

IDEAL

JUNIOR SCIENCE

Parts-4 & 5

ANSWER KEY

Bright Kids Publications
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PART-4

CHAPTER-1

FOOD-MAKING IN PLANTS

Breather

1. chlorophyll 2. lamina 3. carbohydrate
4. mushroom 5. producers 6. midrib

A. Tick (✓) the correct answer.

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

B. Write 'T' for true and 'F' for false ones.

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

C. Fill in the blanks.

1. The green colour of the plants is due to the presence of **chlorophyll**.
2. The process of removing green colour is called **pigmentation**.
3. Chlorophyll is necessary for **plants**.
4. Plants draw water from the **midrib**.
5. Plants give out **oxygen**.

D. Write the technical word.

1. Green leaves
2. Cacti plants
3. Mushroom
4. Stomata
5. Chlorophyll

E. Answer the following questions.

1. Plants make their food in the green leaves. Plants make their food in the form of sugar or carbohydrate. They use this food for various activities. Some of the food is also used for proper growth.

2. The lowest layer of the leaf has small tiny pores called stomata. The leaf gives off excess water through these stomata. The stomata also take in carbon dioxide from the atmosphere that is used to make food.
3. The process of food making in plants is called photosynthesis. Photosynthesis means putting together water and carbon dioxide in the presence of sunlight to make food.
4. Cactus plants have thick and fleshy green stems. They make their food in their fleshy stems by the usual process of photosynthesis.
5. A food-chain is a pathway that shows how energy and nutrients pass from one living being to another. A food chain always begins with plants or producers and ends with animals or consumers.
6. Plants make their food in the green leaves. The leaves are green due to presence of chlorophyll. That is why green leaves are called the food factories of the plants.
7. To make food, plants need water, carbon dioxide and sunlight. They also need the green matter that is present in the leaves.

HOTS QUESTION

1. Yes
2. Because light can not penetrate deep into the ocean.
3. Because mushroom do not make their own food

4. Leaves that are broad and flat are better equipped for photosynthesis.

THINGS TO DO

- A.** 1. TOMATO 2. APPLE 3. GRAPES
4. MANGO 5. PEA

CHAPTER-2

ADAPTATION IN PLANTS

Breather

1. Plants grow in plains have a lot of leaves while plants in deserts have no leaves.
 2. Plants in marshy lands have special roots called pneumatophores while plants grow in hot and humid place have large number of leaves.
 3. Plants grow in cold regions have needle like leaves called pines while plants grow in deserts have spines instead of leaves.
- A.** Tick (✓) the correct answer.
1. (b) 2. (b) 3. (c) 4. (c) 5. (a)
- B.** Write two examples of each of the following.
1. Sundew, Venus flytrap
 2. Wheat, Maize
 3. Pine, Banyan
 4. Pistia, Lotus
- C.** Fill in the blanks.
1. Water hyacinth and duckweed are **aquatic** plants.

2. A **neem** tree sheds its leaves in winter.
3. Cactus and prickly pear are examples of **desert plants**.
4. Conifers grow in **hilly** areas.
5. Lotus and waterlily are examples of **fixed** plants.

D. Answer the following questions.

1. Wheat, rice, maize, barley and oats are the five plants of grass family that provide us food.
2. The soil in the marshy area does not contain enough air. So, plants in these areas have special breathing roots that come out of the soil.
3. Mangroves grow in marshy areas. The soil in this area does not contain enough air. So, they have breathing roots.
4. Pitcher plant catches insects in a pool of liquid inside its hollow leaves. When an insect sits to eat a sweet food (nectar) around the leaf, it falls down into the pool and dies.
5. The place where a plant lives is known as its habitat.
6. Plants in hilly areas are conical in shape because they can tolerate snowfall.

HOTS QUESTION

1. For the prevention of water loss.
2. It helps them to float on the water.
3. The plants need to store a lot of water to survive in the desert.

THINGS TO DO

A. SAGUARO

E. Using the Internet, find out useful products from the following plants.

- | | | |
|---------------|---|------------------|
| 1. Cinchona | – | Quinine |
| 2. Eucalyptus | – | Medicine |
| 3. Acacia | – | Gum |
| 4. Rubber | – | Rubber |
| 5. Orchids | – | Paper |
| 6. Neem | – | Herbal medicines |

CHAPTER-3

ANIMALS : LIVING AND SURVIVING

Breather

1. long legs, flat feet
2. streamlined body, flightless body
3. gills, lungs

A. Tick (✓) the correct answer.

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

B. Write two examples of each of the following.

1. Frogs, Salamanders
2. Birds, Bats
3. Monkeys, Squirrels
4. Elephant, Horse
5. Fish, Crabs

C. Write 'T' for true statements and 'F' for false ones.

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

D. Give the reason.

1. Tapeworms and hookworms eat the digested food of other animals. So, they have less developed digestive systems.

2. Zebras live in large groups because they confuse their enemies such as lions and tigers because they cannot decide which one to hunt.
3. Ostrich cannot fly but it can run very fast. It can run at the speed of more than 70 km per hour.
4. The body of a fish is streamlined. It is broad and flat in the middle and narrow at the ends. Such a shape helps the fish to swim smoothly in water.
5. Birds have very strong flight muscles. They are attached to the bones and move the wings up and down.

E. Write the names of the following.

1. Amphibians
2. Prehensile
3. Hibernation
4. Gills

F. Answer the following questions.

1. The aerial animals, hollow and air filled bones which keep their body light. Such bones help the bird to float in the air.
2. The various among fish are—
 - a. The body of a fish is streamlined.
 - b. The fish has shiny and slimy scales.
 - c. Fish has comb like breathing organs called gills.
3. Oviparous animals are animals that lay eggs. Birds and fish lay eggs.
4. An adaptation is a way an animal's body helps it survive, or live, in its environment. Animals depend on their physical features to help them obtain food, keep safe, build homes, withstand weather, and attract mates.

5. Animals that live on mountains face cold climate. So, they have fur on their bodies and a thick layer of fat under their skin that keep them warm. The polar bear has hairy soles. Such soles help it to run over the slippery snow. Polar bears and polar foxes have white colour to merge with the surroundings and protect them from their enemies.

HOTS QUESTION

Because they have very small wings and a heavy body.

THINGS TO DO

- C. Circle the odd one out.

- | | |
|-------------|----------------|
| 1. elephant | 2. grasshopper |
| 3. rabbit | 4. bat |

CHAPTER-4

ANIMALS-HOW LIFE GOES ON

- A. Tick (✓) the correct answer.

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

- B. Fill in the blanks.

1. The egg of frog hatches into a **tadpole**.
2. A butterfly grows through **four** stages in its life.
3. The bodies of **mammals** are covered with hair.
4. Human being is a **mammal**.
5. life span

C. Write 'T' for true statements and 'F' for false ones.

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

D. Put these animals under the correct group.

Animals that lay eggs– Hen, parrot, mosquito, Housefly, grasshopper.

Animals that give birth to babies– Horse, rat, deer, shark, dolphin, goat, whale.

E. Give one word for each of the following.

1. Tadpole 2. Fry 3. Caterpillar
4. Bats 5. Whales

F. Answer the following questions.

1. Reproduction is the way through which new individuals are being formed.
2. The two ways of reproduction in animals are– by giving birth to babies and by laying eggs.
3. The baby cockroach that hatches out from the egg is called a nymph.
4. The four stages in the life cycle of a butterfly are – Egg or larva, caterpillar, pupa and adult butterfly.
5. Mammals take care of their young ones. They look after their babies till they are able to feed themselves. Parents arrange food for their babies. They protect them from the enemies.

