C.** 1. permanent teeth 2. pulp 3. cavity 4. germs
- D.** 1. mammals 2. milk 3. crown 4. virus
5. multiply 6. fungi
- E.** 1. c 2. b 3. b 4. a

LESSON-6

- A.** 1. People used animal skin, leaves, bark of the stems, etc. to cover their bodies in older times.
2. We prefer to wear cotton clothes in hot and humid weather because they remain cool, light and airy.
3. Dirty clothes give bad smell and cause skin diseases.
4. Two disadvantages of wearing synthetic fibres are :
- i) They are not safe while working in kitchen as they easily catch fire.
 - ii) They do not absorb sweat.
5. Clothes should be washed dried, ironed regularly. Expensive and delicate clothes should be dry-cleaned and they should be saved from moths and insects.
6. i) Oil stains can be removed by applying talcum powder on the stain before washing.
ii) Tea and coffee stains can be removed by washing it immediately.
- B.** 1. clean and comfortable 2. warmth
3. fibres 4. sweat 5. synthetic
- C.** 1. true 2. false 3. false
4. false 5. false 6. true

LESSON-7

- A.** 1. Food is essential for our survival. It gives energy to our body to perform day-to-day activities.
2. Protein is needed for proper growth and repair of damaged tissues in our body.
3. Roughage helps us to remove waste material from our body.
4. The diet that contains different types of nutrients in a right proportion is called a balanced diet. It is essential to have a balanced diet for good growth and health.
5. When we chew food in our mouth our teeth break it into small pieces. It gets mixed with saliva, a juice secreted by salivary glands. It gets soft and moist and is easily he allowed.
6. The complete digestion of food occurs in our small intestine where juice secreted by it liver and pancreas digest the food. The digested food is, absorbed and mixed in blood.
7. The undigested food is stored in rectum and pushed out of our body through anus.
8. Some good eating habits are :
i) having meals at fixed hours.
ii) eating fresh and green vegetables everyday.
iii) chewing food properly and
iv) washing hands before and after eating food every time.
9. The process by which food is stored and preserved properly to keep for a longer time is called food preservation.
It is needed to preserve food to save it from being spoiled and to be used for a longer period.
10. Boiling, keeping food items in cold storage and storing food in refrigerator preserves food.
- B.** Mouth → food pipe → stomach → small intestine → large intestine
- C.** 1. activity, energy 2. sugar and starch
3. obesity 4. mouth 5. preservation
- D.** 1. Removing water from foods to preserve them is called dehydration.

2. Juices secreted by the salivary glands in mouth is called saliva.
3. Breaking the complete food particles into simpler ones for absorption in blood is called digestion.
4. Vitamin and mineral rich food which is needed to save us from diseases and stay healthy is called protective food.
- E.** 1. false 2. false 3. true 4. true 5. false

LESSON-8

- A.** 1. A push or a pull is called force. Force can change the shape, size and direction of a body.
2. Force exerted by our muscles is called muscular force. For example, when we lift our bag, the muscular force is being applied.
3. Work is said to be done when a body is moved.
4. The amount of work done depends on two things :
i) force applied - i.e. More the force we apply, more the work is done and
ii) distance moved - If the object is moved by a longer distance it means more work is done.
5. We use machines to make our work easy and fast.
6. Heat energy is the energy obtained by burning the fuels like wood, coal, oil, etc.
7. Electric energy is obtained by the movement of the electric current. Our all the electric appliance work with electric energy. We can also change the electric energy into heat energy, light energy etc.
8. Solar energy can be used directly for cooking food, warming water and for generating electricity.
- B.** 1. frictional force 2. magnetic force
3. complex machine 4. light energy 5. solar energy
- C.** 1. d 2. c 3. e 4. a 5. b
- D.** 1. inclined plane 2. pulley 3. screw 4. lever
- E.** 1. false 2. true 3. true
4. false 5. true 6. true
- F.** 1. force 2. direction 3. heat
4. electricity 5. atomic

