

Help Kit 1-5





SCIENCE

Written by: Nishi Singh M.Sc. (Phys.), M.Ed.

Rahul Goswami M.Sc. (Chems.), M.Ed.



E-LEARNING

INSTRUCTOR'S HANDBOOK

SOLVABLE QUESTIONNAIRE

LESSON PLANS

EXAM MAKER

SCIENCE-1



Living and Non-living Things

Warm Up

Do it yourself. CHECKPOINT

1. Table, Chair **2.** Tree, Mountain

EXERCISE

Tick (✓) the correct option: A.

Ans. 1. C.



2.





A bus is a man-made thing.

В. Complete the names of two:

living things Ans. 1.

Human Mobile **Animals**

Car

4.

C. Fill in the blanks with the correct word:

Ans. Animals are living things. 1.

non-living things

2. Living things eat **food**.

A star is a natural non-living thing.

D. Answer the following questions:

Plants and Animals Ans. 1.

> 2. Trees

- 3. No, They are natural.
- They are non-living things.



The World of Plants

Do and Learn

Put a (✓) for the things which you get from trees:







CHECKPOINT

Big Plants—1. Banyan 2. Mango

Small Plants—1. Mint 2. Rose

EXERCISE

Tick (✓) the correct option: Α.

Ans. b. Rose 2. a. climber

Name the following: В.

1. A small plant Ans. ROSE 2. A big tree **BANYAN**

3. A tall tree **ASHOK** A thin and straight tree **COCONUT**

Science-1

C. Answer the following questions:

- **Ans. 1.** Very big plants are called trees. They have hard woody stem. Example : Mango, Ashok.
 - 2. Some plants are small but strong. Such plants are called shrubs. Rose, sunflower, and hibiscus are some examples of shrubs.
 - 3. Money plant and Grapevine.



Parts of a Plant

Warm Up

Do it yourself.

EXERCISE

A. Tick (✓) the correct option:

Ans. 1. c. seeds 2. a. fruits 3. b. seeds 4. a. beautiful

B. Name these parts of a plant:

Ans. FLOWER FRUIT LEAF

C. Fill in the blanks with the correct words given below:

Ans. 1. Roots grow below the ground.

- 2. Buds are unopened flowers.
- 3. Leaves prepare food for the plants.
- 4. Most flowers have a sweet fragrance.
- 5. A seed has a baby plants inside it.

D. Cross (X) out the wrong words:

Ans. 1. Sunflower **2.** Flower **3.** Roots

4. Stems **5.** Buds

E. Answer the following questions:

- **Ans. 1.** Roots grow below the ground. They hold the plant in place and allow it to grow straight.
 - **2.** A seed grows into a new plant. It has a baby plant inside it. Plants need sunlight, air, water to grow.
 - 3. Flowers grow into fruits.
 - **4.** The leaf is green in colour. It is of many shapes and sizes. It makes food for the plant.



Plants as Food

ONION: V

3.

Warm Up

Do it yourself.

Do and Learn

Strike off every number to get my name! Am I a fruit (F) or vegetable (V)? Use the picture clues. One is done for you:

PLUM: F
 PAPAYA: F

STRAWBERRY: FPEAS: V

Science-1

CHECKPOINT

Ans.

В.

Match the following:

1. c.

Tomato
 Mint
 Leaf

3. Kidney beans e. Pulse

4. Ginger b. Stem
5. Wheat c. Cereal

EXERCISE

A. Tick (✓) the correct option:

Ans. 1. Gram is a cereal.

2. We get fruits and vegetables from plants.

Fill in the blanks, with the correct words:

2.

- 3. We eat roots of plants like carrot.
- 4. Cauliflower is a flower.

C. Answer the following questions:

Ans. 1. We get food from different parts of plants.

- 2. We eat the seeds of Peas.
- 3. We eat the leaves of spinach.
- **4.** We should eat different types of fruits. They are good for our health.



The World of Animals

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Circle the odd one out:

a. Emu, (Parrot,) Ostrich b. Parrot, Pigeon, (Ant)

c. Whale, Dog, Cat d. Swan, Butterfly, Duck

e. Duck, Frog, Octopus f. (Egret,) Monkey, Squirrel

EXERCISE

A. Tick (✓) the correct option:

Ans. 1. c. beaks 2. b. Fish 3. a. Mosquito

B. Fill in the blanks with the correct words.

Ans. 1. Whale is the largest living animal.

- 2. Birds have wings that help them to fly.
- 3. Ostrich is a bird.
- 4. Birds eat with their beaks.

- C. Answer the following questions.
- Ans. 1. Lion and Horse
- Fish, Ostrich 2.
- 3. Ostrich, Hen
- An insect is a small animal with six legs. Some insects have wings to fly. **Example:** Housefly, Mosquito, Ant



Food and Shelter of Animals

Warm Up

Do it yourself.

CHECKPOINT

Match the following:



Do it vourself.

EXERCISE

- Tick (✓) the correct option: Α.
- **b.** carnivorous Ans. 2.
 - c. shed
- 3. a. stable
- B. Write True or False for the following statement:
- Ans. 1. True

4.

- 2. False
- 3. True
- False

- C. Match the following:
- 1. Goat and rabbit Ans.
 - C. Plant-eaters
 - 2. Squirrel and mouse
- **Grain-eating animals** a. Hole d.

3. Snake Hen

- b. Coop
- D. Answer the following questions:
- Ans. A plant eater eats the leaves of plants and a grain-eaten eats only the grains of plants.
 - 2. Some animals eat the flesh of other animals. They are called flesheating or carnivorous animals.
 - 3. They need shelter to keep them safe.
 - **4.** We make homes for our pets and domestic animals.

Green Pages

- Circle the options that you think are correct:
- **b.** Not cut the trees. Ans. 1.
- 2. a. Home for many birds
- a. Food and shelter
- Read the questions. Tick () the correct option :
- Ans. 1.









Our Body and Sense Organs

Warm Up

Do it yourself.

CHECKPOINT

Which part of your body helps you to:

- 1. Eyes
 - Feet 2.
- hands 3.
- 4. **Tongue**

EXERCISE

Tick (✓) the correct option: Α.

Ans. 1. c. Pencil 2. b. walk

B. Name the body part. How does it help you?

- Name hand Helps to carry the things.
- Name tongue Helps to taste.
- 3. Name Ear Helps to hear.
- Name **Eye** Helps to **see**.

C. Fill in the blanks with the correct words given below:

- We use our **hands** to pick and hold things.
- 2. We use our nose to breathe.
- ears are used to hear different sounds.
- We feel different things with our skin.

Identify the body parts. Write the correct number in the circles: D.

3.









4. Neck





E. Answer the following questions.

- The tongue helps us to taste food.
- 2. We have 2 eyes.
- We can write and hold things with the help of our hands.
- Eyes, ears, nose, tongue, and skin are called sense organs. These help us to feel the world around us.



Our Needs

Warm Up

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (✓) the correct option:

Ans. 1. a. strong **2.** c. Sandwich 3. b. cool 4. a. bedroom

B. Write the first letter of each picture in the circles. Find the names of food items we get from plants:

- 1. S 2.
- \square
- G
- (A) F
- [M]E
- E

- C 3. 0
- 0
- F

- C. Write True or False for the following statements:
- Ans. 1. True 2. False 3. True 4. True
- D. Answer the following questions:
 - 1. Food gives us energy to do all our activities. It helps us to grow.
 - We eat many things which are made from milk like Curd, Ghee and Cheese.
 - **3.** We use umbrellas, raincoats and gumboots to go out in the rain. It protects us from rain.
 - **4.** We need a house to live in. Our house keep us safe from heat, cold, rain and wild animals.

9

Keeping Fit

5.

False

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

- A. Tick (✓) the correct option:
- **Ans. 1.** c. both fit and healthy **2.** a. smart
- B. Name these exercises:
 - 1. CYCLING
- 2. SWIMMING
- 3. PLAYING
- C. Write True or False for the following statements:
- Ans. 1. True
- 2. True
- **3.** False

a. electric wires

4. True

- D. Answer the following questions:
 - 1. Exercise and play is essential for keeping us fit.
 - 2. Posture is the position in which we keep our body parts straight when we sit, stand or walk.
 - **3.** We should always sit, stand and walk straight.
 - **4.** We get tired after working so, we need to take rest.



Keeping Safe

Warm Up

Do it vourself.

CHECKPOINT

Do it yourself.

EXERCISE

- A. Tick (\checkmark) the correct option:
- Ans. 1. b. footpath 2.
- B. Fill in the blanks with the correct words given below:
- **Ans. 1. Safety,** means staying away from harm.
 - 2. We should not **run** on the road.

- 3. Always stand in a queue for boarding a bus.
- **4. knives**, **blades** and **scissors** are sharp objects.

C. Match the following by drawing lines:

Ans. 1. Always walk on the

d. footpath

2. Stay away from

- c. fire
- 3. To cross the road use
- b. zebra crossing
- **4.** When someone gets hurt
- a. inform an elder
- D. Answer the following questions:
- **Ans. 1.** Safety means staying away from harm.
 - 2. At Home

Do not play with matchsticks.

Do not play with electric wires and points.

At School

Always go to your class in a queue.

Never run around in the class.

3. Inform an adult person.

Wash the wound with water and apply Dettol.

Good Habits

Warm Up

Do it yourself.

Do and Learn

Do it vourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (✓) the correct option:

- Ans. 1. a. eating
- **2.** c. clean
- **3.** c. every day
- B. Fill in the blanks with the correct words given below:
- **Ans. 1.** Good habits keep us **clean** and **healthy**.
 - 2. We should **brush** our teeth at least twice a day.
 - **3. comb** your hair to keep it tidy.
 - 4. We should never write on the walls.
- C. Answer the following questions:
- **Ans.** 1. We should brush our teeth at least twice a day.
 - 2. We should throw the waste in dustbin.
 - 3. We should follow good habits because good habits keep us healthy and fit.

12

Air

Warm Up

Do it vourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (✓) the correct option:

Ans. 1. b. everywhere

2. a. breathe

3. c. air

4. a. storm

B. Write True or False for the following statements:

Ans. 1. False

2. True

3. True

4. False

5. True

C. Answer the following questions:

Ans. 1. Moving air is called wind. Wind is used to move many things.

2. Air helps plants to spread their seeds.

3. A football filled with air became heavy because air has weight.

4. These are two things that move the with help of the wind.

(i) Wind mill

(ii) Paraglider

/13

Water

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

В.

EXERCISE

A. Tick (✓) the correct option:

Ans. 1. a. water

2. b. drinking

Fill in the blanks with the correct words given below:

1. We use water for many purposes in our daily life.

2. People in villages use well and hand pumps for water.

3. We get water from different sources.

C. Write True or False for the following statements:

Ans. 1. False

2. True

3. False

D. Answer the following questions:

1. We should keep drinking water covered to avoid getting grams into it.

2. We should always drink clean water because it can make us fall sick.

3. We should store clean water in a tank or a pot at home.

14

Weather and Seasons

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (✓) the correct option:

Ans. 1. c. ice-cream 2. a. raincoat

B. Fill in the blanks with the correct words.

Ans. 1. It snows at some places when it is very cold.

- 2. We wear raincoats to protect ourselves from the rain.
- 3. A strong wind can blow away things to far-off places.

C. Write True or False for the following statements:

Ans. 1. True 2. False

D. Answer the following questions:

Ans. 1. A day can be hot, cold, windy, cloudy, rainy or dry. This is called weather. The weather keeps changing from day-to-day or hour-to-hour.

- 2. A rainy day is a dark and wet day. It is a cloudy day.
- 3. There are five seasons in a year.
 - 1. It is very hot and sunny in the summer season.
 - 2. It rains most of the days in monsoon season.
 - 3. It is very cold in the winter season.
 - 4. Some trees shed their leaves in autumn.
 - 5. Spring is the season for flowers to bloom.



In the Sky

True

3.

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (✓) the correct option:

Ans. 1. a. stars **2.** a. Earth

B. Fill in the blanks with the correct words given below:

Ans. 1. The sun is a big hot ball of fire.

- 2. Every evening the Sun sets in the west.
- 3. The moon goes around the Earth.
- 4. The Earth is made up of land, water and air.

C. Match the following by drawing lines:

Ans. 1. We see at night b. Stars 2. A big ball of fire d. Sun

3. The sun rises in the a. East

The Earth give usC. Many things

D. Answer the following questions:

- 1. We live on Earth.
- 2. The sun rises in the east and sets in the west.
- 3. Stars look so small Because they are very far away from us.

SCIENCE-2



A Green World

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

Α. Tick (✓) the correct option:

Ans. b. Banyan 2. c. Money plant

3. a. Roots

a. seeds 4.

B. Unjumble the letters and write the names of the plants:

Ans. Rose 2. Spinach

Bottle gourd 4. 3. Pumpkin

C. Fill in the blanks with the correct words given below:

Ans. **Plants** are different shapes and sizes.

> Tall and big plants are called trees. 2.

3. Most herbs live for just a few months.

4. Climbers cannot stand straight.

The leaves make food for the plant.

Answer the following questions: D.

Tall and big plants are called trees. **Example:** Banyan tree, Mango tree. Ans.

- 2. Shrubs are smaller than trees. They grow close to the ground. **Example:** Rose Plant, Henna Plant
- A grapevine or a bean plant or a money plant have thin and weak stems. They cannot stand straight. They are called climbers.

Creepers are weak plants. They have weak and thin stems. They grow along the ground and bear large and heavy fruits.

Example: Pumpkin Plant

4. The stem carries water and food to all parts of the plant. It bears branches, leaves, buds, flowers and fruits.



Uses of Plants

Warm Up

Do it vourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

Α. Tick (✓) the correct option:

Ans. b. carrot 2. b. foodgrain

3. b. Mustard b. cotton

B. Fill in the blanks with the correct option:

Ans. **Spices** help to make our food tasty.

- 2. Tulsi is used to treat cough and cold.
- 3. Henna is used us a dye.
- **4.** We get rubber from the **juice** of rubber tree.
- 5. Plants give us clean air to breathe.