HOTS QUESTION

1. The wings of bats are skin folds stretched mainly between elongated fingers. But, the wings of birds are a feathery covering all around the arm.

2. The fish and frog produce a huge number of eggs each year to overcome the chance factor(sperm to come in contact with egg) and produce offsprings.

THINGS TO DO

- A.** Solve the crossword and know the animal world.

Across

2. Snake 5. Tadpole 6. Whale 7. Moulting

Down

1. Nymph 2. Shrew 3. Mammal 4. Dolphin

- B.** Shark.

TEST PAPER-1

- A.**
1. Oviparous
 2. Modification of an organism or its parts that makes it more fit for existence under the conditions of its environment.
 3. Reproduction is the production of offspring.
 4. Leaves prepare food through the process of photosynthesis.
 5. The natural home or environment of an animal.
- B.**
1. four 2. streamlined 3. floating
 4. hilly 5. photosynthesis
- C.**
1. mushroom, moulds 2. mammals, cows
 3. lizard, frog 4. fungi, lice
 5. frogs, salamanders
- D.**
1. False 2. False 3. True 4. True 5. False

CHAPTER-5

FOOD AND DIGESTION

Breather

- a. Rice, potato b. Meat, pulses c. Fruits vegetables
d. Nuts, seeds e. Oats, beans
- A.** Tick (✓) the correct answer.
1. (d) 2. (b) 3. (a) 4. (c) 5. (c)
- B.** Write the methods of cooking of the following dishes.
1. Rice – Boiling 2. Cake – Baking
3. Puris – Deep frying 4. Popcorn – Roasting
5. Idli – Steaming
6. Parantha – Shallow frying
7. Fish – Deep frying 8. Chapati – Roasting
- C.** Fill in the blanks.
1. **Rice** and **wheat** are energy giving food.
2. **Proteins** are body – building food.
3. Food remains in the stomach for about **four** hours.
4. Starch and sugar are important **carbohydrates**.
5. Fats give **more** energy than carbohydrates.
- D.** Put these food items into their proper group.
Protective food – Papaya, spinach, grapes, pineapple, carrot
Energy giving food – Jam, potato, wheat, cake
Body building food – Meat, toffees, eggs, pulses, fish, soyabean
- E.** Answer the following questions.
1. We do many types of activities from morning

till night. So, we need food to get energy.

2. Fruits, vegetables, milk and eggs are four sources of vitamins and minerals.
3. Small intestine is the part of the intestine where 90 percent of the digestion and absorption of food occurs. The main function of small intestine is absorption of nutrients and minerals from food.
4. Some important methods of cooking are – frying, boiling, steaming, roasting and baking.
5. Food contains nutrients like carbohydrates, fats, proteins, vitamins and minerals.
6. Small children need a lot of proteins because they keep on growing all the time.
7. Preserving food ensures that it can be kept for long periods of time without spoiling.

HOTS QUESTION

1. Since adults body is in a growing phase, so you need more protein than your grandmother.
2. Because preservative are added in the pineapple jam which prevent the jam from spoiling.
3. Father brings milk every morning because it will be fresh. Getting it in the starting of the month and using it each day for the whole month, the milk will start to become stinkier or unhealthier. So it is good to get fresh milk every morning.

THINGS TO DO

- A. (Do yourself)
B. Solve the crossword puzzle with the help of the clues given below.

Across

- | | |
|------------|--------------|
| 2. Saliva | 4. Intestine |
| 5. Stomach | 6. Sugar |

Down

- | | |
|-------------|-------------|
| 1. Proteins | 3. Vitamins |
|-------------|-------------|
- C. Write two examples of each of the following.
- | | | |
|-----------------------|---|--------------|
| 1. Protective food | – | Milk, Egg |
| 2. Energy giving food | – | Rice, Wheat |
| 3. Body building food | – | Meat, Pulses |

CHAPTER-6

TEETH AND MICROBES

Breather

- | | |
|----------------------|----------------------|
| 1. cutting teeth, 4 | 2. grinding teeth, 4 |
| 3. cracking teeth, 4 | 4. tearing teeth, 2 |
| 5. third molars, 2 | |
- A. Tick (✓) the correct answer.
- | | | | | |
|--------|--------|--------|--------|--------|
| 1. (b) | 2. (c) | 3. (c) | 4. (b) | 5. (c) |
| 6. (c) | 7. (b) | | | |
- B. Write 'T' for true statements and 'F' for false ones.
- | | | | | |
|--------|--------|--------|--------|--------|
| 1. (T) | 2. (F) | 3. (T) | 4. (T) | 5. (F) |
|--------|--------|--------|--------|--------|
- C. Fill in the blanks choosing the suitable words from the box.
- | |
|--|
| 1. Enamel is the hardest substance in our body. |
| 2. Tooth decay is caused by an acid . |

3. Microbes are small **organism**.
 4. Clean teeth add **charm** to our face.
 5. Milk teeth do not **last** long.
- D.** Which of the following groups of diseases is caused by viruses?
1. Measles 2. Mumps 3. Flu 4. AIDS
- E.** Answer the following questions.
1. When a baby is about six months old, the first set of teeth starts appearing. These are called temporary or milk teeth.
 2. When a baby is about six months old temporary or milk teeth start growing.
 3. An adult has 32 permanent teeth.
 4. There are four kinds of teeth – Incisors, Canines, Premolars and Molars.
 5. We are able to bite and chew food only with the help of our teeth. This makes digestion of food easy.
 6. We should take care of teeth by following some rules–
 - (a) Regular brushing of teeth after every meal.
 - (b) brush the upper teeth with downward strokes and the lower teeth with upward strokes.
 - (c) brush the chewing surfaces with a scrubbing stroke.
 - (d) Consult your dentist if you have any tooth problem.

HOTS QUESTION

1. Because eating too much chocolates and toffees can lead to weight gain, blood sugar problems, and an increased risk of heart disease.
2. Rabbits, squirrels, and rodents have teeth that never stop growing.

THINGS TO DO

- C. Solve the crossword puzzle with the help of the clues given below.

Across

- | | |
|------------|-------------|
| 1. Malaria | 4. Incisors |
| 6. Dentine | 7. Viruses |

Down

- | | |
|------------|---------|
| 2. Root | 3. Curd |
| 5. Canines | |

CHAPTER-7

SAFETY AND FIRST AID

Breather

1. cotton, linen, synthetic
 2. electric shocks and burns from contact with live parts
 3. knife, scissor, blade
 4. Green light indicates that it's safe to proceed (though you should still exercise caution). Yellow indicates caution and yield. Red indicates danger and stop.
- A. Tick (✓) the correct answer.
- | | | | | |
|--------|--------|--------|--------|--------|
| 1. (b) | 2. (b) | 3. (c) | 4. (b) | 5. (c) |
| 6. (c) | 7. (a) | 8. (a) | | |

B. Match the columns by drawing lines to make complete sentences.

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

C. Write 'Safe' or 'Unsafe' against each statement.

1. Unsafe 2. Safe 3. Unsafe

4. Safe 5. Unsafe

D. Answer the following questions.

1. Synthetic clothes like nylon, terene and terylene catch fire easily. So, we should not wear such clothes while working near fire.
2. The first help given to an injured person before reaching the doctor is called the first aid.
3. If an insect bites a person, wash the affected part with lime water or ammonia. Apply a paste of baking soda and cold cream over it. Put ice pack over the affected part.
4. Accidents occur due to carelessness or because we simply do not follow safety rules.
5. Accidents can be avoided if we learn to follow certain precautions or the safety rules.