LESSON-9

- A.** 1. Sun is the cause of changes in weather. It is due to the sun that day and night is formed, seasons are formed, temperature changes and rain is caused.
2. Sea breeze blows during day. The air gets heated due to hot land and it rises up cool air from sea takes its place and thus wind blows from sea to land.
Land breeze blows during night. Air above sea is warmer during night it rises up and cool wind from land blows to take its place. So wind blows from land to sea.
3. When water vapours cool down and get frozen they fall down as snow.
When rain drops cool down and get frozen they fall down as the hail stones.
4. Air is all around us. It is a mixture of gases. It also contains water vapours, smoke, dust and germs.
5. Evaporation is the conversion of water into water vapour on heating. Evaporation is faster when there is strong dry air blowing, or the temperature is high.
6. Soluble impurities, insoluble impurities and germ are found in polluted water.
7. Sedimentation allows the impurities to settle down at the bottom of the container. Decantation helps in pouring the clean water from this container into another one, thus leaving settled impurities in the first container.
8. Water below the surface of the earth is called underground water. It collects there due to rains.
- B.** 1. The condition of the air that surrounds the earth is called weather.
2. When clouds are formed very close to ground, it is called fog.
3. Frost is the frozen water on surface of every object when temperature falls below 0°C.
4. Storm along with thunder and lightning is called thunder storm.
5. Hot air blowing during summers is called 'loo'.
- C.** 1. true 2. false 3. false
4. true 5. false 6. false
- D.** 1. b 2. a 3. a 4. a

LESSON-10

- A.** 1. Accidents occur due to carelessness and negligence of rules.
2. We can prevent accidents from happening in our home by taking some precautions like :
- i) We should not wear synthetic clothes while working in kitchen.
- ii) Floors should not be kept wet.
- iii) We should never play with sharp objects like knives, blades, etc.
3. One should cross the road at a zebra crossing or through a subway. We should carefully look on both the sides of the road before crossing it.
4. i) We should not take any part of our body out of a moving bus.
ii) We should not get in or get out of a moving bus.
iii) We should wait for the bus in a queue.
5. First aid is the immediate help given to an injured or a sick person before the proper medical aid reaches him. The first aid box is a box which contains all the required things for the first aid like antiseptic lotion, gauge, cotton etc.
6. I will put an ice pack on the burnt area or dip it in the cold water till the irritation is gone.
- B.** 1. You could slip.
2. You could get your hand burnt.
3. You could get electric shock.
4. You could get hurt.
- C.** 1. wet 2. away 3. cotton 4. off 5. alone
- D.** 1. We should not wear synthetic clothes while working in the kitchen because they easily catch fire.
2. We should throw waste in covered dustbins so that there are no flies or mosquitoes around.
3. We should not play with sharp objects otherwise we may get our fingers cut.
4. It is done so that the blood starts circulating in his head and he becomes normal.
5. We should not leave toys or other things on the floor so that no body get slipped from them.

LESSON-11

- A.** 1. We can use scale, metre rod and measuring tape to measure the length.
2. We need to know the mass of an object to know how heavy or light the object is.
3. Volume is the capacity of a container. The standard unit for measuring volume is litre.
4. We use clock or a wrist watch to know the time.
5. Units to measure time are seconds, minutes, hours, days, months and years, etc.
6. Temperature is the hotness or the coldness of a body.
7. i) Thermometers can be clinical thermometer, which is used to know the temperature of human body.
ii) Laboratory thermometer, which is used to measure temperature of different solids, liquid or gases.
- B.** 1. false 2. false 3. false 4. true 5. true
- C.** 1. c 2. e 3. a 4. b 5. d
- D.** 1. millimeters 2. meter 3. volume 4. 24 5. 1000
- E.** 1. c 2. c 3. b 4. c

LESSON-12

- A.** 1. The topmost layer of the earth's crust is called the soil. Soil is very important for plants as plants grow in it.
2. The wearing out and carrying away the top soil by natural forces like wind, water, etc. is called soil erosion.
3. Blowing of strong winds, running water and human activities like cutting of trees, etc. cause soil erosion.
4. Due to erosion, the earth loses its top soil, which is fertile, and thus less productivity of plants. This can be harmful for animals also, as they depend on plants for their food.
5. Steps taken to protect the soil from erosion is called soil conservation.
6. Growing trees hold the soil particles tightly with their roots, which prevent them from flowing away. Similarly the step farming prevents the soil particles from flowing with water as they slow down the flowing of water.