C. Circle the odd one out:

Ans. 1. turnip, ginger 2. pea 4. maize gram

D. Answer the following questions:

Ans. Cereals and pulses together are called foodgrains. They are actually seeds of some plants. **Example:** Rice, Chana, Moong etc.

- 2. Seeds, nuts and fruits given us oil. We use oil mainly for cooking and for oiling our hair.
- We get chocolate from Cocoa Plant. 3.
- Tulsi leaves are used to cure colds.
- 5. Bamboo



Animals That Help Us

Warm Up

Do it yourself.

Do and Learn

Do it vourself.

CHECKPOINT

Do it yourself.

B.

EXERCISE

Tick (✓) the correct option: Α.

1. a. Ans. 2. c. Wool b. Bullocks a. 🔼

Fill in the blanks with the correct words given below:

Ans. 1. **Domestic** animals can be kept at farms or homes.

- 2. Milk has a lot of calcium and proteins.
- 3. Some people eat fish and the meat of animals.
- Beeswax is used for making candles.
- We get wool from the body hair of sheep.

C. Circle the correct answer:

- 1. Cockroach is not a domestic animals. Ans.
 - 2. Camel gives us manure.

- 3. The home of horses is called a **stable**.
- 4. Milk is used to make cheese.
- A camel carries load for us.

D. Answer the following questions.

- Ans. We get many things from animals such as milk, eggs, wool wax, leather 1. etc.
 - 2. The skin of some animals like snakes, kangaroos and buffaloes is used to obtain leather. Leather is used to make wallets, belts, jackets, and many other things.
 - We get wool from sheep. Wool is used to make sweater, gloves, caps, 3. socks and blankets.
 - We get silk thread from silkworms. Silk is used to make saries, scarves and ties.
 - We must take care of domestic animals. We must be gentle to them. We should give them enough food to eat and clean water to drink. We should bathe our pets regularly. When they fall sick, we should take them to an animals doctor.



Wild Animals

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

- A. Tick (✓) the correct option:
- Ans. 1. c. grass

1.

- b. hole 2.
- 3. a. tusks

Circle the odd one out: B. Ans.



2.



3.





- C. Fill in the blanks with the correct words given below:
- Ans. Animals living in jungles are called wild animals.
 - 2. Birds build their own nests.
 - Carnivores hunt other animals for food and eat their flesh. 3.
 - Hyena and vulture help to keep the jungle clean. 4.
 - We must not hunt animals for our **pleasure**.
- Match the following by drawing lines: D.
- Ans. 1. Flesh-eaters
- iv. carnivores
- 2. Plant-eaters
- ii. eat only plants
- 3. Jackal
- i. keep the jungle clean

- 4. Omnivores iii. bear and crow
- 5. Herbivores v. elephant and monkey

E. Answer the following questions:

- Ans. Wild animals live in Jungle.
 - 2. (a) cow, (b) lion, (c) hyena
 - 3. Some wild animals like hyena, jackal and vulture eat the left over flesh of dead animals. These help to keep the jungle clean.
 - 4. (a) hole, (b) burrow (c) den (d) nests
 - 5. Many animals and birds are no longer found on the Earth. They have become extinct. The dinosaurs which lived on the Earth long, long ago are now extinct. Some animals are found in very few numbers. They are also in danger of becoming extinct. So, they are called endangered animals.

Examples:











Asiatic lion

rhinoceros

Royal Bengal tiger Some endangered animals

Great Indian hustard

Great Indian hornhill



Our Body

Warm Up

Do it vourself.

CHECKPOINT

Do it yourself.

EXERCISE

- Α. Tick (✓) the correct option:
- Ans. a. soft b. bones 2.
- a. Exercise 3.
- Fill in the blanks with the correct words given below: В.
- Ans. 1. The **skeleton** is the framework of bones.
 - 2. Bones give **shape** and **structure** to the body.
 - 3. We can bend our body around the **joints**.
 - 4. Muscles cover the bones and help them move and work.
 - Correct **posture** is very important to keep the body healthy.
- C. Match the following by drawing lines:
- Ans. 1. Our body has many

iv. parts

2. Standing or walking is called iii. posture

3. Exercise keeps our muscles i. strong

4. Muscles cover the

- ii. bones
- Answer the following questions: D.
- Ans. We must exercise daily to keep muscles strong and healthy. 1.
 - 2. The position in which we hold our body straight while sitting, standing or walking is called posture.

- 3. The place where two or more bones are joined together is called a joint. Example: Hip Joint, Wrist Joint etc.
- The skeleton gives shape, strength and support to our body. Without the skeleton, our body will be like jelly. It will have no shape.



Food For Health

Warm Up

Do it vourself.

Do and Learn

Do it yourself.

CHECKPOINT Do it yourself.

3.

EXERCISE

Α. Tick (✓) the correct option:

c. ill

Ans. **1.** b. Food

> 4. a. regular times

a. fresh food

2.

B. Match the following by drawing lines:

Ans. 1. We must eat all kinds of food

to stay healthy. v.

2. We should have our food at iv. regular times.

3. Milk keeps our bones and teeth i. strong.

4. Eat slowly and chew the food well.

5. iii. uncovered food. Do not eat

C. Fill in the blanks with the correct words given below:

Ans. 1. Food gives us **energy** to work and play.

- 2. **Body-building** food help us to grow.
- 3. Rice and wheat are energy-giving food.
- 4. We should drink **clean** and **safe** water.
- Stale food can make us sick.

D. Answer the following questions:

Ans. 1. We need food to stay alive.

Food gives us energy to work and play.

- 2. Some foods give us energy to work and play. Rice, sugar, wheat, butter are some examples of it. They are called energy-giving food.
- 3. Fruits and vegetables protect us from diseases. They are called protective food.
- Balanced diet includes all the types of food in right amount in our 4. meals.
- Here are some good food habits which will help your stay healthy.

Wash your hands with soap before and after eating.

Eat slowly and chew your food well.

While eating, use clean plates, spoons and glasses.

Do not eat uncovered food sold by street vendors. They contain dust and grems.



Housing and Clothing

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (✓) the correct option:

Ans. b. permanent house 2. c. water

B. Name the following:

Ans. A good house A Mud hut An igloo Atent

C. Fill in the blanks with the correct words given below:

Ans. **Temporary** houses are not very strong.

- The roofs of houses may be **flat** or **sloping**.
- 3. **Things** should be kept in proper places.
- We need warm clothes in winter.

Write True or False for the following statements: D.

Ans. **2.** False 3. True True

E. Answer the following questions:

Ans. 1. **Permanent House**

> These houses are strong. They are made of bricks, cement, stone, steel, wood and marble. They are built by people who have settled at one place. Most of the city homes are permanent houses.

Temporary Houses

Some people live in houses that can be moved from place to place. These houses are not very strong. Tent, caravan, huts, houseboats are temporary houses.

- People living on plains usually make houses with flat roofs. 2.
- We wear cotton clothes in summer.
- We need woollen clothes in winter. Woollen clothes keep us warm.



Safety Rules

Warm Up

Do it yourself.

Do and Learn

Do it vourself.

CHECKPOINT

Do it yourself.

EXERCISE

Α. Tick (✓) the correct option:

1. c. sharp objects 2. a. road 3. b. adult

- a. queue
- B. Fill in the blanks with the correct words given below:
- Iron and gas stove are hot objects we should stay away from. Ans.
 - 2. Get into the school bus in a queue.
 - 3. Do not push or pull while playing.
 - Never open the **door** of a moving vehicle.
 - On Diwali, never light candles on your own.
- C. Match the following to make the correct sentences:
- Ans. 1. Never touch

- V. electrical wires and sockets.
- 2. It we get hurt,
- we should not be scared.

3. Make a queue iv. to get into the school bus.

3.

True

4. Never play iii. on the road.

Cross the road

- ii. at a zebra crossing.
- Write True or False for the following statements: D.
- Ans.

- 2. False

- **1.** True 4. True
- 5. False
- E. Answer the following questions:
- Ans. Do not put your hand or head out of the windows of a moving vehicle. Never open the door of a moving vehicle.
 - 2. Before crossing the road, look to your right, then to your left and then to you right again.
 - 3. We can fall down by these things.
 - **4.** If we get hurt, we should not be scared. We should tell our teachers or parents at once.
 - 5. Do not swim alone.

Use a swimming tube or floaters while swimming.

Take the help of an adult while swimming.

Do not go the deep side of the pool.

Green Pages

Do it yourself.



Rocks and Minerals

Warm Up

Do it yourself.

Do and Learn

Do it vourself.

CHECKPOINT

Do it yourself.

EXERCISE

Tick (✓) the correct option: Α.

- Ans. 1. c. Emerald
- a. Chalk
- b. burning fire 3.

B. Match the following:

C.

Ans. 1. A hard rock Marble ii.

2. A soft rock Coal V.

A mineral used for making pottery iv. China clav

Formed by breaking of rocks Soil 4. i.

Fill in the blanks with the correct words given below:

Ans. 1. **Rocks** are the hard, solid parts of the Earth.

> 2. Sandstone, granite and marble are examples of hard rocks.

3. Rock salt is used in **flavouring** food.

4. Gold and silver are used in making **jewellery** and **coins**.

Gemstones are very hard minerals.

Answer the following questions: D.

Hardest mineral

Ans. Rocks are the hard, solid parts of the Earth. They are found on the surface of the Earth, under the ground and also below the sea. Marble is a hard rock and slate is a soft rock.

- 2. Minerals are the elements found on the earth. Rocks are made up of one or more types of minerals.
- 3. Gemstones are very hard minerals. These are cut in various shapes and polished. Polished gemstones looking are very beautiful. Example: Ruby and Topaz.
- a. Marbles are used in making statues.
 - b. Slate is used in making tiles.
 - c. Silver is used to make jewellery.
 - d. Ruby is used to make iewellery.
 - e. Iron is used to make utensils.
 - f. Tale is used to make talcum powder.



The Air We Breathe

iii. Diamond

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

Tick (✓) the correct option: Α.

Ans. **1.** b. breathe 2. a. vitamins 3. a. wind

Name the following: В.

2. Germs **3.** Air 4. Storm Ans. **1.** breeze

C. Fill in the blanks with the correct words given below:

Ans. 1. Air is present all around us.

> Air contains smoke, dust and water vapour. 2.

- Dirty air makes us ill.
- 4. We should grow green plants.
- **storm** can blow away things around us.

D. Write True or False for the following statements:

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

- False
- True

E. Answer the following questions:

Ans. Wind helps kites and gliders to fly.

It helps clothes to dry faster.

Wind helps sailboats to move faster.

- 2. We must breathe in fresh and clean air.
- Air is a mixture of many gases. Air contains many things like dust particles, smoke, etc.
- When wind blows gently, it is called breeze. 4.
- **5.** A powerful storm can damage trees, houses, crops and vehicles. It can cause big trees and electric poles to fall.



Water

Warm Up

Do it yourself.

Do and Learn

Do it yourself. CHECKPOINT

Do it yourself.

EXERCISE

- Tick (✓) the correct option: Α.
- Ans. a. rain
- c. puddle 2.
- b. sick 3.
- Fill in the blanks with the correct words given below: В.
- Ans. 1. Water is needed for many things.
 - 2. Rain is the main source of water.
 - 3. A puddle is a small **pool** of rainwater on the ground.
 - Dirty water contains germs.
 - We should not waste water.

C. Write True or False for the following statements:

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

- False 4.
- True 5.
- D. Match the following:
- Ans. 1. We need water

- iii. to live.
- The water from rain 2.
- is called rainwater. i.
- 3. A lake is entirely
- surrounded by land. v.
- 4. Some of the rainwater
- ii. seeps into the ground.
- 5. We should always keep
- iv. the drinking water covered.

E. Answer the following questions:

Ans. Water can be made safe for drinking in two ways: 1.

Boling: Boiling water for about 20 minutes kills germs.

The boiled water is cooled and used for drinking and cooking.

Using water filters: They clean water and makes it safe for us to drink.

- Rain is the main source of water. The water from rain is called rainwater.
- 3. We can save water by keeping in mind a few things.

Turn off the taps when not in use.

Place a bucket under a leaking tap and use that water.

Repair leaking taps.

Do not keep the tap running when brushing your teeth or having a bath.

- **4.** A stream is a thin channel of water flowing down a mountain. The stream becomes bigger and bigger as it flows down the mountain to form a river.
- 5. Dirty water contains germs. Drinking dirty water can make us sick.



Forms of Water

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT Do it yourself.

EXERCISE

Α. Tick (✓) the correct option:

Ans. **1.** b. ice

c. Gas 2.

В. Correct the sentence by changing the underlined word:

- Ans. 1. Water in the **liquid** form can flow.
 - 2. On freezing, water changes into ice.
 - 3. Water vapour high up in the air **cools down** and forms drops of water.
 - **Sun** is required for water cycle.

Fill in the blanks with the correct words given below: C.

- Ans. 1. Water is even present in air.
 - 2. When **heated**, water changes into water vapour.
 - 3. When we freeze water it changes into ice.
 - Water cycle is a never-ending cycle.

D. Answer the following questions:

- 1. Vapour change into droplets and these small water droplets come Ans. together and form clouds.
 - Water cycle is a cycle of water in which the water changes into water 2. vapour and then come back into it's liquid form.

- Small water droplets which make through vapour come together and form clouds. When the drops of water inside the clouds become heavy, they fall down as rain.
- When the water is cooled it changes into ice.



Light and Shadow

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

Α. Tick (✓) the correct option:

Ans. 1. b. Sun 2. a. light B. Match the following by drawing lines:

Ans. The Sun looks like ii. a big ball of fire.

2. iii. in the light of the moon. We can see a little

3. When the Sun rises, iv. it is day. It is night. **4.** When the Sun sets,

C. Fill in the blanks with the correct words given below:

Ans. 1. The **Sun** gives us heat and light.