HOTS QUESTION

1. Always seek immediate medical attention if you've been bitten by a snake, as it could be a matter of life and death.
2. Rabies is a virus that spreads from rabid animals to other animals and humans through bites and scratches.
3. Because it can help to reduce the swelling and pain.

4. Leaving a wound uncovered may dry out new surface cells, which can increase pain or slow the healing process.

THINGS TO DO

A. PIMPRI

CHAPTER-8 SAFE WATER

Breather

1. (b) the one left in sunlight
2. (a) sun is a source of evaporation

Breather

evaporates; condense; clouds; rain; water cycle

A. Tick (✓) the correct answer.

1. (b) 2. (b) 3. (c) 4. (b) 5. (c)
6. (c) 7. (a) 8. (a)

B. Write 'T' for true statements and 'F' for false ones.

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

C. Answer the following questions.

1. Sedimentation and Decantation are the two methods of purification of water.
2. We can avoid wastage of water by following certain steps—
 - (a) Try to take short baths.
 - (b) Never wash vegetables or fruits in plenty of water.
 - (c) Take only as much water as you need.
 - (d) Store water in clean containers for future use.

- (e) Turn off the tap when you do not need water.
3. We need water for drinking, bathing, washing, cooking and cleaning.
4. The water that we use for cleaning and washing become dirty. When this dirty water gets mixed with the clean water of the rivers, ponds and lakes, it makes their water dirty. The two ways through which water gets polluted are—
- (a) When people throw garbage into rivers, water gets polluted.
- (b) When wastes from sewerages and factories flow into rivers, they make water polluted.

HOTS QUESTION

Since heavy fog that has been engulfing the capital in the early hours of the day.

THINGS TO DO

- A.** Complete the word with the help of given initials.
1. Hail 2. Water 3. Hydrogen
4. Ocean 5. Precipitation

TEST PAPER-2

(Based on chapters 1 to 8)

- A.** Answer the following questions in detail.
1. The process of preparation of food in the green leaves of plants is known as photosynthesis.

2. Whales are mammals because they give birth to live young. Dolphins are also mammals because they breed their babies with milk produced by the mother.
3. Birds have hollow bones which help them to float in the air.
4. Food contains nutrients like carbohydrates, fats, proteins, vitamins and minerals.
5. Microbes are very small organisms. It is found everywhere. Typhoid, flu, measles, and malaria are some diseases caused by microbes.

B. Name the animal that

1. Fish 2. Polar bear 3. Amphibians
4. Monkey 5. Chameleon

C. Complete the words.

1. Stomata 2. Chlorophyll 3. .
- Xerophytes
4. Caterpillar 5. Hibernation

D. Cross (X) the odd one from each group.

Mammals

Reptiles

4. Lizard (X) (d) Shark (X)

E. Tick (✓) the correct words given in the brackets.

1. plants 2. Algae 3. gills 4. fat 5. front teeth

F. Tick (✓) the animals that give birth to babies.

- Rabbit (✓) Frog (✓) Bear (✓) Rat (✓)
- Zebra (✓) Lion (✓)

G. Give reasons.

1. Plants make their food in the presence of sunlight.

2. Conifers have needle like leaves so that they can tolerate snowfall.
3. Camels have padded feet so that they are able to walk across sand without sinking in.
4. Children need a lot of proteins because they keep on growing all the time.
5. We should avoid too much of sweets as it causes weight gain, abdominal obesity, elevated blood sugar and high blood pressure.

H. Tick the correct option.

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

CHAPTER-9

SANITATION AND DISEASES

Breather

1. it can turn into breeding grounds for microorganisms, flies, mosquitoes, etc. which may lead to causing several diseases.
2. Mosquitoes lay their eggs on stagnant water.
3. By eliminating breeding places for mosquitoes, such as stagnant water bodies, puddles, small ponds, etc.

A. Tick (✓) the correct answer.

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

B. Match the following columns by drawing lines.

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

C. Fill in the blanks.

1. Always use the water from a **covered tank**.
2. We should always use a sanitary **latrine**.

3. Use **clean** water for drinking and cooking.
4. Loss of excess water and salt from the body is called **dehydration**.
5. Do not leave food **open** to flies.

D. Write 'T for true statements and 'F for false ones.

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

E. Answer the following questions.

1. We should make use of waste water into the kitchen garden. Waste water from house can be disposed off into soakage pit through open drains on pipe lines connected to the pit.
2. Loss of excess water and salt from the body is called dehydration.
3. To keep milk safe for a longer time, it is boiled at a specified temperature for half an hour and cooled immediately. Then it is packed in air tight containers or poly packs and kept in fridge. This process is called pasteurization.
4. The diseases that can be spread from one person to another are called communicable diseases.
5. Two ways of disposal of waste water are—
 - (i) Make use of waste water into the kitchen garden
 - (ii) Make a soakage pit to dispose off waste water.
6. Water should not be allowed to stand as mosquitoes breed in standing water.

HOTS QUESTION

Infectious diseases are diseases that spread from one animal to another. Non-infectious diseases are diseases that cannot be spread from one animal to another.

THINGS TO DO

- A. Infectious diseases are diseases that spread from one animal to another. Non-infectious diseases are diseases that cannot be spread from one animal to another.
- B. JENNER

CHAPTER-10

WEATHER AND ITS INFLUENCE ON LIFE

Breather

- 1. weather 2. wind and rain 3. land breeze
- 4. sea breeze 5. summer

- A. Tick (✓) the correct answer.
 - 1. (a) 2. (a) 3. (b) 4. (c)
- B. Write 'T' for true statements and 'F' for false ones.
 - 1. (F) 2. (T) 3. (T) 4. (T) 5. (T)
- C. Fill in the blanks.
 - 1. sun
 - 2. Nights are **long** in winter than in summer.
 - 3. Plants usually shed their leaves in **winter**.
 - 4. Land gets warm **quicker** than water.
 - 5. Land breeze and sea breeze

D. Write one word for each.

- | | | |
|-----------------|---------------|----------------|
| 1. Dew | 2. Fog | 3. Evaporation |
| 4. Condensation | 5. Sea breeze | |

E. How can you prove the following? Also draw pictures.

1. Hot air rises because when you heat air, it expands. When the air expands, it becomes less dense than the air around it. The less dense hot air then floats in the more dense cold air.

HOTS QUESTION

1. Even on a very hot day, people in coastal areas do not feel very hot because the seawater takes longer time to become hot as compared to land so the the people feel less hot.
2. Due to the cold climate, the water vapour present in the atmosphere condenses to form dew drops. These are usually found on the blades of grass, leaves of plants etc., during early winter mornings.
3. We feel uncomfortable on humid, rainy days because evaporative cooling cannot take place. Our body works hard to maintain homeostasis of our body temperature. When we get too hot, the sweat glands in the skin release sweat. Sweat helps reduce our body temperature through evaporative cooling.

CHAPTER-11

MATTER AND MATERIALS

A. Tick (✓) the correct option.

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

B. Fill in the blanks.

1. Matter is made up of **molecules**.
2. Matter occupies **space** and has **weight**.
3. The amount of space, matter occupies is called its **volume**.
4. A state of matter is a group of matter with the **similar** properties.
5. Density is the amount of **mass** that an object has for its volume.