7. Growing more and more trees, terrace farming, building dams, and preventing over grazing can conserve the soil in the regions where rivers overflow.

- B.** 1. soil 2. fertile and supports 3. barren 4. loose
5. deposition, productive 6. steps, terraces 7. fertile
- C.** 1. false 2. true 3. true 4. false 5. false

LESSON-13

- A.** 1. Everything that surrounds us is called our environment. All living and non-living things including plants, soil, air, water, sunlight, etc. constitute our environment.
2. Addition of harmful substances in air is called air pollution. The main cause of air pollution is adding of smoke emitted by vehicles and factories, etc.
3. Water becomes contaminated when harmful substances like dirt, sewage drainage or industrial waste, etc mix with it.
4. Land is contaminated when harmful wastes like plastics, polybags, metals, and other daily wastes get mixed in it. Use of pesticides and fungicides also contaminate soil.
5. Air pollution can be prevented by using high and tall chimneys and filters in industries, using non-polluting fuels like C.N.G. and L.P.G. regular pollution checks of vehicles and the most important one, growing more and more trees.
6. We can check water pollution by taking following steps :
i) treating dirty water chemically to make it less harmful.
ii) checking washing clothes, utensils, vehicles, etc. in water bodies, etc.
7. We can control noise pollution. It can be controlled by taking proper steps in factories to control noise pollution, minimising use of loudspeakers etc. not blowing horns etc. unnecessarily.
- B.** 1. pollution 2. pollutants
3. soil pollution 4. air pollution
- C.** 1. environment 2. fertility 3. deafness
4. C.N.G and L.P.G. 5. vehicles and industrial
6. industries 7. vehicles, air

D. 1. × 2. ✓ 3. ✓ 4. × 5. × 6. ✓

E. 1. a 2. b 3. a 4. a 5. b

LESSON-14

A. 1. Stars are huge balls of hot gases. They seem to be small due to their distance. All stars appear to be twinkling in a night sky. We cannot see them in the day due to sun light. Sun is the nearest star of earth.

2. Some stars can be seen arranged in different patterns. These are called constellations. Ursa Major and Ursa Minor are constellations.

3. Planets appear bright due to sun's light. They do not have light of their own.

4. Moon does not have an atmosphere or water on it. So it cannot sustain life on it.

5. Earth has three layers which are crust, mantle and core. Core is the innermost layer of the earth and it is the hottest part.

Mantle is made of molten rocks and it is less hot than core.

The outer most surface of earth is called crust. It is cool and has conditions suitable for life.

6. a) Asteroids are the heavenly bodies which revolve around the sun mainly between the orbits of Mass and Jupiter.

b) appear as bright balls of light with tails which glow. It always points away from the sun.

B. 1. Mercury 2. Saturn 3. Mars

4. Venus 5. Saturn

C. 1. × 2. ✓ 3. ✓ 4. × 5. ✓

D. 1. star 2. Jupiter 3. rocks 4. core 5. Neptune

E. 1. e 2. d 3. a 4. b 5. c

TEST PAPER -1

A. 1. Green leaves are called the kitchen of the plants, because they prepare food through photosynthesis.

2. Deciduous plants shed their leaves periodically. But the evergreen plants bear the leaves throughout the year.

3. The process of adjustment in a particular environment is called Adaptation.

4. Amphibians are those which can live in water as well as on land. Their moist skin helps to breathe in water and lungs to breathe on land.

5. The baby of a cockroach hatches out of an egg laid by the mother cockroach. It is called nymph. A nymph develops into an adult by shedding its old skin. This is called mauting. Many mauling take place to the nymph to become an adult.

B. 1. flowers 2. skin and fur 3. life span

4. strong 5. mammals

C. 1. False 2. True 3. True 4. False

D. MANGROVE TREE, LEECH, WOLFIA, SUNDEW

TEST PAPER -2

A. 1. Our teeth are hard. They have roots which are invisible to us, and are embedded in the gums. The upper visible part is called crown and neck. The enamel covers the teeth and it looks white.

2. The undigested food is stored in rectum and pushed out of our body through anus.

3. Two disadvantages of wearing synthetic fibres are :

i) They are not safe while working in kitchen as they easily catch fire.

ii) They do not absorb sweat.