- 2. There is no Sun during the **night**.
- 3. **Rotation** of the Earth causes day and night.
- Shadow is a dark **patch** formed on the ground.
- D. Answer the following questions:
- Ans. The Sun gives us heat and light. We see things around us with the help of light. The heat of the Sun gives energy to every living thing.
 - 2. It looks small because it is very far from us.
 - 3. Three source of light are bulbs, tube lights and lamps.
 - When you stand in the Sun, a dark patch is formed on the ground. This is your shadow. The shadow is formed because your body stops the light from passing through it.
 - 5. i. during morning and evening ii. during afternoon

SCIENCE-3



Living and Non-Living Things

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT Do it yourself.

EXERCISE

A. Tick (✓) the correct option:

Ans. 1. a. Caterpillar

2. a. plants

3. a. Stone

4. b. butterfly

B. Fill in the blanks:

Ans. 1. Living things move in search of mainly **Food** and **Shelter**.

2. Non-living things do not grow.

3. Living things need food to grow and survive.

4. Living things **respond** to the **changes** around them.

5. Human give birth to babies.

C. Write True or False for the following statements:

Ans. 1. True

2. True

3. True

4. False

5. False

D. Give two examples each of:

Ans. 1. living things. Plants Humans
2. non-living thing. Stones Soil

3. body parts through which different Lung Moist Skin

animals breathe.

4. things that living things do.5. living thing that given birth to babies.Dog Buffalo

E. Answer the following questions:

Ans. 1. Living things differ from non-living things in many ways. Let us know how.

Living Things Move

Living things can move from one place to another but non-living thing cannot move.

Living Things Grow

Babies of human beings and animals grow into adults. Saplings grow into trees but non-living things cannot grow.

- 2. Three differences between a stone and a sunflower.
 - (1) Sunflower can grow but stone doesn't grow.
 - (2) Sunflower need food to survive but stone need any such thing.

- (3) Sunflower responds to changes around it but stone remains same in all the conditions.
- **3.** Living things need food to live and grow.
- **4.** All living things produce more of their own kind. This process is called reproduction.

Human beings give birth to babies. Some animals like cats, dogs and cows also give birth to babies. Birds lay eggs. Eggs hatch into chicks (baby birds).

5. Plants need sunlight, water and air to live.



Parts of a Plant

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (✓) the correct option:

Ans. 1. a. Root

2. b. Mustard

3. c. Coriander

4. a. Mango

- B. Fill in the blanks:
- **Ans.** 1. **Shoot** is the part of a plant above the ground.
 - 2. Roots absorb water and minerals from the soil.
 - 3. The stems of potato and onion are called **Fibrous** stems.
 - **4. Leaves** are known as the food factory of the plant.
 - 5. Plants are the primary source of **Food** for us.
- C. Write True or False for the following statements:
- Ans. 1. True
- **2.** True
- **3.** False

- **4.** False
- **5.** True
- D. Answer the following questions:
- **Ans. 1.** Roots fix the plant to the soil. Without the root, a plant would fall to the ground.

Roots absorb water and minerals from the soil. They then send these to the other parts of the plant.

2. Functions of Stems

Stems give support to the plants.

Stems carry water from the roots to the leaves and then carry the food made by the leaves to all parts of the plants.

3. Leaves use water, air and sunlight to make food for the plant. This process of making food is called photosynthesis (say foto-sin-thay-sis). Leaves are thus known as the food factory or the kitchen of the plant.

- 4. The process by which a seed produces a baby plant or seedling when given the right amount of warmth, air and water is known as germination.
- 5. A plant need sunlight, water, air and minerals to make food.



Eating Habits of Animals

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT Do it yourself.

EXERCISE

Tick (✓) the correct option: Α.

Ans. a. producers 1.

2. **b.** food

c. bear 3.

B. Name the following:

Ans. 1. An animal which have a long and sticky tongue. chameleon

- 2. An animal which have sharp and pointed teeth. **buffalo**
- I chew the cud. I also give you milk. I am a cow. 3.
- I eat flesh of animals. I am called a Tiger.

C. Classify the following as herbivore, carnivore or omnivore:

Ans.







herbivore

Lion

Chameleon

crow

D. Fill in the blanks:

Ans. Animals eat both **Plants** and **Flesh** of other animals.

- 2. All plant-eating animals are called herbivores.
- 3. **Human** beings are omnivores.
- 4. **Snakes** and **Frogs** do not have teeth to chew their food.
- We should not destroy the **homes** of animals.

E. Answer the following questions:

Ans. 1. frogs has a sticky tongue. It sit still and wait for its prey. When it see an insect it quickly dart their tongue out. The insect gets stuck to its tongue. it then roll back the tongue and swallow its prey.

- 2. By using their long trunks elephants break branches and leaves from trees and put them into their mouth. Also they use their trunk to drink water.
- A food chain shown the order in which animals eat each other in a 3. community. Plants are eaten by a deer. The deer is eaten by a tiger. The tiger dies and is eaten by a vulture.

Animals which feed only on plants or grass are called plant-eaters or herbivores. Cows, buffaloes and goats are herbivores.



Birds

Warm Up

Do it vourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (✓) the correct option:

Ans. c. Eagle a. wings

c. sparrow

Fill in the blanks: B.

Ans. **Down** feathers keep the bird warm. 1.

- Birds of prey have strong, sharp and hooked beaks.
- 3. An ostrich has long and strong legs for running.
- The vulture makes its nest on high trees.
- C. Write True or False for the following statements:

Ans. True 2. True

3. False

4. False

Answer the following questions: D.

Ans. Birds have three kinds of feathers. 1.

Down feathers keep the bird warm.

Body feathers cover the body.

Flight feathers help the bird to fly.

2. **Tailor bird**: It sews its nest with its beak. The materials it uses to make its nest are thread, wool and vegetable fibre.

Weaver Bird: It uses grass and twigs to make its nest. The nest is strong and big. The entrance is at the lower end of the nest.

Perching birds: Perching birds like sparrows, mynahs, crows and finches have three front toes and one toe at the back. The claws in the toes help them to grip branches or wires.



Man: The Living Machine

Warm Up

Do it vourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

Α. Tick (✓) the correct option:

Ans. 1. c. bones 2. b. brain

- 3. c. carbon dioxide
- **4.** a. Heart

- B. Fill in the blanks:
- All the **organs** together make up an organism. Ans. 1.
 - 2. The process of digestion begins in the **mouth**.
 - 3. The blood takes **oxygen** to all parts of the body.
 - Nerves are wire like structures in our body.
 - 5. The **reproductive** system helps humans to produce babies.
- C. Write True or False for the following statements:
- Ans. 1. True
- 2. False
- 3. True

- 4. False
- 5. True
- Read the clues and find the matching organs: D.
- Ans. 1. Bones
- 2. Oxvgen
- 3. Lungs

- 4. Nerves
- 5. Heart
- 6. Reproduction

- 7. Brain
- E. Answer the following questions:
- Ans. The process of breaking down food into a simple form is called digestion. The organs that help in digestion form the digestive system. The process of digestion begins in the mouth when we eat food. The food is broken down into smaller pieces by chewing with the help of our teeth. The food is mixed with a juice called saliva in the mouth. Then it goes through the food pipe to the stomach. In the stomach, it mixes with the digestive juices. The food then goes to the small intestine. Here the useful part of the food is taken in by the blood and sent to different parts of the body. The undigested food passes from the small intestine to the large intestine. From there it is thrown out of the body through the an us.
 - 2. The system in our body that helps us to breathe is called the respiratory system. It is made up of nose, pharynx, lungs, etc. We breathe in oxygen through our nose and give out carbon dioxide. This oxygen burns up the food we eat and gives us energy.
 - 3. The reproductive system helps humans to produce babies. Men and women have different reproductive systems.
 - 4. Our body is made up of bones. They are very hard. All the bones are joined together to form a skeleton. The skeleton gives shape, size and support to our body.
 - 5. The system that helps to throw or 'excrete' waste products is known as the excretory system. The organs that help to do this work are kidneys, lungs, and skin. The waste products are thrown out through the kidneys, lungs and skin in the form of urine, carbon dioxide and sweat respectively.

Safety and First Aid

Warm Up Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

Α. Tick (✓) the correct option:

Ans. 1. b. footpath **2.** c. blade

v.

a. zebra crossing

b. moving bus

B. Match the following:

Ans. 1. Do not try to get into or iv. get off a moving bus. safety rules.

2. We should follow

i. gas stove.

3. Stay away from the

the footpath. ii.

4. Always walk on 5. An Injured person is given

iii. first aid.

C. Fill in the blanks:

Ans. 1. Being safe means avoiding dangers.

- 2. One must be careful with Fire.
- 3. Do not **run** on stairs.
- **4.** Always cross the **road** at the zebra crossing.
- 5. Do not **crowd** around the injured person.

D. Answer the following questions:

Ans. Do not try to get into or get off a moving bus.

Do always walk in line, and never push or hit anyone.

Never jump on or run around benches. You might get hurt.

Do not run on stairs.

- 2. (a) We should always burst crackers with the help of an adult.
 - (b) We should not burst explosive crackers.
- (a) We should not take medicines on our own because only doctors know that what medicine is suitable for any desease by taking a wrong medicine we can harm ourselves.
- The first help rendered to an injured person is called first aid.



Housing and Clothing

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (✓) the correct option:

Ans. 1. c. straw 2. b. sheep

a. plant fibre 3.

B. Name the following:

Ans.

C.









Silk Worm

Cotton Plant

Camel

Cotton threads

Fill in the blanks:

Ans. We feel happy and safe in our house.

- Stilt houses are made of wood. 2.
- 3. We should throw the garbage in the dustbin.
- **Cotton** is obtained from the cotton plant.
- Synthetic clothes should not be **squeezed** after rinsing.

D. Write True or False for the following statements:

Ans. 1. True 2. False 3. False

False 4.

5. True

Answer the following questions: E.

- Ans. A house protects us from wind, rainfall and heat. It also protects us from enemies and thieves. We feel happy and safe in our house.
 - 2. Different materials like mud, bamboo, straw, bricks, cement, stone etc can be used to build a house.
 - Keep the drains covered. Mosquitoes breed in uncovered drains or 3. stagnant water. Do not allow water to stagnate.
 - Fibres that come from either plants or animals are called natural fibres.
 - We should cover the windows of our house with wire netting to protect our selves from mosquitoes and insects.



Solids, Liquids and Gases

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (\checkmark) the correct option :

Ans. 1. c. Book **2.** c. Both of these

b. Gas

B. Fill in the blanks:

Ans. 1. Matter has 3 states.

- Gas cannot be seen. 2.
- 3. Water in its gaseous form is called water vapour.
- **Solids** have a fixed shape and size.
- 5. Water changes into water vapour on heating.

- C. Write True or False for the following statements:
- Ans. 1. False
- 2. True
- 3. True
- 4. False

- Answer the following questions: D.
- Ans. The three forms of water are solid, liquid and gas.
 - 2. The process by which a liquid changes into its solid form is called freezing.

The process by which a solid changes into its liquid form is called melting.

The process by which a liquid changes into its gaseous form is called evaporation.

3. Differences between solids, liquids and gases.

Solid	liquid	gas
(1) has a fixed shape	don't have fixed	don't have any shape
and size	shape and size.	or size.
(2) They can not be	They can be poured.	They can be poured.
poured		
(3) They can neither	They take the shape	it occupy space and
change it's shape	of the container they	can flow easily.
nor can flow	are kept in, and flow	
	easily.	We can't see them
(4) We can see them	We can see them	

4. The form of water changes on heating and on cooling. If we keep some water in the freezer, the water changes into ice (solid form) and if we heat some water, the water turns into water vapour (gas form).



Soil

Warm Up

Do it vourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

- A. Tick (✓) the correct option:
- Ans. **1.** b. gravel
- 2. c. Both
- 3. a. Humus

- B. Fill in the blanks:
- Ans. 1. **Soil** is the topmost layer present on the Earth's surface.
 - The process of soil formation takes **hundreds** of years. 2.
 - 3. Soil contains water and air.
 - 4. **Clayey** soil holds a lot of water.
 - 5. Plants get their **nutrients** from soil.

C. Write True or False for the following statements:

Ans. 1. False 2. False 3. True

False

5. False

D. Answer the following questions:

- Ans. The dead leaves and insects become humus of the soil. This humus helps plants to grow well.
 - 2. Soil is a mixture of minerals, broken rocks, water, air, decaying plants and other substances.
 - 3. Take some soil in a container. Cover it with a lid. Heat the container for some time. Open the lid, we see the drops of water on the lid.

This shows that soil contains water

Soil is formed from rocks. The Sun's heat, rain and wind help the big rock to crack and break into smaller pieces. This process is known as weathering.

These smaller pieces are blown away by the wind and further broken down into a powdery mass of soil.

Green Pages

Do your self



Measurement

Warm Up Do and Learn

Do it yourself. Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (✓) the correct option:

Ans. a. length 1.

2. a. capacity

b. 1 minute

4. b. capacity

B. Fill in the blanks:

Ans. 1. Metre is the standard unit of length.

- 2. Capacity is the quantity of a liquid which a vessel can hold.
- 3. capacity is measured by measuring cylinders.
- 4. We use **clocks** and **watches** to know the time.
- Time is measured in **hours**, **minutes** and **seconds**.

C. Write True or False for the following statements:

Ans. 1. True 2. False 3. True

True

5. False

D. Answer the following questions:

- 1. We need to measure the time for doing many things of our daily activities. Ans.
 - Capacity is the quantity of a liquid which a vessel can hold. 2.
 - Mass tells us how heavy or light an object is. Weight is measured in 3. grams (g) and kilograms (kg).

- 4. Time is measured in hours, minutes and seconds. 1 day = 24 hours; 1 hour = 60 minutes; 1 minute = 60 seconds.
- Length tells us how long something is.



Light, Sound and Force

Warm Up Do it yourself. Do and Learn Do it yourself. CHECKPOINT Do it yourself.

EXERCISE

loud and unpleasant

Α. Tick (✓) the correct option:

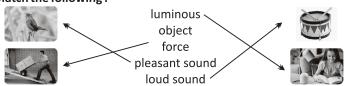
Ans. 1. b. Sun 2. a. Table

c. light 3.

- b. Jet plane
- B. Fill in the blanks:
- Objects that give light are called **luminous** objects. Ans.