C. Write 'T' for true statements and 'F' for false ones.

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

D. Match the following by drawing lines.

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

E. 1. solvent 2. condensation 3. freezing
4. immiscible liquids

F. Answer the following questions.

1. The three states of matter are – Solid, liquid and gas.
2. Molecules are made up of smaller particles called atoms.
3. The volume of a liquid change if solid is dissolved in it. It is because that the solid does not mix with the liquid and it occupies some space.
4. The three properties of liquid are – Solid state, liquid state and liquid state.
5. When sugar is dissolve in water, the volume of the solution does not change because it becomes a solution and mixed in water.

HOTS QUESTION

1. Solids cannot be squashed into smaller

volumes due to the particles being so close together.

2. carbon dioxide gas

THINGS TO DO

- B.**
1. The iron rod is a good conductor of heat.
 2. The water level increased since the water and the pebbles cannot occupy the same space. Since the pebbles are heavier than the water, they fell to the bottom of the glass and pushed the water upwards.
 3. the box will left with empty space

CHAPTER-12

FORCE, WORK AND ENERGY

Breather

1. Muscular force
2. Gravitational force
3. Magnetic force

- A.** Tick (✓) the correct answer.

1. (b)
2. (b)
3. (b)
4. (b)
5. (b)
6. (a)
7. (a)

- B.** Write 'T' for true statement and 'F' for false ones.

1. (T)
2. (T)
3. (T)
4. (T)
5. (T)

- C.** Fill in the blanks.

1. The capacity to do work is called **force**.
2. Force can **stop** a moving body.
3. Simple machines make our work **easy**.
4. The source of all energy is the **sun**.
5. Energy due to movement is called **kinetic** energy.

- D.** Answer the following questions.

1. Machines are useful to us. They make our work easier.
2. Energy is the capacity to do work.

3. The various kinds of energy are – Water energy, Kinetic energy, Heat energy, Atomic energy, Chemical energy, Electrical energy and Magnetic energy.
4. A push or pull that makes a thing move is called a force.
5. Force can make a body that is at rest to move. It can stop a moving body or slow it down. It can accelerate the speed of a moving body. It can also change the direction of a moving body along with its shape and size.

HOTS QUESTION

1. change of climate
2. friction
3. metre rod

THINGS TO DO

- A.** Write the names of energy the following things possess.

Gravitational force, Water (Hydral) energy, Solar energy

- B.** Find some words related to work, force and energy in the given word search.

T	P	F	O	R	C	E	P
W	O	R	K	L	O	A	Q
E	T	I	L	E	V	E	R
D	P	C	S	C	R	E	W
G	A	T	O	M	I	C	P
E	X	I	L	T	P	O	U
T	L	O	A	S	U	N	L
P	E	N	R	W	E	L	L
G	R	A	V	I	T	Y	E
T	P	E	N	E	R	G	Y

TEST PAPER-3

- A.** 1. Energy is the ability to do work.
2. Force can make a body that is at rest to move. It can stop a moving body or slow it down. It can accelerate the speed of a moving body. It can also change the direction of a moving body along with its shape and size.
3. solid, liquid, and gas
4. The solute is the substance that is being dissolved, while the solvent is the dissolving medium.
5. Sand absorbs as well as radiates heat more quickly than the earth. Thus at night, temperature of sand decreases at a much faster rate making the surrounding cooler in deserts.
- B.** 1. shorter 2. food 3. clean 4. volume
5. molecules
- C.** 1. kinetic; mechanical 2. pulley, lever
3. solid, liquid 4. brass, mixture of beans and rice
5. sun, rain
- D.** Do it yourself

CHAPTER-13 MEASUREMENTS

Breather

1. cm 2. metres 3. kg 4. grams
5. °C 6. 60 7. grams 8. hour
- A.** Tick (✓) the correct answer.
1. (b) 2. (a) 3. (d) 4. (a)
- B.** Write 'T' for true statement and 'F' for false ones.
1. F 2. T 3. T 4. T 5. T

C. Fill in the blanks.

1. 1 2. 1000 3. 60 4. gram 5. 60

D. Answer the following questions.

1. thermometer
2. using weighing balance
3. Small distances can be measured using the scale and expressed using a meter or foot. Large distances like the distance between two cities or two countries are measured using maps and electronic devices and expressed using kilometres or miles.
4. Time has no physical properties to measure. What we are really measuring is time intervals, the duration separating two events.
5. a kilogram of stones

HOTS QUESTION

1. The person got fever
2. The bigger units of length, mass and volume are km, kg, and kL respectively.

CHAPTER-14

THE SOLAR SYSTEM

A. Tick (✓) the correct answer.

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

B. Match the following columns by drawing lines.

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

C. Fill in the blanks.

1. Planets reflect the light of their closest **star**.
2. There is no weather on the **moon**.

3. The moon is natural satellite of the **Earth**.
4. The Earth rotates from **west to east**.
5. All the planets move around the **sun**.

D. Answer the following questions.

1. The other planets except the Earth are lifeless because they have no weather, air and water.
2. The rotation of the Earth on its axis causes day and night.
3. A group of stars is called a constellation.
4. There are eight planets in the solar system. They are – Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.
5. Each planet moves around the sun on its own path called orbit. The orbits are circular paths with the sun as their centre. The orbits of different planets do not cross each other.

HOTS QUESTION

1. Because the gravitational attraction on the Moon is much less than it is here on Earth,
2. As the sun rays fall directly on the equator first, the equator receives equal day and night throughout the year because it does not tilt in relation to the sun's location.

THINGS TO DO

Solve this heavenly puzzle with the help of the clues given below.

Across

- | | | |
|------------|----------|----------|
| 6. Neptune | 7. Stars | 8. Earth |
| 9. Mars | | |

Down

- | | | |
|------------|------------|----------|
| 1. Jupiter | 2. Equator | 3. Venus |
| 4. Axis | 5. Planets | 9. Moon |

CHAPTER-15 ENVIRONMENT AND CHANGES

Breather

1. air pollution 2. water pollution
 3. land pollution 4. noise pollution
- A.** Tick (✓) the correct answer.
1. (b) 2. ((c) 3. (c) 4. (a)
- B.** 1. lungs, eyes 2. water 3. noise pollution
4. global warming 5. greenhouse
- C.** 1. loudspeaker, honking vehicles
2. factories, garbage
3. industrial waste, agricultural waste
4. factories, motor vehicles
5. carbon dioxide, plastic
- D.** 1.T 2.T 3.F 4.F 5.T
- E.** 1. Pollution is the introduction of harmful materials into the environment.
2. Reduce the number of trips you take in your car. Reduce or eliminate fireplace and wood stove use. Avoid burning leaves, trash, and other materials.
- Avoid using gas-powered lawn and garden equipment.
3. The greenhouse effect is the process through

which heat is trapped near Earth's surface by substances known as 'greenhouse gases.

4. Reduce, Reuse, Recycle

TEST PAPER-4

(Based on chapters 9 to 15)

A. Answer the following questions in detail.

1. The three states of matter are– Solid, liquid and gas.

Examples

Solid	–	Ice	Liquid	–	Water
Gas	–	Oxygen			

2. Earth is at an adequate distance from the sun which gives us heat that is neither too hot nor too cold. Earth has enough amount of water, food, and air for the survival of living organisms. Earth has a protective ozone layer which protects us from the harmful rays.
3. Energy is the capacity to do work. Water energy, Kinetic energy, Heat energy, Atomic energy, Chemical energy, Electrical energy and Magnetic energy are the various kinds of energy.
4. The greenhouse effect is the process through which heat is trapped near Earth's surface by substances known as 'greenhouse gases.
5. Metre, rod, scale or ruler and measuring tape are the different tools to measure length.