4. A push or pull is called force. Force can change the shape, size and direction of a body.

5. See breeze blows during day. The air gets heated due to hot land and it rises up cool air from sea takes its place and thus wind blows from sea to land.

Land breeze blows during night. Air above sea is warmer during night it rises up and cool wind from land blows to take its place. So wind blows from land to sea.

B. 1. milk 2. sweat 3. sugar and starch

4. electricity 5. pleasant

- C. 1. (d) 2. (e) 3. (b) 4. (a) 5. (c)
 D. CANINE, LEVER, FROST, FILTRATION

TEST PAPER -3

- A. 1. Blowing of strong winds, running water and human activities like cutting of trees, etc. cause soil erosion.
 2. Volume is the capacity of a container. The standard unit for measuring volume is litre.
 3. We put an ice pack on the burnt area or dip it in cold water till the irritation is gone.
 4. Air pollution can be prevented by using high and tall chimneys and filters in industries, using non-polluting fuels like C.N.G. and L.P.G. regular pollution check of vehicles and the most important one, growing more and more trees.
 5. Stars are huge balls of hot gases. They seem to be small due to their distance. All stars appear to be twinkling in a night sky. We cannot see them in the day due to sun light. Sun is the nearest star of earth.
- B. 1. wet 2. millimeters 3. fertile and supports
 4. core 5. Jupiter
- C. 1. (d) 2. (c) 3. (e) 4. (a) 5. (b)
- D. Clinical thermometer Saturn

Book-5

LESSON-1

- A. 1. Reproduction is a process by which organisms produce more individuals of their own kind.
 2. Reproduction in plants by seeds is called sexual reproduction.
 3. Reproduction in plants by their vegetative parts is called the vegetative propagation.
 4. The scattering of seeds away from the mother plants is called dispersal of seeds.
 5. The development of a seed into a plant is called germination.
 6. A seed needs four things to germinate:
 I) Air II) Water III) Sunlight IV) Warmth
 7. The shoots grow upwards because it has to take the sunlight. The roots grow downwards because it has to take water and minerals from the soil.
- B. 1. Rabi Crop : wheat, gram.
 2. Kharif Crop : rice, maize.
- C. 1. Seeds need dispersal to grow properly. If they are not dispersed new plants will not get enough sunlight, food and water, because they will get overcrowded.
 2. Most plants grow many seeds because a plant may die after producing the seeds. These seeds grow into plants and carry on life for generations of the plant kingdom.
 3. Indian farmers grow many crops because the climate of India is suitable for many crops.
- D. 1. **Rabi Crops** **Kharif Crops**
 I) Rabi crop are grown in winter. I) Kharif crops grow in summers.
 II) Wheat, gram are example. II) Rice, Maize, Jowar etc. are examples.
2. The seeds of lotus get dispersed by water, while the seeds of pea are dispersed through the explosion of dry fruit.

3. Fertilizers are the chemicals used to enhance the growth of crops while insecticides are the chemicals used to kill the insects growing on the crops.
 4. A dry seed cannot germinate, while a soaked seed can germinate.
- E.**
- 1) germination reproduction
 - 2) seed
 - 3) seed leaves
 - 4) asexual
 - 5) coconut
 - 6) maple
- F.**
- 1) black soil
 - 2) dry soil
 - 3) sea soil, dry soil
 - 4) rich, well aerated soil
 - 5) clayey soil
- G.**
- 1) Xanthium, speer grass
 - 2) cotton, maple
 - 3) lotus, coconut
 - 4) rose, mango
 - 5) Punjab, Kerala
 - 6) Rajasthan, Maharashtra.

LESSON-2

- A.**
1. The place where an animal lives is called its habitat.
 2. Adjustment with living conditions by plants or animals is called adaptations.
 3. The movement of large number of people, birds or animals from one place to another for better conditions is called migration.
 4. Insects breathe through air holes on their bodies. While a fish breathes through gills.
 5. Water animals have fins and powerful tails, which help them to move in water and keep their balance. Their body is streamlined that also helps them to move.
 6. Fish have gills that are richly occupied with blood vessels, when water flows over the gills they absorb oxygen from the water.
 7. Earthworms crawl on rough surfaces with the help of muscles on their body.
- B.**
- | | | |
|----------|----------|----------|
| 1) true | 2) false | 3) true |
| 4) false | 5) false | 6) false |
- C.**
- | | |
|-----------|--|
| 1. Snakes | with their muscles of body and
cursed rubs. |
| 2. Tiger | with their limbs |