5.

- 2. **Opaque** object does not allow light to pass through it.
- Outdoor shadows are longer in the morning and evening. 3.
- **Unpleasant** sounds are called noise.
- A push or a pull is called **force**.
- C. Match the following:



D. Circle the odd one out:

Do it yourself.

E. Answer the following questions:

- Ans. The Sun, candle, diya and lamp are examples of objects that give light. An object that gives out light is called a luminous object. Paper, table, kite, and bed are examples of objects that do not give
 - light. An object that does not give out light is called a non-luminous object.
 - 2. You push or pull to open a door. You pull to open a drawer and push to close it. A push or a pull is called force. Force is not something you can see or touch. But you can feel it. You can also use it to do many things. A girl pulls a trolley of different things—the trolley starts moving.
 - A shadow is formed when an object blocks the path of light.
 - We like the sounds of soft music, chirping of birds and someone singing in tune. These sounds make us happy. Such sounds are pleasant to hear. We dislike the sounds of loud music, honking of horns and screaming people. These sounds annoy us. Such sounds are unpleasant to hear. Unpleasant sounds are called noise.

5. Unpleasant sounds are called noise.

Noise disturbs people. Too much of noise can also damage our ears. So, we should:

speak softly

avoid too much honking

keep the volume of radio and television low.

6. Friction is a special force that slows down a moving object. When there is very less friction, things tend to slide. When the fiction is more, things do not move easily.



Air, Water and Weather

Warm Up Do it yourself.
CHECKPOINT Do it yourself.

EXERCISE

A. Tick (✓) the correct option:

Ans. 1. b. wind **2.** b. cool

B. Fill in the blanks:

Ans. 1. We can feel air when it moves.

- 2. Plants need carbon dioxide to make food.
- 3. Ice, water and water vapour are the three states of water.
- 4. The condition of the air of a place at a particular time is called weather.
- C. Write True or False for the following statements:

Ans. 1. True

2. True

3. True

4. False

D. Answer the following questions:

- **Ans. 1.** In the morning and evening, the sunrays are slanting. So, mornings and evenings are cool. But at noon, the sunrays fall directly overhead. So, noon is the hottest time of the day.
 - 2. A cloudy day is cooler than a sunny day because the sun-rays cannot reach us directly. The clouds block the sun rays.
 - 3. The condition of the air of a place at a particular time is called weather. The air around us is sometimes hot and sometimes cold. That is why days can be hot, cold, rainy or dry. The weather keeps changing because of the sun, wind, clouds and rain.
 - During the year, the weather remains more or less same for a few months. This is called a season.
 - **4.** This makes the water warm. It changes into water vapour and rises up. This is called evaporation.

High up in the sky the air is much cooler. When the water vapour rises and reaches the cool air it turns into tiny drops of water. It forms clouds. When water vapour changes to water we say that condensation has taken place. On further cooling, the clouds become too heavy and drop water as rain. This rain water goes back to the different water bodies and some seeps underground. This

continuous cycle of changing forms of water in nature is called the water cycle.



Heavenly Bodies

Warm Up Do it yourself. Do and Learn Do it yourself. CHECKPOINT Do it yourself.

EXERCISE

Tick (✓) the correct option: Α.

Ans. 1. b. planet 2. a. 5400°C-6000°C

3. c. Moon 4. b. Ceres

B. Fill in the blanks:

Ans. Each planet moves along a fixed path called an **orbit**.

> The Earth is the **third** planet from the Sun. 2.

3. The Sun is the closest **star** to the Earth.

4. The moon reflects the light of the **Sun**.

The groups of stars forming a definite shape are called **constellations**.

Write True or False for the following statements: C.

Ans. True 1.

2. True

False 3.

True

False

D. Answer the following questions:

Some of these stars from different patterns or designs in the sky. These Ans. groups of stars are called constellations.

> Constellations have been named after animals or mythical people. Ursa Major (the Great Bear), Orion (Hunter) and Scorpin are three famous constellations in the sky.

- 2. The moon also seems to change shape over the month. Sometimes the moon is round like a circle. At other times, the moon is arc-shaped like a banana. The different shapes of the moon are called phases of the moon.
- Satellites are the bodies which move around the planets. Our Moon 3. takes about 27½ days to complete one revolution round the Earth. Moon has no light of its own. It reflects the light of the Sun. There is no air and water on the moon. There are huge holes on the surface of moon which are known as craters.
- The Earth is a planet. Like the Earth, there are seven other planets that go around the Sun. Each planet moves along a fixed path called an orbit. The Sun and the eight planets make up the Solar system.
- 5. The Sun is a star. This star is closest to the Earth. It is in the centre of the solar system. The planets and other heavenly bodies move around it. It has its own heat and light. The temperature of the Sun's surface is around 5400°C – 6000°C.

Our Planet—The Earth

Warm Up

Do it yourself.

Do and Learn

Do it vourself.

CHECKPOINT

Do it yourself.

EXERCISE

Α. Tick (✓) the correct option:

Ans. 1. a. rotation 2. a. revolution

c. 24 hours a day

4. c. pollutes the air

B. Fill in the blanks.

The Earth is **round** in shape. Ans.

- 2. The imaginary path on which Earth rotates is called the axis.
- The spinning of Earth on its axis is known as **rotation**. 3.
- Rotation of Earth causes day and night.
- The Earth's movement around the Sun is known as **revolution**.

C. Write True or False for the following statements:

Ans. True 2. True 3. False

4. True

False 5.

D. Answer the following questions:

Ans. Earth formed when gravity pulled swirling gas and dusty in to become the third planet from the sun.

- 2. Rotation Causes Day and Night: Half of the Earth is always facing the Sun and the other half is away from the Sun. The part of the Earth facing the Sun receives sunlight and has day. The other half which is away from the Sun is in darkness and has night.
- 3. The Earth spins on its own axis like a top, all the time. An axis is an imaginary straight line from one end to the other passing through the centre of the Earth.
 - It is also slightly tilted to one side. The Earth spins anticlockwise, that is, from west to east. The Earth takes 24 hours to complete one rotation.
- The difference between rotation and revolution is that the Earth spins on it's own axis like a top, all the time, this is called rotation. On the other hand, revolution is the earth's movement around the sun in a fixed path called orbit. If rotation does not take place, then there would be constant darkness on some parts of the earth and the rest part would be in sunlight.
- 5. Air, water, plants, animals and the place we live in, all form a part of our environment.

SCIENCE-4



Food and Nutrition

Warm Up

Do it vourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

Α. Tick (✓) the correct option:

Ans. **1.** b. carbohydrates 2. c. proteins **3.** b. roughage

PEAS

B. Unscramble the following words with the help of clues given below:

Ans. **1.** A body-building food AESP

> **2.** An energy-giving food IEAZM MAIZE

> 3. A protective food PFAPI APPLE

4. A preserved food AJM JAM

C. Fill in the blanks:

Ans. 1. Our body needs **food** for energy.

> 2. **Sugar** and **starch** are two types of carbohydrates.

3. All the cells of the body contains **Protein**.

Incorrect posture can lead to pain in **joints** and **muscles**.

D. Answer the following questions:

- Ans. All living thing need food. Food gives you energy to work. It helps you to grow and keep healthy. It also help in repairing the wear and tear of your body.
 - 2. Sugar and starch are two types of carbohydrates. People who do physical work need more carbohydrates.

Proteins are an important part of the food stuff. They are the nutrients which help us to grow.

- 3. The diet that provides all the nutrients in the right amount is a balanced diet. A balanced diet keeps you fit and healthy.
- To preserve food we generally:

Freeze it as in ice cream or custard.

Can it as in tinned food.

Salt it as in pickles.

Sweeten it as in jam, jelly and chutney.

Oil it as in pickles.

Dehydrate it, i.e., remove water by drying the food.

Food thus preserved lasts longer.

2

Our Food—Teeth and Digestion

False

4.

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (✓) the correct option:

Ans. 1. b. no teeth **2.** a. 32 permanent teeth

3. b. is good for teeth **4.** a. bile

B. Fill in the blanks:

Ans. 1. Teeth play an important role in keeping us healthy.

2. Premolars and molars are flat, grinding and chewing teeth.

3. Germs feed on the leftover food particles.

4. Walls of stomach are made of muscles.

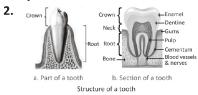
C. Write True or False for the following statements:

Ans. 1. True 2. False 3. True

D. Answer the following questions:

Ans. 1. All the teeth are not alike. They have different shapes. Their shapes depends on their functions.

The four teeth at the front of each jaw are specially made for cutting the food. They are called incisors. There are two pointed teeth, one on each side of the incisors. Their work is to grind and tear the food. They are called canines. The remaining teeth are flat, grinding and chewing teeth. They are called premolars and molars. There are four premolars—two on each side of a jaw. Behind these are the molars which are broader than the premolars. There are six molars in each jaw—three on each side.



3. Many types of germs live in the mouth. Germs are tiny living things which cause disease. They feed on the leftover food particles and give out a substance called acid. The acid damages the enamel. Slowly a hole called cavity is formed. The hole gets deeper in the tooth and reaches the dentine and then the pulp. The nerves in the soft pulp began to pain. Then it is difficult to chew the food. This causes

- indigestion. Cavities cause pain, bad breath and indigestion. A visit to the dentist becomes necessary in such cases.
- We should we should clean your tongue properly.
 - We should rinse our mouth after every meal.
 - We should not eat too much of sticky foods, sweets and soft drinks.
 - We should eat food that contains calcium and vitamins A, C and D. Foods like milk, cheese, fruits and green leafy vegetables are good for teeth. Apples and raw carrots are considered very good for teeth.
- The food we eat undergoes certain process. These processes result in the formation of substances which can dissolve in blood. These processes are together called digestion of food.



Plants—Making Food

Warm Up

Do it vourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

Α. Tick (✓) the correct option:

- Ans.
 - 1. b. oxygen 2. a. chlorophyll 3. c. producers
- B. Fill in the blanks:
- **Plants** are the only living things capable of making their own food. Ans. 1.
 - Chlorophyll helps the **Plants** to absorb sunlight. 2.
 - 3. Leaves make food with the help of **sunlight**, **water** and **carbon dioxide**.
 - **Glucose** is food prepared by the plant.
 - **Peas** and **chickpeas** are edible seeds.

C. Match the following:

Ans. 1. Seed

> 2. Stem eaten as food

3. Roots

4. Starch

Sunrays

iv. Chickpeas

iii. Sugarcane

Radish V.

i. Potato

ii. Energy

Answer the following questions: D.

Ans. The leaves of plants are generally green as they contain chlorophyll. Chlorophyll is a green substance present in leaves, which helps the leaf to absorb sunlight. A few types of leaves are shown below. Stomata are tiny holes mostly found on the under surface of leaves.

Gases enter and go out of the leaf through the stomata.

Leaves prepare food for the plants. They are, therefore, called the kitchen or the food factories of the plants.

- 2. Plants are the only living things capable of making their own food that is why they are called producers.
- The process by which leaves make their own food is called 3. photosynthesis. The food prepared by the plant is glucose. It is used by the plants to grow and live.
- 4. No, a leaf which is located with wax will not be able to make it's food because it will not be able to inhale carbon dioxide.
- 5. Green plants are the main producers of food. Animals depend on these plants for their food. Thus, a chain exists in nature for obtaining food. A chain that shows a series of organisms where each member depends on the lower member in the series for food is called a food chain. Besides, plants also give out oxygen, which is needed by animals to breathe. Animals in return give out carbon dioxide, which is needed by the plants for photosynthesis.



Plants—Living and Surviving

Warm Up

Do it yourself.

Do and Learn

Do it vourself.

CHECKPOINT

Do it yourself.

EXERCISE

Tick (✓) the correct option: A.

Ans. b. coniferous plants 2. a. leaves 3. a. in water

Mushroom

iv.

В. Fill in the blanks:

Ans. 1. Plants grow almost everywhere.

- 2. **Pine** and **deodar** are some plants found in mountains.
- 3. Desert plants have **spines** and **thorns** instead of leaves.
- Lotus and hydrilla are examples of fixed aquatic plants. 4.
- Pitcher plant has a pitcher-shaped leaf.

C. Match the following:

Ans. 1. Non-green plants

> 2. Aquatic plants iii. Lotus Marshy area Sundri 3. i.

4. Coastal area ii. Coconut

Answer the following questions: D.

- Ans. Plants that grow on land are called terrestrial plants. Terrestrial plants are of many types and grow on different types of land.
 - 2. Water is scarce in deserts, these plants are adapted to survive with least amount of water. Most of the plants grow without leaves or have very few leaves. Some desert plants have spines and thorns instead of leaves. Spines prevent loss of water.

3. Plants grow in oceans, seas, ponds, and lakes are called aquatic plants. Aquatic plants are of three kinds: Plants, fixed plants, and floating underwater plants.

Floating Plants

These plants float on water due to their small size and light bodies. These plants have spongy stems.

Duckweed, pistia and water hyacinth are examples of floating plants.

Fixed Plants

Some aquatic plants have roots that are fixed to the bottom of the pond. They have light and hollow steams. Their flowers and broad leaves float on the surface of water. Their leaves have stomata on the upper surface. Such plants are called fixed plants. Examples are lotus and hydrilla.

Underwater Plants

Plants that grow underwater have leaves that are narrow and long. Their body is flexible so that they can move with the water current. They have no stomata. They breathe through their body surface. Underwater plants keep the pond clean. Examples of underwater plants are tape grass and pond weed.

Plants are very useful to us. Everyday we use things made from plants, in some form or the other.

We all depend on plants for food. Fruits, vegetables, oil, sugar, cereals, pulses, nuts, spices, etc. are all plant products. Tea, coffee, and cocoa beans are also obtained from plants.

Soaps and shampoos have vegetable oils, which also come from plants. Plant fibres like cotton and jute are used to make clothes, carpets, sacks and ropes. Flax is another type of fibre that we get from plants. Coconut plant gives us coconut oil, coconut water as well as a fruit to eat.