B. Write 'T' for true statements and 'F' for false ones.

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

C. Name the following.

1. Molecule
2. Water
3. Carbon dioxide
4. Moon
5. Thermometre

D. Tick (✓) the correct word in the brackets.

1. stagnant
2. day and night
3. lighter
4. air
5. litre

E. Write the names of eight planets in the solar system.

1. Mercury
2. Venus
3. Earth
4. Mars
5. Jupiter
6. Saturn
7. Uranus
8. Neptune

F. Tick the correct option.

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

G. Write the kind of movement of the earth below each picture.

1. Rotation
2. Revolution

Now, write what these movements cause

1. Rotation causes day and night
2. Revolution causes various seasons

H. Identify the following space travellers.

1. Digital weighing machine
2. inch tape
3. measuring jug

PART-5

CHAPTER-1

FOOD, HEALTH AND HYGIENE

A. Tick (✓) the correct answer.

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

B. Write 'True' or 'False' next to each statement.

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

C. Fill in the blanks.

1. **Food** is the necessity of all living things.
2. Food with all the **substances** is called a balanced diet.
3. Carbohydrates are plentiful in **sweet** things.
4. Fats give **more** energy than carbohydrates.
5. People, who do physical work, need **more** carbohydrates.

D. Name two food items of each.

- | | | |
|-----------------------|---|--------------|
| 1. Proteinated food | – | Meat, milk |
| 2. Carbohydrated food | – | Potato, cake |
| 3. Fatty food | – | Ghee, Nuts |

E. Answer the following questions.

1. A diet that contains carbohydrates, fats, proteins, vitamins and minerals in their right proportion is called balanced diet.
2. Carbohydrates and fats are the two sources of energy for the body.
3. We need food to stay alive and healthy.

4. The main nutrients in the food are carbohydrates, fats, proteins, vitamins and minerals.
5. Exercise is very necessary to keep our body fit and healthy. It makes our muscles strong.
6. Rest is also as important as the food and exercise. Rest gives us freshness. Rest increases our efficiency and gives us strength to work more.
7. Roughage keeps the bowel movement proper and prevents constipation.

HOTS QUESTION

The reason behind parents preventing their children from going to school when they have cold and cough is to prevent other kids at school from getting infected.

THINGS TO DO

(Do yourself)

CHAPTER-2 DEFICIENCY DISEASES AND THEIR PREVENTION

Breather

Vitamin C is naturally present in various fruits and vegetables, such as citrus fruits, potatoes, spinach, broccoli, red peppers, strawberries, and tomatoes.

A. Tick (✓) the correct answer.

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

B. Fill in the blanks.

1. The BCG vaccination is against **tuberculosis** diseases.
2. Communicable diseases are caused by small living things called **microbes**.
3. DPT is **vaccine**.
4. Mosquitoes breed in **stagnant** water.
5. Vaccination develops **antibodies** inside the body.

C. Match the following columns.

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

D. Answer the following questions.

1. Diseases which spread from one person to another are called communicable diseases. Influenza and typhoid are the two communicable diseases.
2. Diseases that can not be spread from a sick to a healthy person.
3. We can prevent the spread of diseases through following some steps. These are—
 - (i) Fill up ditches around the house which have stagnant water. It will not allow mosquitoes and houseflies to breed there.
 - (ii) Spread a thin film of kerosene in big pools. This will kill the larve of mosquitoes.
 - (iii) Change the water in the storage tanks or coolers at least once a week.
 - (iv) Boil milk and water before using them.

- (v) Spray insecticides such as DPT and malathian to kill mosquitoes and houseflies.
- 4. The main symptoms of marasmus and kwashiorkor are as follows:
 - (i) The child does not grow well. He/she is thinner than other children of the same age.
 - (ii) The child looks dull and lazy.
 - (iii) The child gets tired easily. He/she does not show interest in any activity.
 - (iv) The child has loose skin and sunken eyes.
- 5. Diseases which spread from one person to another are called communicable diseases. The two communicable diseases are chicken-pox and ringworm.
- 6.
 - (a) Use disinfectants such as phenyl in the toilets and wash basins. Disinfectants kill germs.
 - (b) Isolate the patient from other members of the family. Only the person looking after the patient should go near him.
 - (c) Wear mask and gloves while caring for the patients to prevent yourself from getting infected.
 - (d) Vaccination has eradicated many diseases such as small-pox from the world.
- 7. Jaundice spread through contaminated food and water. That is why it is also called food and water-borne diseases.

HOTS QUESTION

Allergies

THINGS TO DO

Diseases spread through air, food, water, direct contact and insects. Can you identify these diseases hidden in the following grid?

One has been done for your. You can take help from the help box.

F	I	L	A	R	I	A	G
Z	Y	X	Z	Y	X	N	T
J	A	U	N	D	I	C	E
B	K	M	O	P	Q	S	P
B	L	N	O	P	R	U	H
C	H	O	L	E	R	A	O
P	H	D	E	N	G	U	E
W	M	A	L	A	R	I	A

CHAPTER-3

GROWTH AND DEVELOPMENT IN PLANTS

Breather

1. False 2. True

Breather

1. coconut, palm 2. orchid, cottonwood

A. Tick (✓) the correct answer.

1. (d) 2. (c) 3. (b) 4. (d) 5. (b)
6. (c) 7. (b)

B. Fill in the blanks.

1. Maize has **many** seed leaves.
2. A seed needs **water** to soften its seed coat.
3. The seed leaves are called **cotyledons**.

4. A seed needs warmth to become **active**.
 5. Crop rotation helps to control many **crop diseases**.
- C.** Name the following.
- | | |
|---------------------|----------------|
| 1. Himachal Pradesh | 2. Maharashtra |
| 3. Nagpur | 4. Muzaffarpur |
| 5. Kerala | |
- D.** Cross (X) the odd one from each group.
- | | |
|-------------------|---------------------|
| Rabi crops | Kharif crops |
| | 1. Barley (X) |
| 4. Maize (X) | |
- E.** Write two examples of each of the following.
- | | |
|-------------------|------------------------|
| 1. Orchid, Cotton | 2. Lotus, Coconut |
| 3. Mango, Orange | 4. Peas, Lady's finger |
- F.** Answer the following questions.
1. The development of a seed into seedling is called germination.
 2. The necessary conditions for seed germination are as follows:
 - A seed needs air because it requires oxygen for breathing.
 - A seed needs water to soften its seed coat. Water also changes the food stored in the seed leaves into a soluble form for the use of the baby plant.
 - A seed needs warmth to become active.
 3. The following are the natural agents in the dispersal of seeds– Wind, water, animals and explosion.

4. Rabi and Kharif crops are the two main crops grown in our country.

HOTS QUESTION

1. It is tough for the papaya seeds to reach the soil and it has to compete with others for proper spacing, air and water in order to grow.
2. All seeds cannot be dispersed by seeds as for this they need to be light weight and have hairs or wings so that wind can carry them off.

THINGS TO DO

- A.** Which Indian state is called the 'Land of coconut'? To get your answer, write the names of these states in the boxes and read the circled letters.

Answer – KERALA

- C.** Plants grow well in regions which are suitable for them. Can you match the plant to the state?