- B.** 1. i) freely movable joints ii) immovable joints
 iii) pivot joints
 2. i) skeletal muscles ii) smooth muscles
 iii) cardiac muscles.
 3. i) humerus ii) radius iii) ulna
 4. i) femur ii) tibia iii) fibula
- C.** 1. organs 2. red blood cells 3. 12 pair
 4. breast 5. shoulder 6. immovable
- D.** 1. shoulder girdle 2. skull 3. hinge joints
 4. ball and socket joints
- E.** 1. skeletal 2. smooth muscles 3) cardiac muscles

LESSON-4

- A.** 1. The human respiratory system consists of nose, wind pipe and a pair of lungs. Our nose breaths in air which travels through the wind pipe or trachea to the lungs. The lungs are soft spongy bags inside our chest. Each lung has millions of branches called bronchioles which end in alveoli.
2. Aquatic animals breath through gills.
3. Insects breathe through spiracles on their bodies.
4. Circulatory system consists of heart, blood and blood vessels. The right side of the heart pumps blood to all the parts of body. The blood is carried to different parts form heart through blood vessels called arteries. The veins carry the blood back to heart and the third type of blood vessels called capillaries join the arteries and veins. The left part of the heart pumps the blood to the lungs for purification.
5. When we eat food, the salivary glands secret saliva in it, this is the first step of digestion. Food pipe takes this food to the stomach where enzymes and acids are added to the food. This food goes to small intestine after four hours, where useful particles are absorbed from food and waste food is passed to the large intestine. Water is absorbed here and waste food is pushed out of body through anus.

6. Main organs of our digestive system are :
 mouth food pipe stomach liver pancreas
 small intestine large intestine and anus.

- B.** 1. lungs 2. about 0.4 litres 3. pump
 4. three 5. saliva
- C.** 1. false 2. true 3. true 4. false
 5. false 6. false
- D.** 1) b 2) a 3) a 4) a

LESSON-5

- A.** 1. The main organs of nervous system are :
 brain, spinal cord and nerves.
2. Nervous system transfers all the sensations sensed by our different body parts to the mind to take necessary decision.
 The brain, spinal cord and nerves are all inter connected. Message from brain or spinal cord is sent to all sense parts through nerves called motor nerves. Messages from sense organs are sent to brain or spinal cord is send through sensory nerves.
3. Excretory system.
4. Different parts of the digestive system, digest the food at different stages and gets completed in large intestine.
5. The system which involves in the production of young ones is called the reproductive system.
- B.** 1. true 2. true 3. true 4. true
 5. true 6. false
- C.** 1. e 2. f 3. g 4. h 5. a
 6. c 7. b 8. d
- D.** 1. neurons 2. oxygen 3. testes 4. ovaries
 5. urine 6. sweat
- E.** 1. largest 2. sensory 3. 1.3 litres
 4. sweat 5. temperature

LESSON-6

- A.** 1. We need food to grow and remain healthy.
2. The main nutrients of food are carbohydrates and fats which give energy to our body. Proteins help our body to

grow well. It also helps in repairing wear and tear of the body. Vitamins and minerals help us to protect our body from different diseases..

3. Food containing all the essential nutrients in right amount is called the balanced diet.
4. Proteins help our body grow well. They also help to repair the wear and tear of the body.
5. Disease is a state in which some part of the body does not work, well and a person falls ill.
6. Symptoms of marasmus and kwashiorkor are :
 - I) The child does not grow well.
 - II) He is thinner than other children. He looks dull and lazy.
 - III) He gets tired easily.
 - IV) Loose skin and sinking eyes.
 - V) Swollen belly.
7. Communicable diseases spread through :
food and water insects and direct contact.
8. Diseases which are caused due to lack of nutrients in the diet are called deficiency diseases.
9. We can protect ourselves from communicable diseases by applying some preventive measures like using disinfectants to kill disease causing germs, not allowing water to collect around our house, not allowing breeding of mosquitoes, drinking boiled water, spraying insecticides like DDT and avoiding direct contact with sick people.
10. Vaccination is providing protection against diseases by injecting vaccine.