Stems of bamboo plant are used to make paper. The hollow stem cane is used to make baskets, nuts, mats, furniture, walking sticks, curtains.



Animals and Their Young

Warm Up

Do it vourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (✓) the correct option:

Ans. b. reproduction 1.

a. yolk 2.

3. b. pupa

c. wriggler

B. Fill in the blanks:

Ans. 1. Each egg has a hard **protective** outer shell.

- 2. The young ones of **butterfly** are very different from adults.
- 3. Moulting is shedding of old skin.
- 4. Most mammals live on land and breathe through lungs.

C. Match the following:

Ans. 1. Pupa iii. Barrel-shaped larva2. Cacoon iv. Covering of the pupa

3. Larva **ii.** Young one hatched from the egg

4. Nymph i. A young cockroach

D. Answer the following questions.

Ans. 1. No living being lives forever. For life to go on, each living being should leave behind one of its own kind. Otherwise the kind or race would die out. Every living being has the ability to reproduce. The process by which new living beings, resembling their parents, are produced is called reproduction.

2. Animals that do not lay eggs give birth to young babies that feed on their mother's milk. Such animals are called mammals.

Most mammals have hair on their body.

Mammals have very well-developed brains.

- 3. Birds reproduce by laying eggs. They lay eggs in nests and sit on them to keep them warm. The eggs hatch and baby birds come out. They are of the same kind as the parent bird.
- 4. Female frog lays hundreds of eggs at a time in a lake or a pond. The eggs are surrounded by a jelly-like substance which protects the eggs. When the eggs hatch, tiny young ones come out. These are called tadpoles. Tadpoles look like small fish. They swim in water and eat water plants. After a few weeks, they start to grow legs, organs and limbs. Their tail slowly disappears. After some time, they grow into adult frogs.



Life-cycle of a Frog

5. All insects lay eggs. The young ones of most of the insects are very different from adults. They undergo several stages before becoming an adult. This process is called metamorphosis.



Animals—Living and Surviving

Warm Up

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

3.

EXERCISE

Α. Tick (✓) the correct option:

b. fishes Ans. b. hibernation 2. b. flesh a. chameleon 4.

B. Fill in the blanks:

Ans. 1. Animals without a **backbone** are called invertebrates.

- **Gills** are the respiratory organs of fish. 2.
- Animals that eat both animals and plants are called **omnivores**. 3.
- 4. Arboreal animals have adapted themselves to move in trees.
- The **tiger** and **chameleon** are very good at camouflage.

C. Write True or False for the following statements:

Ans. 1. True 2. False 3. True

4. True 5. False

D. Answer the following questions:

Ans. The camel is the best example of adaptation in extreme heat and dry conditions. It has broad, padded feet to walk comfortably on sand. After the camel eats food, the extra food and water changes to fat and gets stored in the camel's hump.

> Then the camel can go on for days without food and water. Camels have long, thick eyelashes to keep safe from sand during sandstorms. They are also able to close their nose during a sandstorm.

- 2. Fish live only in water. They have respiratory organs called gills with which they breathe and fins which help them to swim.
- The polar bear lives in the ice bound polar region. It have a thick white 3. fur on its body. The fur protects it from the severe cold.
- 1. Herbivores: Land animals that are herbivores have hard hooves so 4. that they can walk long distances to look for food. Their front teeth are adapted for breaking off parts of plants. Their back teeth are good for grinding up plant matter.
 - 2. Carnivores: The animals which eat flesh are knows as carnivores. They have long canines which help them to tear flesh easily.
 - 3. Omnivores: Animals such as bears, crows, cockroaches, and humans, eat both plants and meat.
 - 4. Scavengers: Some flesh eating animals feed on the flesh of dead animals, they are called scavengers.
 - **5. Parasites:** These creatures depend upon other living animals for food.
- The colour, shape or markings of some animals make it difficult for them to be seen in their surroundings. This trick is called camouflage. A tiger's striped coat is good camouflage in the jungle grass. Deer have spots which blend in with the surrounding spots of sunlight.

Clothes and Weather

Warm Up

Do it yourself.

Do and Learn

Do it vourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (\checkmark) the correct option :

Ans. b. winter season 2. a. protection 3. a. summer

В. Fill in the blanks:

> **Clothes** prevent insects from biting us. 1.

2. We should wear **light-coloured** clothes in summer.

Jackets and coats are winter clothes. 3.

A **uniform** is a set of similar-looking clothes.

We must wash dirty clothes with a detergent.

C. Write True or False for the following statements:

Ans. 1. True

D.

2. True

True 3.

4.

False 5. True Answer the following questions.

Ans. Because clothes protect us from heat and cold. They keep us safe and comforatble.

2. Natural Fibres: Natural fibres are obtained from natural sources like plants and animals and include cotton, wool, flax, silk and leather. Cotton clothes are made from cotton. It is obtained from the cotton plant. The raw cotton picked from the plants is made into fibres. These are then woven to make cloth.

We get wool from the fleece of camel, sheep and goat by the process of shearing.

The silk clothes of ours are made from silk. The cocoon of the silkworm is given a special treatment to obtain silk.

The skin of dead animals is used to make leather clothes, such as jackets and coats.

Synthetic or Man-Made Fibres: Synthetic fibres are man-made. Special chemical made from by-products of petroleum are used for making synthetic fibres. Clothes made from these fibres are called synthetic clothes. Nylon, polyster and rayon are synthetic, man-made fibres. They are wrinkle free, waterproof, stretchable, etc.

In winter season, we wear thick clothes. They are made of wool, fur, leather or thick cloth. They keep us warm.

4. A set of similar-looking clothes worn by a group of people is called a uniform.

Students wear uniform of their respective school.

Doctors wear a white coat and nurses wear a white uniform.

Soldiers and policemen wear special uniforms made of tough materials.

5. Clothes provide us protection. We should look after them to make them last long. For this, we must wash dirty clothes with a detergent and dry them in sunlight so that the germs are killed. We should protect woollen clothes from silver fish. For this, we should put napthalene balls in the boxes in which we store woollen clothes.

Green Pages

Do your self



Matter

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

Tick (✓) the correct option: A.

Ans. a. water vapour 2. b. liquid

a. Gas

a. Physical change

B. Name the following:

Ans. 1. Process by which a liquid changes into a solid: Freezing

2. Process by which solid changes into liquid: melting

3. Substance dissolved in a liquid: solute

A mixture of a solute and solvent:

solution

C. Fill in the blanks:

- Ans. 1. Matter takes up some **space** to make a substance.
 - 2. Matter is made of very tiny particles called **molecules**.
 - The space of a **solid** does not change with change in position. 3.
 - 4. **Evaporation** is the changing of water into steam.
 - A physical change is a **reversible** change.

D. Match the following:

Ans. 1.

iv. Solid

2.

iii. Gas

3.

Liauid V.



i. Ice



Steam

E. Answer the following questions:

- **Ans.** 1. Any substance that has weight and occupies space is called matter.
 - 2. Solids are substances in which the particles are packed very close to each other. That is why solids have a definite shape and volume, and they occupy definite space.
 - 3. Liquids can flow easily because their particles are loosely packed while the particles of solids are packed very close to each other.
 - **4.** Two difference between soldiers, liquids and gases.

Solid	liquid	gas
		The substances of gases are very loosely packed.
	take the shape of the	Gases have no definite shape and volume. They move freely in any direction.

- 5. 1. Physical change: The change in which the molecules of a substance do not form new molecule is called a physical change. It is a reversible change. melting of a candle, slicing of bread, melting of ice, etc. are some examples of physical change.
 - 2. Chemical change: The change in which new molecules are formed is called a chemical change. It is an irreversible change.
 - Burning paper, cooking of vegetables, baking of cake, etc. are some examples of chemical change.



Safety Rules

Warm Up

Do it yourself.

Do and Learn

Do it vourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (✓) the correct option:

Ans. 1. a. matchsticks

2. b. first aid

3. c. slipping

4. a. Helmet

B. Fill in the blanks:

Ans. 1. Synthetic clothes like **rayon** and **nylon** can catch fire easily.

2. We should not leave our **toys** lying around on the floor.

Science-4 44

- 3. Always swim in the presence of an adult.
- We should walk on the left side on the pavements of the road. 4.
- We should not let **dust** or **flies** settle on the wound.

C. Write True or False for the following statements:

Ans. 1. True

E.

2. False 3. True

4. True

False 5.

D. Match the following:

Ans. 1. Accidents iii. Can happen any where anytime.

2. Cotton clothes i. Useful when near a fire.

3. Bathroom floor v. should be kept dry. ii. Ideal place to walk on.

4. Pavement

iv. Immediate help

5. First aid Answer the following questions:

Ans. If you are careless in your house, there are many things that can cause accidents. Therefore, you must follow some safety rules at all time.

Wear cotton clothes when you have to be near a fire.

Synthetic clothes like rayon and nylon can catch fire easily.

When something spills on the floor, wipe it off immediately, or someone may slip and fall.

Never climb on tables and chairs. Always use step-ladder to reach things stored on high shelves.

In the Bathroom: Never leave any shampoo or soap on the bathroom floor. You can slip on it and injure yourself.

Never open the hot water tap yourself. You may burn your hands. Ask an adult to fill both hot and cold water for you.

2. In the Kitchen: Never play with knives or matchsticks. Ask an adult to teach you how to use a knife.

Wear cotton clothes when you have to be near a fire.

Synthetic clothes like rayon and nylon can catch fire easily.

In the Bathroom: Never leave any shampoo or soap on the bathroom floor. You can slip on it and injure yourself.

Never open the hot water tap yourself. You may burn your hands. Ask an adult to fill both hot and cold water for you.

Do not play with razors, blades and scissors kept in your father's shaving kit.

On the Road

Do not walk in the middle of the road. Always walk on the pavements of

Never cross the road from behind a standing vehicle.

Do not play on the road.

- 3. First aid is the first help you give to an injured person. It can prevent a lot of suffering and, sometime, even save a life.
- 4. To treat an insect bite, apply a paste of baking soda and cold cream, or a paste of baking soda and water on the affected area. You could also apply an antiseptic cream.

5. To treat a burn, wash or dip the area in cold water till the burning stops. Water help to cold the burnt area.



Soil

Warm Up

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

Α. Tick (✓) the correct option:

Ans. 1. c. humus 2. c. Ohorizon

a. humus

4. c. both of these

В. Fill in the blanks:

Ans. Soil is needed for the **growth** of crops. 1.

> 2. **Soil** is formed by the breaking down of rocks into tiny particles.

3. **Loamy** soil is usually very good for growing plants.

The Chorizon contains weathered rocks. 4.

Wind causes a lot of soil erosion in **desert** regions.

C. Write True or False for the following statements:

Ans. True 1.

2. True 3. False

4. True 5. False

Match the words in Column A with the words in Column B and Column C: D.

Ans.		Column A	Column B	Column C
	1.	Soil	c. Deforestation	Rich in humus
	2.	O horizon	a. One-inch layer	Millions of years
	3.	Loam	d. Humus, clay, sand	Best soil for agriculture
	4.	Erosion	b. Uppermost layer	Overgrazing
	5.	Conservation	e. Crop rotation	Terrace farming

Answer the following questions: E.

- Ans. Soil is defined as the layer of sand, organic matter, and minerals on the Earth's surface with some amount of water and air in it.
 - Soil profile refers to the layers of soil. Plant roots move through the top 2. layers of the soil. Small animals like earthworm digest the food that they find in the top layer of the soil and mix the soil with their movements. The layers of the soil are called horizons.

The O horizon is the topmost horizon. This is a thin one-inch layer and is very dark in colour. It contains a lot of living material and humusplants, decaying leaves, etc.

The A horizon is below the O horizon. It is made of minerals and is the location of many plant roots. Microbes such as bacteria and fungi live in this layer of the soil.

The B horizon is below the A horizon. It is also known as the subsoil

layer. This horizon is light in colour and has less organic material than the layers above it.

The Chorizon is below the Bhorizon.

It contains weathered rocks.

The R horizon is the lowest horizon. It is a layer of bedrock. Bedrock is a solid rock layer.

3. Depending on the size, feel, and colour of the soil particles. There are mainly three types of soil.

Gravel consists of tiny stones and does not hold water well. It has gaps between the stones that allow water to pass easily.

Sand is light and dry. Water passes easily through this kind of soil as the particles are rough.

Clay particles are extremely fine. Clay becomes very heavy and quite sticky when wet. Water does not flow freely through this soil.

4. The process of carrying away of topsoil by natural forces, such as water and wind, is called soil erosion.

Natural Causes of Soil Erosion

Running water and rainfall are prime causes of soil erosion. Rivers, and flowing streams of rainwater, etc., loosen the topsoil and carry it with them to deposit it elsewhere. This process is called silting.

Man-made Causes of Soil Erosion

Humans cut down trees to clear land to build houses and factories, to get wood, etc. Cutting of trees makes the soil loose. Loose soil is prone to soil erosion.

5. Soil erosion can be prevented and controlled by soil conservation. When we try to save our soil it is called soil conservation.

We can protect or conserve soil in the following ways.

- 1. The number of trees planted should be more than the number of cut down trees.
- 2. We should grow different types of crops in the same field to maintain the fertility of the soil. This is called crop rotation.



Force, Work and Energy

Warm Up

Do it yourself.

Do and Learn

Do it vourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (\checkmark) the correct option:

Ans. 1. a. force

2. b. gravitational force

Science-4 47

3. c. Axe

4. a. easv

- Fill in the blanks: В.
- Ans. **Force** can stop a moving object.
 - Smooth surface like **snow** or **road** cause less friction. 2.
 - 3. The **axle** is a rod that goes through the wheel.
 - Work is done only when the body moves.
 - Atomic energy is used for producing **electricity**.
- C. Match the following:
- Ans.
 - 2.

- **b.** solar cooker
- wind mill C.
- hydroelectricity
- a screw
- D. Answer the following questions:
- Ans. A pull or push acting on an object is called force.

There are different types of forces. But two types of force, are acting all the time, namely, gravitational force and frictional force.

2.