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

CHAPTER-4 ANIMAL WORLD

Breather (Page 39)

1. Hard-hoofed feet help animals to walk on grass easily.
2. Padded feet do not sink in the sand. It help animals to walk or run on the sand very easily.

Breather (Page 41)

Siberian cranes, Flamingos and Storks

- A.** Tick (✓) the correct answer.
1. (b) 2. (c) 3. (c) 4. (d) 5. (a)
6. (c) 7. (d) 8. (d)
- B.** Write 'True' or 'False' next to each statement.
1. (F) 2. (T) 3. (F) 4. (F) 5. (T)
- C.** Fill in the blanks.
1. Fishes have **fins and tail** to swim in water.
 2. Frogs and salamanders are **amphibians**.
 3. The cheetah's backbone is **very flexible**.
 4. The hump of a camel stores **fat**.
 5. **Snake** have no limbs.
- D.** Cross (X) the odd one from each group.
1. Crocodile (X) 2. Deer
- E.** Name the organ that helps each of the following animals to move.
1. Fins 2. Paddle feet 3. Scales
 4. Feet 5. Wings
- F.** Answer the following questions.
1. The body of a bird is shaped like an aeroplane. The bones of a bird are hollow and very light. Such type of body helps it to cut through the air.
 2. Fish have fins and a powerful tail. Fins help in movement and tail helps in maintaining balance and changing direction. Some fish also have air bladders that help them to float in water.
 3. Meat-eaters or carnivorous animals have sharp pointed teeth to tear the meat.

4. The camel has a large hump on its back. This hump stores fat that the camel can use if the food is not available.
5. The movement of a large group of birds from one place to another place is called migration.
6. Turtles have paddle-feet that help them in pushing water.
7. Running, swimming, jumping, flying, hopping, soaring and gliding

HOTS QUESTION

The cement is secreted from the base of their antennae and they spend their entire adult life in the same place, standing on their heads, kicking their legs out of their shell to catch their food. If a barnacle is dislodged from its substrate, it is unable to reattach itself and it will die.

LIFE SKILLS

Both fishes and birds have streamlined bodies that help with swimming and flying respectively in a specific direction.

THINGS TO DO

- A.** The names of some animals and their habitats have been given below. But the vowels are missing from each word. Can you write the full words. One is done for you.
1. Lions live in jungles.
 2. Zebras are found in grasslands.
 3. Yaks are found on high mountains.

4. Whales and dolphins live in water.
5. Camels live in deserts.

B. Answer – Peacock

CHAPTER-5

OUR SKELETAL SYSTEM

Breather

1. mandible 2. sternum

A. Tick (✓) the correct answer.

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

B. Write 'True' or 'False' next to each statement.

1. (T) 2. (T) 3. (T) 4. (T) 5. (T)

C. Fill in the blanks.

1. The muscles of heart are called **cardiac** muscles.
2. The human skeleton is made up of **206** bones.
3. Nicotine is **harmful** to our body.
4. Bone marrow makes **red blood cells**.
5. **Jawbone** is movable.

D. Name the following.

1. Femur 2. Hinge joint 3. Joint
4. Humerus 5. Femur

E. Answer the following questions.

1. The skeletal system consists of the bones. The bones give shape to the body. Without bones we would be like a floppy, squishy bag. They also protect vital organs in our body from physical damage.

2. The four types of joints are – Hinge joints, ball and socket joints, gliding joints and pivot joints.
3. There are three kinds of muscles in the human body. These are – Skeletal, smooth and cardiac.
4. The skull is the framework of the head. It protects the brain. It also protects the eyes, the ears, nose and tongue from physical damage.
5. The backbone is made up of 33 bones called vertebrae.

HOTS QUESTION

1. buttock 2. middle ear 3. eye

LIFE SKILLS

Calcium and other minerals helped strengthen your bones, provided that you got enough of them from your diet. As you get older, those minerals can start to leech out of your bones, leaving them brittle, fragile, and easily breakable, a condition known as osteoporosis.

CHAPTER-6

OUR NERVOUS SYSTEM

Breather

1. nervous system 2. skull
3. cerebellum 4. Reflex action

A. Tick (✓) the correct answer.

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

B. Fill in the blanks.

1. **Brain** and nerve cells work together to carry messages.
2. The largest part of the brain is called **cerebrum**.
3. The **tongue** has many taste buds.
4. Sebaceous glands give off **oil to stop the skin drying out**.
5. The **lips** are the most sensitive to touch.

C. Write 'True' or 'False' next to each statement.

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

D. Answer the following questions.

1. The organs of nervous system includes– the brain, the spinal cord and the nerves.
2. The cerebrum, cerebellum and medulla are the different parts of the brain.
3. It is the retina where images of objects form in our eyes.
4. The nervous system informs us when we are tired and need rest or sleep, when we are hungry and need food, when we are too hot or too cold. It regulates the functions of all the other systems of the body. That is why it is called the master system of the body.
5. Sensory nerves and motor nerves are the two types of nerves.
6. The eyelids serve to protect the eye from dust, dirt and other debris. The eyelashes help filter out dust and debris and prevent these from getting into the eye.

7. Special nerve called auditory nerve picks up this movement and sends it to the brain. Thus, the brain enables us to hear the sounds.
8. The left hemisphere controls speech, comprehension, arithmetic, and writing. The right hemisphere controls creativity, spatial ability, artistic, and musical skills.

HOTS QUESTION

1. 70 to 120 m/s
2. People described as left-brain thinkers are told they have strong math and logic skills. On the other hand, those who are described as right-brain thinkers are told that their talents are more on the creative side of things.
3. A leak can be detrimental to brain blood supply and function and can increase the risk of direct trauma to brain parenchyma due to loss of fluid cushion.

THINGS TO DO

- A.** Fill in this crossword puzzle with the help of the given clues.

Across

- | | | |
|------------|---------|----------|
| 2. Medulla | 3. Skin | 5. Motor |
| 7. Ears | 8. Iris | |

Down

- | | | |
|----------|------------|----------|
| 1. Pupil | 3. Sensory | 4. Brain |
| 6. Optic | 9. Eyes | |

- B.** (Do yourself with the help of teacher)

CHAPTER-7

SAFETY AND FIRST AID

A. Tick (✓) the correct answer.

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

B. Fill in the blanks.

1. Accidents mostly occur because of **carelessness**.
2. Snakebite require immediate **attention**.
3. A good first aid can **save** a life.
4. The amber light says **wait**.
5. The poison of a snake is called **venom**.

C. Answer the following questions in short.

1. Sling is a bandage passing over the shoulder to support an injured upper limb.
2. Rabies
3. Accidents happen when we are careless.
4. Fracture is a crack or a break in bone.
5. Rabies
6. Poison of a snake is called venom.
7. We should walk on the footpath on the road.
8. The red light indicates to stop.
9. The five common methods of extinguishing fires are cooling with water for Class A fires, smothering with a chemical for Class B fires, starving (cutting off the supply of oxygen) for class C fires, breaking the chain reaction of fire for Class D fires, and Chemical fire extinguishers for Class K fires.

HOTS QUESTIONS

1. Dust contains many small particles like those

of sand which are irritants. These cause irritation to the lining of the eyes and the nasal mucosa causing redness and difficulty in breathing.

2. Helmets can reduce the risk of serious head or brain injury.

LIFE SKILLS

Once you've unplugged the power source, try covering the flames with baking soda.