- B.** 1. fats and carbohydrates 2. protein rich
3. vitamin A 4. efficiency 5. malnutrition
6. rickets 7. direct contact 8. polio-drops.

- C.** jam sugar pulses

- D.** 1. c 2. e 3. a 4. b 5. g 6. f 7. d

- E.** 1. b 2. a 3. b 4. b 5. a

LESSON-7

- A.** 1. A pull or a push causing the movement in an object is called force. Drawing a cart, and pushing a toy car are examples of force.

2. Different forms of energy are muscular energy, heat energy, electrical energy and magnetic energy.
3. Simple machines are tools that make our work easier. They help us to get a job done by applying less force.
4. A pulley is a small wheel having a groove around its outer edge for rope. Two kinds of pulleys are :
a) fixed pulley and b) moveable pulley.
5. A fixed pulley is used for drawing water from a well, it also helps us in hoisting a flag and in lifting the loads.
6. An inclined plane is a slope that makes work easier. Slopes in high buildings for going up, slopes outside the gates to get vehicles in the house and roads on the hills are examples of inclined plane.
7. A screw is an inclined plane used to hold things together tightly.

Screws are better than nails because screws hold through a longer distance and cannot be forced apart. But nail holds for a short distance and can be easily detached.

- B.** 1. wheel and axle 2. lever 3. wedge
4. pulley 5. inclined plane

- C.** 1. true 2. false 3. false
4. false 5. false 6. true

- D.** 1. opener 2. fishing rod 3. screw
4. pulley 5. claw hammer

- E.** 1. scissors 2. screw 3. claw hammer
4. plier 5. nail cutter 6. ice tongs
7. curtain rod 8. bottle opener

LESSON-8

- A.** 1. Accidents happen when we are careless.
2. A zebra crossing is a black and white markings on the road for pedestrians to cross the road.
3. We should follow the following safety rules while playing :
I) Never play on road.
II) Always play in a ground or a park.
III) Play a safe game.

IV) Never play near the water source and

V) Never fight while playing.

4. In case of a fracture, the fractured bone needs support, so tie splints above and below the fracture.

The victim should not be allowed to move and should be taken to a doctor immediately.

- B.** 1. synthetic 2. safe 3. save a life
4. wait 5. venom
- C.** 1. rabies 2. poison of a snake
3. we should walk on a zebra crossing
4. red light indicates stop.
- D.** 1. No parking 2. Horn prohibited
3. Zebra crossing 4. School ahead

LESSON-9

- A.** 1. Animals get nitrogen by consuming atmospheric nitrogen fixing plants.
2. The process by which plants make their own food using sunlight, carbon dioxide and green pigment is called photosynthesis.
3. Siphon is a bent tube which we use to draw liquids from containers using air pressure. Air is sucked from one end of the tube the other end is in the container. Lower pressure of air pulls the water in the tube and thus we draw liquid to this end.
4. The cover of air surrounding our earth is called atmosphere.
5. Water is used for cooking.
Water is used for bathing.
6. Drinking water may contain some undesirable and harmful things. We need to remove them, so drinking water needs to be purified.
Drinking water can be purified by the methods of decantation and filtration.
- B.** 1. nitrogen 2. carbon dioxide 3. pressure
4. heat wave 5. oxygen
- C.** 1. true 2. false 3. true
4. true 5. true 6. true

LESSON-10

- A.** 1. Water is liquid and water vapour is gas.
2. Liquids are miscible when they get mixed well.
3. Physical and chemical changes can occur in a matter.
4. Solid, liquids and gases.
5. Molecules are made up of tiny particles called atoms.
6. Do yourself.
7. When ice is heated it will change into liquid form, water.
- B.** 1. Gases have no definite volume or shape because their atoms are very loosely arranged and have negligible attraction.
2. Solids have a definite shape and volume because atoms in solids are very closely and tightly arranged and attract each other force fully.
3. Liquids have a definite volume because they are less closely packed but do not have definite shape because they do not attract each other very forcefully and are free to move.
- C.** 1. Physical changes occur in the state of a matter and are temporary in nature. They can also be reversed and no new substance is formed.
Chemical changes are permanent in nature and a new substance is formed and in most of the cases the changes cannot be reversed.
2. Atoms are the tiniest particles in the world and they cannot be broken further.
Molecules are made up of atoms Molecules can further be broken into atoms.
3. Solids have definite shape and volume. Molecules in solids are very closely and tightly packed.
Liquids have definite volume but indefinite shape. Molecules are loosely arranged and can freely move.
- D.** 1. no 2. yes 3. yes 4. no 5. yes 6. no
- E.** 1. water oil milk
2. steam L.P.G. C.N.G.
3. wood brick iron
- F.** 1. false 2. true 3. true 4. true 5. true
- G.** 1. Smallest particle of a matter is called an atom.
2. Changes which are permanent are called chemical changes.