- A moving body stops due to frictional force. When we roll a ball along the ground, it stops after some time. The ball stops because, as its surface rubs against the rough surface of the ground, the roughness causes the ball's movement to slowdown and finally stop. This force is known as friction force.
- Lever is generally a board or bar that rests on a turning point called fulcrum. Lever is used to left weights, cut things, open lids. For example, seesaw, scissors, bottle opener, etc.
- Three forms of energy are: (1) Solor energy (2) Chemical energy (3) Nuclear energy



Air, Water and Weather

Warm Up

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

- Α. Tick (✓) the correct option:
- Ans. 1. b. Weather
- 2. b. day
- 3. a. quickly

- B. Fill in the blanks:
- Ans. 1. The heat of the **sun** causes the wind to blow.
 - 2. The amount of water vapour in the air is called **humidity**.
 - In **coastal** areas we can experience land and sea breezes.

- 4. Rain is purest form of water.
- 5. **Boiling** is the most common process of purifying the water.
- C. Write True or False for the following statements:

Ans. 1. False

D.

2. False

3. True

4. True

5. True

Answer the following questions:

Ans. 1. Weather is the state of the atmosphere of a place at a particular time in relation to heat, cloudiness, dryness, sunshine, wind and rain.

2. Even though we cannot see the water vapour, it is there in the air. The amount of water vapour in the air is called humidity. We can see it once it is condensed. We can see the condensed water vapour in many different forms. Some of these forms are given below:

Rain: The water vapour condenses and falls to the ground as rain in the form of tiny droplets of water.

Hail: Sometimes raindrops grow in size and are then frozen to form hard balls of ice called hailstones or hail.

- 3. At night, the land cools down faster than the sea. The air above the sea water is warmer than the air above the land. Warm air rises and cool air from the land rushes towards the sea. This is called land breeze.
- 4. Filtration is the most common process of purifying the water. In this process, water is passed through a filter paper. Impurities are left behind on the filter paper and clean water is collected in a container below. This process of removing impurities by passing water through filter paper is called filtration.
- **5.** Factors Affecting Rate of Evaporation

Temperature: Higher the temperature, faster is the rate of evaporation. Wet clothes dry faster in the hot sun than in the shade.

Wind: Wet clothes will dry faster under a fan blowing air on them than the clothes which are kept for drying in still air.

Surface area: A wet cloth, which is spread out will dry faster than a wet cloth, which is folded because a larger area is exposed for drying.



Our Earth and Its Neighbours

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (✓) the correct option:

Ans. 1. a. days and night

2. a. Neptune

3. a. A star

a. day

B. Fill in the blanks:

Ans. 1. The **sun** is called the 'morning star'.

- 2. The **mercury** is the smallest planet.
- The **saturn** is the planet with rings around it. 3.
- 4. The Earth rotates from **North to South** on its axis.
- Life is possible only on earth.
- C. Write True or False for the following statements:

Ans. 1. False 2. False 3. True

True

5. True

D. Answer the following questions:

Ans. Stars and planets are different from one another. A star is a huge ball of gases.

> A star has its own light and heat. Stars look small because they are very far from us.

> A planet is a big ball of rocks. Planets do not have light and heat of their own. They reflect the light of the Sun. All planets moves around the Sun along a fixed orbit.

- 2. Jupiter, Saturn, Uranus and Neptune are called outer planets. They are made up of frozen gases.
 - Mercury, Venus, Earth and Mars are the inner planets. They are made up of rocks and iron.
- 3. The Earth is made up of three layers. The outermost layer of the Earth is called the crust. It is the coolest layer. We live on this layer. It consists mostly of rocks, like granite and basalt. The middle layer is called the mantle. It is a thick layer of rocks rich in iron and magnesium. The innermost layer, or the centre of the Earth, is the hottest; it is called the core. It is further divided into a liquid outer core made up of nickel-iron mixture, and the solid inner core made up of iron.
- **Seasons:** The Earth has a imaginary axis on which it rotates. This axis is tilted. When the Earth revolves around the Sun, due to its tilt, both the hemispheres are not at the same distance from the Sun. Due to this the heat of the Sun and its light do not get distributed equally in those two hemispheres. This results in a difference of temperature and a difference in the length of day and night. This gives rise to the seasons-Spring, Summer, Autumn and Winter.
- 5. **Equator:** An equator is an imaginary line around the middle of a planet or other celestial body.

Axis: A line we imagine through the middle of an object, around which the object turns is called axis.

Rotation: the spinning of the Earth around its axis is known as rotation. **Revolution:** You also know that the Earth also travels around the Sun in a fixed oval-shaped path called the orbit. This movement of the Earth is known as revolution.

Our Environment

Warm Up

Do it vourself.

CHECKPOINT

Do it yourself.

EXERCISE

Α. Tick (✓) the correct option:

Ans. c. sulphur-dioxide 2. c. harmful

3. a. soil erosion 4. b. paper

B. Fill in the blanks:

Ans. 1. The **living** and **non-living** things together makeup our environment.

The presence of harmful substances in air, water and soil is called 2. pollution.

3. Trees provide us fresh and clean air.

Biodegradable wastes are those which can be **decomposed** or **rotted**.

Reuse means to use a thing again which we throw.

С. Match the following:

Ans. 1. Harmful substances

> Cutting down of tree in large numbers 2.

3. Loss of fertile top soil

4. Non-biodegradable waste

Burning of fuels

v. Pollutants

iv. Deforestation

Soil erosion

iii. Plastic

ii. Air pollution

D. Answer the following questions:

Ans. Pollution is the undesirable change in water soil or air that brings down the natural quality of the environment.

2. Do yourself

Controlling Water Pollution: We can save water by following these simple tips.

Waste water from homes should not be allowed to enter wells and other sources of drinking water.

Factories should be prevented from throwing waste into rivers and seas.

We should never not throw plastic bags, bottles, metal cans, etc, into the water.

- 4. Do yourself
- 5. Do yourself

SCIENCE-5



Food and Nutrition

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

Α. Tick (✓) the correct option:

c. Sand Ans. 2. c. both a, and b. 3. b. wind 4. a. irrigation

В. How do the following reproduce?

Ans. 1. Potato : From Stem 2. Carrot from roots 3. Rose From Cuttings 4. Mango from seed Bryophyllum: From leaves Mushroom by formation

of spores

C. Give two examples for each:

Ans. 1. seeds dispersed by wind sycomore and hiptage. 2. seeds dispersed by water water lilies and palm.

3. seeds dispersed by animals mango and range. 4. seeds dispersed by explosion Pea and Bean.

5. microorganisms Fungi and bacteria.

6. sources of irrigation Canal system and tube wells.

7. dicot plants beans and Peas. 8. monocot plants rice and maize. 9. kharif crop Cotton and Jute Wheat and Gram 10. rabi crop

D. Fill in the blanks:

Ans.

Ans. Most of the plants reproduce from seeds. 1.

> 2. Sycamore and hiptage have winged seeds.

3. **Potato** is a stem that grows underground.

Mushrooms and ferns do not bear leaves.

Irrigation is the process of watering the plants in the fields.

E. Write True or False for the following the statements.

Ans. 1. True 2. False False 3.

> 4. False 5. True

Answer the following questions: F. Parts of a Seed

Seed coat : The seed coat is the outermost covering of the seed. The

seed coat has a tiny hole through which water enters inside. It protects the baby plant.

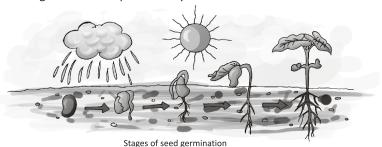
Cotyledons: The cotyledons are also called seed leaves. They lie under the seed coat. They store and provide food for baby plant till it gets its new leaves.

2. Germination is the process by which a seed produces a baby plant or seedling in the presence of water, air and warmth. If any one condition is missing, the seeds will not germinate.

Take three open glass bowls and perform the activity as shown in the three images. Ensure that the cotton does not dry up.



Observe the seeds for a day or two. In which bowl did you find the seeds germinate into plants? Why?



The embryo root pushes the seed coat. It grows down into the soil and forms the root. The cotyledons are pulled upwards. The baby plant, called seedling, starts coming out of the cotyledons. The stem grows longer and the leaves appear first. When the leaves develop completely, the cotyledons fall off. Later, the branches, buds, flowers and fruits appear. The process of germination is thus completed.

Some plants have seeds that are very light and have wings or tufts of 3. hair on them. These seeds get easily carried away by the wind. Sycamore and hiptage have winged seed. While seeds of cotton, dandelion and madar have tufts of hair on them.

Dispersal by Water

Seeds of some plants that grow in or near the water bodies are dispersed by water. These seeds are spongy or have fibrous covering. Examples of such seeds include water lilies, palm, coconut and pine.

Kharif crops: In India, crops that are grown in the summer season and 4. harvested in October and November are called Kharif crops. Rice, jowar, bajra, cotton, jute, hemp, peanut, millet, maize, and pulses are kharif crops. Vegetables such as spinach, brinjal, tomato, onion, pumpkin, garlic, and gourd grow well in the summer season. Peach, litchi, mango, watermelon, muskmelon, plum, and apricot are some fruits that grow best in summer.

Rabi crops: Crops that are grown in winter and harvested in April are called rabi crops. Wheat and gram are rabi crops. Radish, turnip, peas, carrots, mustard, cauliflower, cabbage, and beans are some vegetables that grow well in winter. Apple, orange, and pomegranate are fruits that are grown generally in the winter season.

Protection of Crops : Crops also need to be protected from pests like caterpillars, grasshoppers, locusts and plant lice. These insects are killed by spraying certain chemicals called pesticides.

Animals like rats, moles, birds and squirrels eat up the fruits and seeds of crops. We need to protect our crops from them as well.

Microorganisms like fungi, bacteria and virus also cause diseases in crops. Certain chemicals are sprayed at regular intervals to keep the crops free of diseases.



Awesome Animals

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

Α. Tick (✓) the correct option:

Ans. 1. c. spiracles **2.** a. hump

b. omnivores

b. flippers

B. Give one word for the following:

Ans. 1. A hot and dry place : desert : gills

2. Breathing organs of fish

Sorroundings in which animals live naturally: habitat 3.

An animal that shows camouflage

: comouflaging animals

C. Fill in the blanks:

Ans. 1. An animal's habitat provides it with air, food and shelter.

- 2. A desert is a sandy and a dry region.
- Mammals have **wool** and **fur** as their body covering. 3.
- 4. **Aquatic** animals breathe in oxygen dissolved in water.
- The locust is a dangerous **migratory** insect.
- D. Write True or False for the following statements:
- 1. True Ans.

2. False 3. True

4. False 5. True

E. Answer the following questions:

- Ans. Aquatic animals such as fish, crabs and oysters breathe through gills. A baby frog or tadpole also breathes through gills in water. Aquatic animals breathe in oxygen dissolved in water. When water passes through gills, many tiny blood vessels present in the gills absorb oxygen from water and let water carry away the carbon dioxide.
 - 2. Rivers, lakes, ponds etc. are called fresh water habitat. Fishes, frogs and slamanders live in fresh water. Frogs and salamanders can live both on land and water. They are called amphibians.
 - Some animals like tiger, zebra and grasshopper have special body covering. They can merge their body with their surroundings. This property is called camouflage and these animals are called camouflaging animals. Camouflage makes animals hard to spot and protect them from other hunting animals and poaching (illegal hunting).
 - 4. On the basis of their feeding habits we can divide animals into three
 - 1. Animals that eat only plants are called herbivores or herbivorous animals. Cows, goats and deer are herbivores.
 - 2. The animals that eat flesh of other animals are called carnivores or carnivorous animals. Lion, tiger and wolf are some carnivores.
 - 3. The animals that eat both plants and animals are called omnivores or omnivorous animals. Human being, bear and crow are some omnivores.
 - The movement of large groups of animals from one place to another at a particular time is known as migration. They migrate to avoid some unfavourable conditions or in search of food or to have safe place for breathing.

The Arctic tern is the champion amongst migratory animals. It travels a distance of 17,000 km, from the Arctic to the Antarctic, during winter. It again goes back the same distance to breed in the Arctic. Storks and flamingo are also migratory birds.

The eel is a migratory fish. It depends its life in fresh water until it becomes an adult, and travels to the sea to breed. The locust is a dangerous migratory insect.



Our Skeletal System

Warm Up

Do it yourself. Do and Learn

Do it vourself.

CHECKPOINT

Do it yourself.

EXERCISE

Α. Tick (✓) the correct option:

Ans. 1. c. Backbone a. shoulder.

> 3. b. 206 4. c. bone to muscle

B. Match the following.

Ans. Movement Joint

> 1. Ball-and-socket joint iii. Allows circular movement

2. Pivot joint ii. Allows movement of bones through 180°

3. Sliding joint iv. Allows movement of bones over each other

Hinge joint i. Allows Rotatory movement 4.

C. Fill in the blanks:

Ans. The **skeleton** gives the body a form and shape. 1.

- 2. The skull is attached to the **muscles** at its base.
- 3. **Arms** and **legs** are the two pairs of limbs.
- Movement is possible because of **muscles** in our body.
- Muscles are made of long and strong fibres.

D. What is false about:

Ans. 1. b. only the upper jaw is movable

c. help to twist and bend

E. Answer the following questions:

Ans. The skeleton is a framework of bones which gives the body a form and shape. It has three major functions:

> It protects the internal organs. The skull protects the brain. The rib cage protects the heart and the lungs.

It gives shape to our body.

It allows us to move.

The Ball and Socket Joint 2.

> The ball and socket joints are found in shoulders and hips. In such a joint, one of the bones has a rounded head which is the ball. The other bone has a cup-like area known as the socket.

> The round end fits it into the socket or cavity of the other bone. Ball and socket joint allows movement in all directions.

Some muscles are attached to the bones of the skeleton. We can 3. control their movement at our will. Hence they are called voluntary muscles.

Some other muscles are not under our control. They are called involuntary muscles. For example, the muscles in the walls of the stomach, intestine, lungs and heart function automatically. These are involuntary muscles.