THINGS TO DO

1. TITANUS
2. FRACTURE
3. TOURNIQUETS
4. SPLINT
5. RABIES
6. SPRAINS
7. ELECTROCUTION

CHAPTER-8

SOLIDS, LIQUIDS AND GASES

Breather

- a. solid
 - b. liquid
 - c. liquid
 - d. melting
 - e. freezing
- A.** Tick (✓) the correct answer.
1. (c)
 2. (d)
 3. (b)
 4. (b)
- B.** Write True or False next to each statement.
1. False
 2. True
 3. True
 4. True
 5. True
- C.** Write three examples of each of the following.
1. Oil, water, milk
 2. Oxygen, carbon dioxide, hydrogen
 3. Iron, stone, wood

D. Write whether the following substances can be dissolved in water or not?

- | | | | |
|----|-------------|---|------------------|
| 1. | Soil | – | can dissolve |
| 2. | Flour | – | can not dissolve |
| 3. | Vaseline | – | can not dissolve |
| 4. | Coal | – | can not dissolve |
| 5. | Salt | – | can dissolve |
| 6. | Cooking oil | – | can not dissolve |

E. a. mango juice b. glass c. water
d. water vapour

F. Differentiate between.

1. When the change is only a temporary one, it is called physical change. When the change is permanent, it is called chemical change.
2. A molecule is the smallest unit of a substance that has all the properties of the substance. Atoms are the smallest particles of matter.
3. In solids, the molecules are very close together. They attract each other with great force.
In liquids, the molecules are less closely packed. The attraction between the molecules is less.

G. Give reasons.

1. In gases, the molecules are separated by big empty spaces. They have a lot of freedom to move about. That is why a gas has no definite shape or volume.
2. In solids, the molecules are very close together. They attract each other with great force. So, a

solid is hard, and has a definite shape and definite volume.

3. In liquids, the molecules are less closely packed. The attraction between the molecules is less. They can move about more freely. That is why they can flow. A liquid has definite volume, but it takes the shape of its container.

H. Answer the following questions.

1. In solids, the molecules are very close together. They attract each other with great force. So, a solid is hard, and has a definite shape.
2. The three states of matter are – solid, liquid and gas.
3. A molecule is the smallest unit of a substance that has all the properties of the substance.
4. Water is different from water vapour because water is a liquid and water vapour is a gas.
5. When the two liquids get mixed together and appear as one liquid, we can say that these two liquids have dissolved in each other. They are said to be miscible.
6. In liquids, the molecules are less closely packed. The attraction between the molecules is less. They can move about more freely. That is why they can flow.

HOTS QUESTION

1. When a bottle is opened the pressure inside decreases. Bubbles appear as the carbon dioxide dissolved in the liquid turns into gas.

2. Because turpentine is easily able to dissolve the dried paint on the skin.
3. They are not the solid because their shape can be changed.

CHAPTER-9

HOUSING

Breather

1. When one stays in the dark for a long time, the pupils dilate to let in more light.
 2. A dirty house can lead a person to severe depression and many other problems.
- A.** Tick (✓) the correct answer.
1. () 2. (b) 3. (c) 4. (a)
- B.** Fill in the blanks.
1. A house is a **place** where people live comfortably.
 2. Sunlight **kills** germs.
 3. Tiled roofs are **better** than straw roofs.
 4. The floors made up of marble chips dry **quickly**.
 5. We breathe out **impure** air.
 6. Ventilators must be kept **open**.
- C.** Write True or False next to each statement.
1. False 2. True 3. True 4. True 5. False
- D.** Give reasons.
1. There should be fine wire nets on the windows as it keeps away the flies, mosquitoes and other insects.

2. There should be no tall structure around the house as it restricts the air flow.
 3. Every room of the house should get enough sunlight as it kills germs.
- E.** Answer the following questions.
1. A house protects us from rain, storm, heat of the sun, thieves and wild animals. The house keeps us safe.
 2. The difference in houses is mainly due to the following reasons—
 - (i) climatic conditions
 - (ii) economic conditions
 - (iii) lifestyles of people
 - (iv) the availability of building materials.
 3. We can prevent flies and other insects by having fine wire nets on the windows.
 4. In order to ensure free movement of air, windows and doors should face each other.
 5. The ventilators help in creating an air current in the room.
 6. We can see stilt houses in region with heavy rainfall. These houses are raised on stilts over the surface of the soil, so that house remains protected from the flood water.
 7. In hilly areas sloping roof houses are made to make sure that the snow falls down. Houses in plains are generally pucca houses with brick walls. Roofs are made of different materials. Modern houses have flat concrete roofs.

HOTS QUESTION

1. The main challenges he will face will be water flooding on his roof.
2. She can replace those glass windows with fibre made windows which will give her a good view as well as security.

TEST PAPER-1

(Based on chapters 1 to 9)

- A.** Write 'T' for true statements and 'F' for false ones.
1. (T) 2. (F) 3. (T) 4. (T) 5. (T)
- B.** Match the columns by drawing lines.
1. (d) 2. (c) 3. (a) 4. (e) 5. (b)
- C.** Answer the following questions.
1. Potatoes, daffodils are some new plants grow from other parts of the parent plant.
 2. Yes, proper rest help someone with a sprain.
 3. The following ways will help someone suffering from sprain—
 - (i) By taking proper rest
 - (ii) Apply an ice pack for 10 to 20 minutes every 1 to 2 hours during the day.
 4. Miscible liquids combine to form a suspension in which the total fluid volume contains roughly equal parts of the two component liquids, while immiscible liquids do not mix.
 5. By following certain rules, we can conserve soil. These are – Afforestation, checking overgrazing, constructing dams and changing agricultural practices.

D. Tick (✓) the correct answer.

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

CHAPTER-10

SOIL: EROSION AND CONSERVATION

Breather

Because of the roots soil cannot easily be washed or blown away. So, plants prevent soil erosion.

Breather

The three methods of soil conservation are contour ploughing, crop rotation, and ploughing the land in the right direction.

A. Tick (✓) the correct answer.

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

B. Fill in the blanks.

1. Soil has **three** layers.
2. Crop rotation helps in maintaining the **fertility** of the soil.
3. Terraces reduce the speed of the flowing **water**.
4. Over-grazing by animals destroys the **grass** cover.
5. Only fertile soil can yield a good **crop**.

C. Write True or False next to each statement.

1. True 2. False 3. True 4. False 5. True

D. Answer the following questions.

1. Soil is formed when rocks breakdown into tiny pieces due to repeated drying, heating and cooling by the sun, wind and rain. This process is called weathering.

2. Soil is formed from rocks. It varies from place to place, depending mainly on the rock. Running water and strong wind are natural agents of soil.
3. Strong winds remove the top soil and deposit it somewhere else. The removal of top soil by water or wind is called soil erosion.
4. Running water and strong wind are the two natural agents that cause soil erosion.
5. The protection of soil from being eroded is called soil conservation.

HOTS QUESTION

1. Soil erosion is a major factor for desertification. It transforms the habitable regions into deserts.
2. Crops that improve soil fertility include hay plants and legumes.

CHAPTER-11

AIR IS USEFUL TO US

Breather

1. Nitrogen controls burning
 2. Carbon dioxide photosynthesis
 3. Water vapour cause humidity
 4. Oxygen supports burning
 5. Argon used in bulbs and tubelights
- A.** Tick (✓) the correct answer.
1. (a) 2. (a) 3. (b) 4. (b) 5. (c)
- B.** Fill in the blanks.
1. The air becomes **cool** as we go **higher**.