3. Changes which are temporary are called physical changes.
4. It is a mixture of the solute and solvent.
5. Tiny particles of which every matter is formed are called molecules.
6. Substances which get dissolved in water are called the soluble substances.

LESSON-11

- A.** 1. Fuels formed from the dead and decaying remains of plants and animals buried under the earth for millions of years are called fossil fuels.
2. Earth is made up of rocks.
3. There are three kinds of rocks : Igneous rocks, Sedimentary rocks, Metamorphic rocks.
4. Igneous rocks are formed when the hot liquid mineral water comes from deep inside the earth. It comes out through cracks on the earth's surface and then cools down to form rocks.
5. Small particles of gravel and pebbles get deposited on the soil and get piled up with layers of soil. As the layers pile up on the deposits, the pressure hardens on lower layers and sedimentary rocks are formed.
6. We should find out alternative sources of energy because the fossil fuel we use is non renewable. After some period it will get exhausted and we will need some fuel to use. These alternative resources are permanent.
7. Sun and wind are two sources of alternative energy.
- B.** 1. granite pumice 2. sand stone lime stone
3. slate marbles
- C.** Gold Ocean
- D.** 1. true 2. true 3. false 4. true 5. true
- E.** 1. ores 2. pumice 3. granite 4. CNG
5. non-renewable resources 6. Jharkhand

LESSON-12

- A.** 1. All planets except earth are lifeless because they do not have a suitable environment to sustain life.
2. Days and nights are formed due to rotation of the earth on its own axis. The side of the earth near the sun has day, while the side away from sun has night.
3. Group of stars arranged in a particular pattern is called a constellation.

4. There are eight planets in our solar system. They are :
1. Mercury 2. Venus 3. Earth 4. Mars
 5. Jupiter 6. Saturn 7. Uranus 8. Neptune
5. Plants do not collide with each other because they move in different individual orbits.
6. Solar eclipse is formed when the moon comes between the sun and the earth. The moon hides the sun and sun is not visible.

Lunar eclipse takes place when the earth comes between the sun and the moon. The shadow of the earth covers the moon.

- B.** 1. seasons 2. moon 3. earth 4. sun
5. west to east lunar 6. eclipse.
- C.** 1. Mercury 2. Neptune 3. Jupiter
4. Mercury 5. Jupiter
- D.** 1. d 2. c 3. e 4. a 5. b
- E.** 1. true 2. true 3. false 4. true

LESSON-13

- A.** 1. Producers are those which produce food. All green plants are producers.
All animals and human beings are consumers because they depend on plants.
2. A sequence showing the feeding relationship between organisms in a natural environment is called a food chain.
3. Bacteria work as decomposers in nature. They decompose the dead remains of plants and animals causing the flow of energy from consumers to producers. Now this energy flows from producers to consumers thus, forming a food chain.
4. Plants are called earth's lungs because they intake the harmful gas like carbon dioxide and give out fresh oxygen to us.
5. Carnivorous animals eat flesh of other animals.
6. Decomposers are important because they clear the dead remains of animals and plants from the earth causing a clean environment.

7. No, all plants are not producers, because only those plants can produce food those have the green pigment chlorophyll in them some plants like yellow or red algae do not have chlorophyll.

- B.** 1. oxygen 2. plants 3. consumers
4. malaria 5. pulp of trees 6. disturb
C. 1. false 2. true 3. false 4. true 5. false
D. 1. c 2. d 3. e 4. b 5. a
E. Do it yourself.