The muscular system helps the body in movement. Some muscles are attached to the bones. These muscles pull the bones and help in movement. The leg muscles help to walk and jump. The arm muscles help to lift things. The face muscles help to smile, blink, and wink,

- Muscles which are not attached to the bones do things like pushing food into the alimentary canal, pumping the blood, etc.
- Ribs are a set of 12 pairs of long, curved bones which surround the chest in the form of a cage. Ribs are joined to the backbone at the back and to the breastbone at the front. The last two pairs are joined only to the backbone and not to the breastbone. These two pairs of ribs are called floating ribs. The ribcage protects the heart and the lungs. It also helps the lungs to expand by expanding the chest.



The Nervous System

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

EXERCISE

A. Tick (\checkmark) the correct option :

Ans. **1.** b. cerebrum 2. b. Motor nerves

a. Mixed nerves

4. c. Ear

Fill in the blanks: B.

Ans. The **nervous** system controls everything we do.

- 2. Cerebellum lies below the **cerebrum** and above the **medulla**.
- 3. **Reflex** actions are those actions which are not under our control.
- There are **five** sense organs in our body.
- **Outer ear**, middle ear and inner ear are the three parts of our ears.

C. Write True or False for the following statements:

Ans. 1. True

2. False **3.** False 4. True

D. Match the following:

4.

Ans. Reading in dim light 1.

> 2. Retina

i. Images are formed on it

3. Watering of mouth Spinal cord

ii. Reflex action iii. Vertebral column

iv. Damages eye

E. Answer the following questions:

Ans. Cerebellum lies below the cerebrum and above the medulla. It controls the movement of our limbs and helps in balancing our body.

- The actions that we perform are of two types-voluntary actions and 2. involuntary actions. Voluntary actions are those actions which we can control at our will. For example, on seeing a snake in the way, we run away from there. Involuntary actions are those actions which are not under our own control. They are automatic. For example, blinking of our eyes.
- 3. Nerves that carry messages from the brain to different body parts are called motor nerves.

4. Eyes are very delicate sense organs. Simple measures should be taken to protect and care for our eyes.

Eyes, particularly of children should be got checked periodically by doctors.

You should read in proper light. Very dim or bright light is harmful for your eyes. Keep the book/pages at least 36 cms from the eyes.

Dust, coal, sand particles may fall in the eyes. Do not rub your eyes with dirty hand or handkerchief. Wash your eyes with clean water to remove the dust.

In case of eye infection/eye flu do not go to school. Get your eyes treated by a doctor.

You should watch the television sitting at least six feet away from it. Do not watch television or work on computer for long.

- The surface of the tongue has small buds called taste buds. Taste buds enable us to detect various tastes of food such as sweet, sour, bitter and salty.
- 6. Care of the Skin

Keep your skin clean by washing it with soap and water.

Wear clean clothes.

An injury to the skin should never be ignored. Apply an antiseptic to prevent infection.

Eat healthy food and drink plenty of water.



Keeping Healthy

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

Α. Tick (✓) the correct option:

Ans. a. proteins 2. b. animals

3. c. carbohydrates b. tuberculosis

B. Name the following:

Ans. 1. Nutrients which help us to grow : Protein

2. Nutrients which give us energy : Carbohydrate

Tiny organisms like protozoa, bacteria, virus and fungi: germs 3.

Diseases caused by germs, spreads from person to : Communicable

person diseases

C. Fill in the blanks:

Ans. **Carbohydrates** provide the body with the energy it needs for everything.

- 2. The body uses **fats** to maintain its temperature.
- 3. Regular exercise keep our body **fit** and **healthy**.
- 4. **Germs** are harmful microbes that can cause diseases in us.
- 5. Lack of iron in our diet can cause Anaemia.
- D. Write True or False for the following statements:

Ans. 1. True 2. False 3. False

4. True 5. True

E. Match the columns:

Ans. 1. Soft bones iii. Calcium

2. Tuberculosis

Bacteria V.

3. Common cold

ii. Virus

4. Vitamin D i. Rickets

Ringworm

iv. **Fungus**

F. Answer the following questions:

Ans. We eat different types of food. Our food contains five main nutrients namely carbohydrates, fats, proteins, vitamins and minerals. It also contains roughage and water. Our body needs all these components in right amount to remain healthy.

2. Vitamins and minerals keep our body healthy. They are found in fruits and vegetables.

Vitamins are a very important part of our daily for intake. They serve many purposes. Vitamin C keeps the gums healthy and helps the body absorb iron. Vitamin D works with calcium and phosphorus to make strong bones and teeth. Other vitamins are A, E, K, and the B-complex. Minerals, too, serve a variety of purposes. Calcium, for example, builds bones and teeth and helps to clot blood.

3. A balanced diet is a diet that contains sufficient amount of different components of food.

Different foods contain different nutrients. Some foods are better sources of nutrients than others. Scientists have created a chart called the food pyramid to show how much of different groups of food a person should eat in order to be healthy. In general they recommend that people eat more grains, vegetables, fruits, and milk and fewer fats and oils. This constitutes our balanced diet.

Some diseases are caused when a particular part of the body stops functioning properly and some are caused due to deficiency of particular minerals or vitamins in the body. Such diseases which are caused due to deficiency of vitamins and minerals are called deficiency diseases.

Communicable diseases

The diseases that can spread from one person to another are called communicable diseases. These diseases are caused by germs. Some of the communicable diseases caused by the germs like protozoa, bacteria, viruses and fungi.

- 5. Germs travel from a sick person to a healthy person and cause a disease. This happens in the following ways.
 - I. Through infected food and water: Diseases like dirrhoea, jaundice, cholera, typhoid, etc. spread by infected food and water.
 - II. Through direct contact and air: Microbes which cause diseases like flu, cold, and tuberculosis (TB) get into the air, when the infected person sneezes or coughs.
 - III. Through animals: Some diseases like malaria, dengue and plague spread through mosquitoes, fleas, flies, and bugs.
 - IV. Through Carriers: Some diseases are spread by healthy carriers of germs. A healthy person may carry germs of typhoid, cholera, are in danger of catching the disease.
- Such diseases are contagious. They can, however, be prevented if we follow some basic guidelines. Let us study about the ways through which we can prevent the spread of communicable diseases.
 - Sunlight and heat: Sunlight kills a lot of microbes. It is a natural disinfectant. Wash bed sheets, mattresses, and clothes that an infected person has used and expose them to the sunlight from time to time.

Clean water and food: Water can be made safe for drinking by boiling, filtering, and chlorinating and storing it in clean, covered containers.

Preventing breeding of mosquitoes and flies: Mosquitoes lay their eggs on stagnant water. Do not allow water to stand or stagnate in ditches, drainages, pots, vessels, coolers, etc. in or around your home.



Safety and First Aid

Warm Up

Do it vourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

Α. Tick (✓) the correct option:

1. c. rabies Ans.

2. b. sand

b. Cotton 3.

a. take an anti-tetanus injection

Fill in the blanks: В.

Ans. 1. Safety on the road is very important.

- 2. In case of a gas leak, all the doors and windows should be opened.
- 3. **Fire extinguishers** are devices to put out fires.
- The immediate help given to an injured person is called **First Aid**.

C. Match the following:

Ans. 1. Sprains iii. Apply an ice pack and do not move the joint

2. Fractures iv. Use a splint and do not move the bone

3. Burns ii. Wash the area under running water and apply ice

4. Fire i. Use fire extinguisher to put out fire

D. Write True or False for the following statements:

Ans. 2. False 3. True 4. False

E. Answer the following questions:

Ans. There are many signs that we see on the road, that help in reducing the 1. risk of accidents. They also help to regulate traffic. These signs are called traffic signs or road signs. Road signs make use of pictures and symbols. We must read and follow the road signs four our safety.

Fires can be very destructive. To prevent fires, follow these safety rules. Synthetic clothes catch fire easily. Wear only cotton clothes in the kitchen or while burning crackers.

Never play with matchsticks.

Use a lighter to light the gas stove.

Never keep kerosene, diesel, petrol or other such substances in the kitchen.

Having pets around is fun but it is important to know how to keep ourselves safe. We should take some precautions as given below.

Never play with a pet or pull its food or water away when it is feeding. Get your pet vaccinated.

Never tease a dog or a cat.

- 2. For fires due to petrol or kerosene oil, throw sand to cut off the air supply to the fire. Water should never be used in this case. The fire will then spread faster.
- 3. Sometimes the cut can be deep and bleed more. In that case you must try to stop the bleeding by using a tourniquet. Tourniquet is a tight bandage which can be tightened further by twisting a crosspiece through it.
- Take a magazine, a piece of cardboard or wood, or a pillow. Tie it around the injured part. This will act as a splint. It will prevent movement of the bone.
- Rabies is a very dangerous disease. The virus of rabies attacks the nervous system. At an advanced stage, the patient complains of excessive salivation, difficulty in swallowing and develops a fear of water (hydrophobia).

Air and Water

Warm Up Do it yourself. CHECKPOINT Do it yourself.

EXERCISE

Α. Tick (✓) the correct option:

Ans. 1. a.3% 2. c. impurities

3. a. oxygen **4.** c. both

B. Fill in the blanks:

Ans. **Atmosphere** is the blanket of air surrounding the Earth.

- 2. Air occupies space and has weight.
- 3. Water is the second most essential thing for our life.
- 4. Insoluble impurities do not dissolve in water.
- 5. Adding **chlorine** tablets in water kills **germs**.

C. Write True and False for the following statements:

Ans. 1. True 2. False 3. True

4. False 5. True

D. Answer the following questions:

Ans. The Earth is wrapped in a layer of air. This blanket of air surrounding the Earth is called the Earth's atmosphere. It is held by the Earth's gravity and provides the right conditions which help life to survive.

- 2. Ozone layer absorbs harmful rays from the sun.
- 3. **Distillation**: In this process, water is first heated in a distillation flask. The water evaporates and steam enters the condenser. The condenser is kept cool by the cold water circulating around it. On entering the cool condenser, the hot steam changes into water again. It collects in another flask. This water is very pure. It is called distilled water.

Distilled water is used to conduct experiments in laboratories, in injections, medicines and car batteries.

i. Soluble impurities: All those impurities that can dissolve in water are called soluble impurities. For example salt of potassium and magnesium.

ii. Insoluble impurities: All those impurities that do not dissolve in water are called insoluble impurities.

For example, sand and mud.

5. Properties of Air

Air Occupies Space

When we blow air into a balloon, the balloon gets inflated. This happens because the air occupies the space in the balloon.

Air has Weight

We are not able to feel the weight, air exerts on us. It is because we are surrounded by air all the time. Let us do an activity to prove that air has weight.

Air Exerts Pressure

Air exerts pressure in all directions. Because air has weight, it pushes on everything around it in all directions. This results in air pressure.

The candle goes off because it needs air to burn. After the air inside the glass is used up, the candle cannot burn any longer.



Heavenly Bodies

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

Tick (✓) the correct option: A.

Ans. a. new moon

> 3. b. crust

2. a. Neptune

4. b. Sun

B. Name the following:

Ans.









Artificial Satellites

Earth

Saturn

Moon

C. Fill in the blanks:

- Ans. 1. A **satellite** is a celestial body that orbits a planet.
 - 2. Venus is the **hottest** and **brightest** planet is the solar system.
 - **Craters** are saucer-shaped holes found on the surface of the moon. 3.
 - 4. When we cannot see the moon at all, it is called a **new moon**.
 - An eclipse occurs when one heavenly body moves into a shadow of other.

D. Write True or False for the following statements:

Ans. 1. True 2. False 3. True

4. False 5. False

E. Answer the following questions:

- Ans. The Earth is the only planet where life exists. About 70% of the Earth is covered with water. The Earth's atmosphere and presence of water make life possible on the Earth. It contains oxygen, carbon dioxide and water vapour. The atmosphere also protects us from the harmful ultraviolet rays of the Sun. The shape of our Earth is like an orange.
 - 2. An eclipse of the Sun or solar eclipse happens when the moon comes between the Sun and the Earth. The shadow of the moon falls on the Earth. This blocks the view of the Sun from that area. A solar eclipse occurs only during the day. When the moon moves, we can see the Sun again.
 - 3. Because moon does not have air, water and atmosphere.

- You know that the Earth revolves around the Sun and the moon 4. revolves around the Earth. While revolving, sometimes, the Sun, the Earth and the moon fall in a straight line and the Earth comes in between the Sun and the moon. The light from the Sun gets blocked by the Earth. The Earth being an opaque object, casts its shadow on the moon. In other words, the shadow of the Earth covers the whole moon. The moon cannot be seen. This is called the eclipse of the moon or lunar eclipse. A lunar eclipse occurs only at night.
- 5. Solar eclipse happens when the moon comes between the Sun and the Earth.
- i. Jupiter is the largest planet of the solar system. The mass of Jupiter is 6. 318 times more than the Earth. It has 80 (57 confirmed and 13 provisional) satellites and takes about 12 Earth years to orbit once around the Sun. It is made up of many gases.
 - ii. The Sun is a star in the centre of the solar system.

It is the nearest star to the Earth. It has a diameter of about 1,392,000 kilometres. It is about 150 million kilometres away from the Earth.

The Sun is made up of hydrogen and helium gases. About three-fourth of the Sun's mass is hydrogen.

- iii. Pluto, which was earlier considered a planet, was placed in a separate category called 'dwarf planets' by the International Astronomical Union (IAU) in August 2006.
- iv. Moon is the Earth's only natural satellite. Moon has no air, no atmosphere. No life exists on moon. It is 384,403 kilometre away from the Earth. It shines at night. The moon has no light of its own. It reflects the light of the Sun as moonlight.
- v. Mercury is the smallest planet in the solar system and is closest to the Sun. It takes 88 days to complete one orbit around the Sun. Mercury has no satellite (moon). It is visible just before the sunrise in the eastern sky and just after the sunset in the western sky.

Green Pages

Do your self



Natural Disasters

Warm Up

Do it yourself.

Do and Learn

Do it vourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (\checkmark) the correct option :

Ans. 1. c. Poverty 2. c. extinct volcano

Science-5 64

3. b. Magma

a. active

B. Fill in the blanks:

- Ans. 1. **Earthquake** is caused by shock waves from under the ground to the
 - 2. People who study earthquakes are called **seismologists**.
 - Lava is hot molten rock inside the Earth.
 - 4. Mount Kea in the Hawaiian islands, USA is an example of dormant volcano.
 - 5. Tsunamis are popularly known as tidal waves.

Write True or False for the following statements: C.

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

- 4. True
- 5. False

D. Give reasons for the following:

- When an earthquake occurs, one should stay away from buildings or Ans. poles because earthquake make them weak to stand still and they can fall on you.
 - Earthquake usually cause a shutdown of the communication 2. infrastructure.

E. Answer the following questions:

- Ans. When the ground shakes houses, buildings and bridges shake. When 1. the moments last for some time, structures shatter, roads crack and communication systems collapse. There is loss of life and property.
 - 2. The instrument used by scientists to measure the intensity of an earthquake is called the seismograph.
 - Moon is made up of big mountains and very deep craters. Craters are 3. saucer-shaped holes that have been made when lumps of rocks and iron, called meteorites hit the moon's surface.
 - 4. Magma is the molten rock present inside the volcano.
 - Extinct Volcanoes are those that have been inactive for thousands of 5. years and are not expected to erupt again. Mt. Pope in Myanmar is an extinct volcano.
 - 6. Tsunamis are popularly known as tidal waves. But they have nothing to do with tides. These are called tidal waves because they look like high tides. Landslides, undersea earthquakes, volcanic eruptions, etc. cause tidal waves or tsunamis. Large amount of water moves at a great speed in tidal waves. The speed of water may reach upto 800 km/hr. When water reaches the land with such a great speed, it turns into gigantic waves. These waves cause great destruction to life and property.

Some preventive measures for Tidal waves.

- (1) Get to high ground as far island as possible.
- (2) Listen to emergency information and alerts.
- (3) Evacuate: Do not wait.

Our Environment and Pollution

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (✓) the correct option:

Ans. 1. b. Oxygen 2. a. July 1

c. Burning fossil fuels 3.

Fill in the blanks: В.

Pollution is the addition of harmful substances in the environemnt. Ans. 1.

- 2. The atmosphere acts as a blanket of gases.
- 3. **CFC** damages the ozone layer of the atmosphere.
- 4. Plants do not grow well in **polluted** soil.
- Non-biodegradeble things are the things which cannot be decomposed.
- C. Write True or False for the following statements:

Ans. 1. True 2. False 3. True

4. True 5. False

- D. Answer the following questions:
- Ans. The addition of harmful substances in the environment is called pollution. The harmful substances which pollute the environment are called pollutants.
 - There are mainly four types of pollution—air pollution, water pollution, noise pollution, and soil pollution.
 - 2. The Earth's atmosphere is a blanket of gases. Some of these gases like carbon dioxide, nitrous oxide, methane and water vapour have the property of trapping energy from the sun.
 - These gases do not allow the heat of escape back into space. They warm up the Earth. These gases are called greenhouse gases and this effect is known as the greenhouse effect.
 - 3. a. Carbon dioxide: The carbon dioxide content in the air has increased due the excessive burning of fossil fuel. It must be reduced otherwise the global temperature may increase. This may led to the melting of polarice and glaciers, flooding the coastal areas and islands.
 - **b. Methane**: Methane or marsh gas is produced naturally in the digestive system of grass-eating animals during decomposition of their food. The exreta (dung) of these animals releases methane into the atmosphere. It is also produced in the paddy fields, automobiles and factories. This gas increases the temperature of the Earth.

4. WATER POLLUTION

Industries are a major source of water pollution. Toxic household and industrial wastes released into water bodies pollute them. Activities such as washing clothes or bathing animals in rives, especially in rural areas, also cause water pollution.

NOISE POLLUTION

When excessive noise is produced, it causes noise pollution. Some sources of noise pollution are-machines in factories, vehicles, loudspeakers, and entertainment gadgets such as television and radio. People exposed to excessive noise, complain of headache. In some cases, sustained exposure to loud noise can also result in deafness.

5. Waste can biodegradable or non-biodegradable. Biodegradable things decompose. These include leaves and other plant matter, paper, etc. These turn into compost which in turn can be used as manure to enrich the soil.

On the other hand, the things which cannot be decomposed are called non-biodegradable things. They cannot be broken down naturally. Some of the non-biodegradable things are plastic containers and bags. tin cans, bottles, etc.



Rocks and Minerals

Warm Up

Do it vourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (✓) the correct option:

1. b. Limestone Ans.

2. a. Feldspar

c. all

4. c. Sandstone

B. Fill in the blanks:

Ans. 1. **Igneous** rocks were the first rocks to form on the Earth.

- 2. **Pumice** is the only rock that can float.
- 3. Chalk is a very common type of **limestone** rock.
- 4. **Coal** and **Petroleum** are formed from remains of dead organisms.
- We should use **natural** sources of energy to save fossil fuels.

C. Write True or False for the following statements:

Ans. **1.** True 2. False 3. True

False

5. True

Match the following: D.

1. Hardest rock Ans.

Igneous rock

Red Fort 2.

iv. Sandstone

- 3. Marble
- Layered rock 4.
- 5. Petroleum

- i. Metamorphic rock
- Sedimentary rock v.
- iii. Iron and chromium

E. Answer the following questions:

Ans. Igneous rocks are formed from magma, the hot molten material found 1. deep inside the Earth. The intense pressure inside the Earth pushes the magma towards the surface of the Earth. This magma cools just below the Earth's surface. It then hardens to form igneous rocks. The first rocks to form on the Earth were igneous rocks.

- 2. Repeated heating and cooling of mountain sides by rain, wind and sunlight wear down rocks. These small pieces of rocks are carried down by rivers and strong winds into lakes and seas. They sink to the bottom and settle down to form layers called sediments. As time passes, more sediments build up, it presses down the lower layers. The continuous pressure upon the lower layers hardens them into rocks. Such rocks are called sedimentary rocks.
- 3. Metamorphosis means a change of form. Metamorphic rocks are those which have changed their original form. Metamorphic rocks were once either igneous or sedimentary rocks which have been changed due to heat and pressure. Some of these rocks are layered while some are uniform in texture.
- Million of years ago, land was covered with dense swampy forests. When these plants died, they fell into water of swamps. Dead plants did not decay completely and turned into a layer called peat. As time went by, sediments brought by water, covered the peat and compressed it further. The high pressure and temperature turned peat into brown soft coal. With further increase in pressure and temperature over a significantly long period of time, this soft peat changed into black hard coal.
- 5. Rocks are very useful for us. Many of the materials that we use everyday are made from different kinds of rocks. Granite is used for making statues. Pumice is used in making light weight building materials. Sandstone is used to make buildings. Shall is used to make bricks and tiles and many other rocks are usefull in our day to day life.



Soil

Warm Up Do it yourself. **CHECKPOINT** Do it yourself.

EXERCISE

Tick (✓) the correct option: Α.

Ans. 1. b. Topsoil **2.** c. weathering

b. soil 3.

4. c. soil conversation

В. Fill in the blanks:

Ans. 1. Soil provides a home to many animals.

- 2. Wind and water are the main agents of weathering.
- 3. Subsoil is the layer below the top soil.
- 4. Planting **trees** is an effective way of reducing erosion.
- 5. **Terrace farming** should be practised in hilly areas.

C. Match the following:

Ans. 1. Uppermost layer of soil ii. Top soil

2. Soil formed from rocks iv. Weathering

3. Washing away of the soil

i. Erosion

Protection of soil against erosion

iii. Conservation

Answer the following questions: D.

Ans. Soil is a mixture of minerals and organic material or humus. Minerals are bits of rocks, and organic material is the remains of living things that have died. Soil is not as solid as rock. It has many small spaces, called pores that hold water and air.

- 2. Without soil, most life of Earth cannot survive. Soil provides a place for plants to grow. The farmer grows rice, wheat, dal, vegetables and fruits for us in soil. It holds water in place for their roots. It contains nutrients, or food substance, need for their growth. Soil also provides a home for many animals.
- 3. Soil is very important to us because plants grow in soil. We are depend on plants in many ways. So soil is very important to us.
- Soil has many layers. The uppermost layer is called topsoil. It is the 4. most fertile layer. It has humus, which is good for the growth of plants. Sometimes that topsoil is carried away by wind, water or other elements. This process is called soil erosion.
 - Human beings also cause soil erosion. Roots of trees and plants hold the soil together. Felling of trees or deforestation is a major cause of soil erosion. When trees are cut down the soil becomes loose and is easily carried away. Ploughing of hill slopes is yet another human factor that leads to soil erosion. Overgrazing by cattle also causes soil erosion.
- The protection of soil against erosion is called soil conservation. 5.

Planting More Trees: Plants lessen soil erosion. They prevent water and wind from blowing away the soil. So planting trees is an effective way of reducing erosion. Afforestation works equally well, both in plains and in the hilly areas.

Terrace Farming: Terrace farming should be practised in hilly areas. In terrace farming, hills are cut into steps along the slopes. It reduces the speed of water flowing from the top. With the flow of water, soil from one step shifts and gets deposited on the next step. This reduces the amount of soil being washed away.

Embankments: Building embankments along river banks prevent soil erosion. The river water is unable to flood the nearby fields. Soil is, thus, conserved from erosion through water.

Avoid Leaving the Soil Bare: Winds blow off soil from bare fields. Fields should not be left bare. Between the cropping seasons, they can be covered with grass. The roots of these plants would hold the soil particles together and prevent the soil from being blown away.



States of Matter

Warm Up

Do it yourself.

Do and Learn

Do it yourself.

CHECKPOINT

Do it yourself.

EXERCISE

Α. Tick (✓) the correct option:

Ans. a. microscope 1.

2. c. Solids

3. b. liquid c. freezing

В. Fill in the blanks:

- Ans. 1. Matter is any substance that has mars and occupies space.
 - 2. **Solids** have a fixed shape and volume.
 - 3. **Condensation** is the process of changing of vapour to liquid through cooling.
 - A physical change is not a **permanent** change.

C. Match the following:

Ans. 1. Evaporation ii. Changing of liquid to vapour

2. Matter iv. Pencil, book, water, dog

3. Solid iii. Fixed shape and volume

Liquid

Can change its shape

D. Answer the following questions:

- Ans. 1. Some liquids such as glycerine, alcohol and milk can dissolve in water. Such liquids that mix with each other are called miscible liquids. Some liquids do not mix with other liquids. Add a few drops of oil in a
 - glass of water. Stir it well. You will see that the two do not mix and the oil floats on top. Such liquids that do not mix with each other are called immiscible liquids.
 - 2. When water is heated it changes into vapour which is a gas. When water is heated the molecules of water move faster. They start moving apart. As they move far from each other, the intermolecular force of

attraction becomes weaker. When this force wakens further the molecules move more freely and thus water changes to vapour. Thus, the process through which liquid turns to vapour by heating is called evaporation.

Condensation

Steam condenses to form water again. When the freely flowing particles of steam touch a cold surface, cooling happens. Cooling a substance slows down the movement of its particles. The particles thus become less free to move and become loosely packed to change from gas to water (liquid).

- **3.** A physical change is a temporary change. It can be reversed. Here, no new substances are formed.
 - For example, water (liquid) on cooling becomes ice (solid), and on heating becomes steam (gas). Here, even though the state of water has changed from liquid to solid and liquid to gas, it's still the same. Also, if ice is heated or steam is cooled, we get back water in its original form.

A chemical change is a permanent change. This change cannot be reversed. Here, a new substance is formed. The properties of the new substance are different than from that of the original substance.

4. Three properties of each solids, liquids and gases.

Solid	liquid	gas
(1) Molecules of	Molecules of liquids	Molecules of gases
solids are connected	are connected with	are connected with
with strong bonds.	weak bonds.	very weak bonds.
(2) Solids have fixed	Liquids can change	volume and shape of
shape are volume.	their shape but their	gas can be changed.
	volume remain fixed.	
(3) Solids can not	liquids can flow.	gas can move in all
flow.		direction.



Force, Work and Energy

Warm Up

Do it yourself.

Do and Learn

Do it vourself.

CHECKPOINT

Do it yourself.

EXERCISE

A. Tick (✓) the correct option :

Ans. 1. c. load

2. b. lever

3. a. force

4. b. wedge

5. c. force

B. Fill in the blanks:

Ans. 1. A **Push** or a **Pull** acting on an object is called force.

- 2. **Gravity** is a force on Earth that makes things fall to the ground.
- Oil reduces the **Friction** between parts of the machine. 3.
- 4. We cook food at home by using heat energy.
- A pulley is a wheel with a groove in its rim.
- C. Write True or False for the following statements:

Ans. 1. True

2. True 3. True

False

False

D. Answer the following questions:

Ans. The ability to do work is called energy. To perform any activity like playing, reading and sleeping we need energy. Even machines need energy to work.

- 2. Work is only said to be done when the force applied on an object causes it to move.
- 3. Frictional force or friction is the force that tries to stop the sliding movement of objects across a surface. It can slow down the movement of an object or stop it from moving altogether. In general, movement across smooth surfaces such as ice and glass produces less friction.
- In science, work is said to be done only when force changes position of 4. an object. When we are applying force to move any object and the object changes its position then work is said to be done. No, Because book will not change it's positive.
- 5. A lever is any simple machine that turns around a fixed point, e.g., scissors, nut-cracker, seesaw, etc.
 - A lever helps us to do more work by applying less force. This makes our work easier. It consists of three parts-load, effort and fulcrum.
- **6.** A pulley is a wheel with a groove in its rim. The rope moves through this groove.
 - Water is drawn from a well by using a bucket tied to a long rope. When we lift the bucket of water from the well by pulling the rope vertically upwards, it is a difficult job. But with the help of pulley, we can easily draw water from the well.
- 7. A simple machine is a device that makes our work easier and faster. Scissors, knives, tweezers and tongs are some examples of simple machines.

Complex machines have many parts and they are made up of a number of simple machines. Computers, typewriters, bicycles, sewing machines, washing machines, etc. are complex machines. They are constructed with many simple machines. They are also called compound machines.