TEST PAPER -1

- A.** 1. Reproduction in plants by their vegetative parts is called the vegetative propagation.
2. A seed needs four things to germinate :
i) air ii) water iii) sunlight iv) warmth
3. The movement of large number of people, birds or animals from one place to another for better conditions is called migration.
4. An earthworm breathe through its moist skin.
5. The cardiac muscles are found in our heart. They are involuntary muscles and help the heart to pump blood continuously to different parts of our body.
6. Three functions of muscular system are :
i) The muscles allow the body movements.
ii) The muscles help the internal organs to work smoothly.
iii) The cardiac muscles of heart pump blood to different parts of the body.
7. Aquatic animals breath through gills.
8. Main organs of our digestive system are :
i) mouth ii) food pipe iii) stomach
iv) liver v) pancreas vi) small intestine
vii) large intestine and viii) anus
9. The main organs of nervous system are :
i) brain ii) spinal cord and nerves
10. Nervous system transfers all the sensations sensed by our different body parts to the mind to take necessary decision.

The brain, spinal cord and nerves are all inter connected. Message from brain or spinal cord is sent to

all sense parts through nerves called motor nerves. Messages from sense organs are sent to brain or spinal cord is send through sensory nerves.

- B.** 1. largest 2. sweat 3. three 4. lungs
5. brest 6. wings 7. maple
C. 1. lotus, coconut 2. rose, mango 3. snake, earthworm
4. squirrels, rabbits 5. femur, fibula
D. 1. True 2. True 3. False 4. False
E. Hinge joints
Ball and socket joints (movable joints)
Pivot joint in the neck
Skull joint (immovable joint)

TEST PAPER -2

- A.** 1. Food containing all the essential nutrients in right amount is called the balanced diet.
2. Communicable diseases spread through :
i) food and water ii) insects and direct contact
3. Different forms of energy are muscular energy, heat energy, electrical energy and magnetic energy.
4. Simple machines are tools that make our work easier. They help us to get a job done by applying less force.
5. The cover of air surrounding our earth is called atmosphere.
6. Drinking water may contain some undesirable and harmful things. We need to remove them, so drinking water needs to be purified.
Drinking water can be purified by the methods of decantation and filtration.
7. The process by which plants make their own food using sunlight, carbon dioxide and green pigment is called photosynthesis.
8. Siphon is a bent tube which we use to draw liquids from containers using air pressure. Air is sucked from one end of the tube the other end in the container. Lower pressure of air pulls the water in the tube and thus we draw liquid to this end.
B. 1. (e) 2. (a) 3. (c) 4. (b) 5. (g) 6. (d) 7. (f)
C. Second class lever First class lever Third class lever

- D.** 1. carbon dioxide 2. synthetic 3. venom
4. fats and carbohydrates 5. nitrogen 6. efficiency
- E.** 1. False 2. False 3. False 4. True

TEST PAPER -3

- A.** 1. Molecules are made up of tiny particles called atoms.
2. Water is liquid and water vapour is gas.
3. There are three kinds of rocks!
i) Igneous rock ii) Sedimentary rocks
iii) Metamorphic rocks
4. We should find out alternative sources of energy because the fossil fuel we use is non renewable. After some period it will get exhausted and we will need some fuel to use. These alternative resources are permanent.
5. There are eight planets in our solar system. They are :
i) Mercury 2. Venus 3. Earth 4. Mars
v) Jupiter vi) Saturn vii) Uranus 8) Neptune
6. Producers : Green plants are called the producers because they make their food on their own.
Consumers : Animals and human beings are called consumers because they depended on plants directly or indirectly.
7. No, all plants are not producers, because only those plants can produce food those have the green pigment chlorophyll in them some plants like yellow or red do not have chlorophyll.
8. Solar eclipse is formed when the moon comes between the sun and the earth. The moon hides the sun and sun is not visible.
Lunar eclipse takes place when the earth comes between the sun and the moon. The shadow of the earth covers the moon.
- B.** 1. Mercury 2. Mercury 3. Jupiter 4. Jharkhand
5. Slate, marbles 6. Granite, pumice
- C.** Do it yourself.
- D.** 1. earth 2. seasons 3. malaria
4. molecules 5. matter
- E.** 1. True 2. True 3. True 4. False