2. Plants use **carbon dioxide** to make their food.
 3. Due to global warming, temperature of the earth **is increasing**.
 4. The lowest layer of the atmosphere is the **troposphere**.
 5. **Ozone layer** absorbs the ultraviolet rays from the sun.
- C.** Write True or False next to each statement.
1.False 2.True 3.False 4.True 5.False
- D.** Name the following.
1. Atmosphere
 2. Troposphere
 3. Barometer
 4. Straw
 5. Nitrogen
- E.** Answer the following questions.
1. The envelope of gases surrounding the earth is known as atmosphere.
 2. Life is not possible without air. Air is quite essential both for breathing and burning.
 3. Plants use carbon dioxide to make their food during photosynthesis. They change carbon dioxide into starch with the help of water and sunlight and release oxygen.
 4. We make use of air pressure to fill ink in a fountain pen. The ink filler drives the air out and lowers the pressure inside the filler. The air outside exerts a pressure on the ink and forces it to go up into the fountain pen.
 5. Hot air is lighter than cold air. When air is heated, it expands and rises up. When air is

cooled, it contracts and comes down. This property of air plays an important role in making the water cycle.

HOTS QUESTION

1. Balloon bursts when the pressure inside the balloon becomes higher than its wall capacity to hold.

THINGS TO DO

- | | |
|-------------|-----------------|
| 1. NITROGEN | 2. HELIUM |
| 3. ARGON | 4. NEON |
| 5. KRIPTON | 6. WATER VAPOUR |
| 7. OXYGEN | |

CHAPTER-12

THE MOON AND ECLIPSES

- A.** Tick (✓) the correct answer.
1. (c) 2. (d) 3. (a) 4. (a) 5. (b)
6. (c) 7. (c)
- B.** Write True or False next to each statement.
1. False 2. False 3. True 4. True 5. False
- C.** Fill in the blanks.
1. The light from the **sun** shines on the moon.
 2. The first satellite launched by India was **Aryabhata**.
 3. The moon takes **27.3** days to go round the earth once.

4. The first spacecraft which landed on the moon with men on board was **Apollo-11**.

D. Give reasons.

1. The moon is the closest neighbour of Earth in space. The moon revolves around the earth and is called a natural satellite of the earth.
2. There is no atmosphere and no water on the moon. The moon is a barren and lifeless place.
3. The moon is closer to the earth than that of the sun. It is therefore, has greater pull on the water of the ocean.
4. A transparent object will not make any shadow, as light will pass straight through it.

E. Answer the following questions.

1. The earth is surrounded by a thick layer of air, called atmosphere. It is like a blanket around the earth, protecting it from the sun's heat and providing necessary conditions for animals and plants to live on.
2. The solar eclipse takes place when the sun, the moon and the earth come in a straight line. The moon is in between the sun and the earth.
3. There are man-made satellites which revolve around the earth. These are known as artificial satellites. Aaryabhata and Bhaskara-I are the two artificial satellites launched by India.
4. A lunar eclipse occurs only on a full moon night. But it does not occur on every full moon night. It occurs only when the sun, the earth and the moon are in a straight line.

5. Tides are the rise and fall of sea levels caused by the combined effects of the gravitational forces exerted by the moon and the sun and the rotation of the Earth.

HOTS QUESTION

1. The first animal to make an orbital spaceflight around the Earth was the dog Laika, aboard the Soviet spacecraft Sputnik 2 on 3 November 1957.
2. Solar eclipses frequently happen throughout the Solar System.
3. (a) sun (b) chromosphere (c) earth
(d) The earth is made up of three different layers: the crust, the mantle and the core.
(e) Nicholas Copernicus

THINGS TO DO

Names of artificial satellites are hidden in the following grid. Can you find them out? One is done for you.

Apple, Bhaskara, INSAT

CHAPTER-13

ROCK AND MINERALS

Breather

- | | |
|------------------|----------------|
| 1. organic | 2. metamorphic |
| 3. limestone | 4. Igneous |
| 5. red sandstone | |

- A.** Tick (✓) the correct answer.
1. (b) 2. (c) 3. (a) 4. (a) 5. (a)
- B.** Fill in the blanks choosing the suitable words from the list given below.
1. Most of the mountains, plateaus, plains and oceanic beds are made up of **igneous rocks**.
 2. The magma that reaches the earth's surface is called **lava**.
 3. **Limestone** is used for making bricks and glass.
 4. The Taj Mahal is made of white **marbles**.
 5. Minerals are **natural** resources.
- C.** Give two examples of each.
1. Iron, aluminium 2. Coal, Petroleum
- D.** Match the following columns by drawing lines.
1. (c) 2. (e) 3. (a) 4. (b) 5. (d)
- E.** Answer the following questions.
1. Rocks are made up of minerals.
 2. The three kinds of rocks are– Igneous rocks, Sedimentary rocks and Metamorphic rocks.
 3. An ore is a type of rock that contains sufficient minerals with important elements including metals that can be economically extracted from the rock. Bauxite, Chromite, Dolomite and Hematite are four common ores.
 4. Sandstone and Limestone are two examples of Sedimentary rocks.
 5. All kinds of minerals which contain metal particles in them are called metallic minerals.

6. Iron, Aluminium, Copper and Gold are four examples of metal.
7. Coal and petroleum are the two valuable underground resources.
8. In India, petroleum is found in Assam, Gujarat and off the Konkan Coast of Mumbai High.

HOTS QUESTION

Ruby diamonds

THINGS TO DO

- D.** Read the clues and complete the following crossword.

- | | |
|-----------------|--------------|
| 1. Conglomerate | 2. Obsidian |
| 3. Coal | 4. Marble |
| 5. Gold | 6. Limestone |
| 7. Sandstone | |

CHAPTER-14

FORCE, WORK AND ENERGY

Breather

1. solar cell 2. Gravitational force

- A.** Tick (✓) the correct answer.

- | | | |
|--------|--------|--------|
| 1. (c) | 2. (c) | 3. (a) |
| 4. (d) | 5. (a) | 6. (b) |

- B.** Write True or False next to each statement.

1. True 2. True 3. False 4. False 5. True

- C.** Fill in the blanks.

1. The capacity to do work is called **energy**.
2. There is no **gravitational** force in space.
3. Simple machines change the **direction** of the applied force.
4. A moving car possesses mechanical energy due to its **movement**.
5. An inclined plane is a **machine** which makes work easier.

D. Answer the following questions.

1. The smaller the effort force, the greater distances it must move. This is called the Principal of the Machine.
2. There are six kinds of simple machines– the lever, the inclined plane, the wedge, the screw, the wheel and axle and the pulley.
3. An inclined plane is a gentle slope that reduces the effort to lift a load.
4. A gear is a toothed wheel that works with others to alter the relation between the speed of a driving mechanism and the speed of the driven parts.
5. A pulley is a useful machine for changing the direction of a force. It has a small wheel with a groove around its rim to hold a rope. It is used for lifting things up vertically.
6. Work is the transfer of energy by a force acting on an object as it is displaced.
7. Gravitational force is only due to mass of the body. Electrostatic force is exists due to charge on the body.

8. Solar energy is commonly used for solar water heaters and house heating.

HOTS QUESTION

the Greek philosopher Archimedes

THINGS TO DO

- A.** Terminology of different kinds of machines is given in the following grid. Can you identify them? Do it in pairs to remove any confusion and report to your teacher. One is done for you.

Ans. Screw, Wheel, Lever, Fulcrum, Hammer and Scissors

- B.** (Do yourself)

CHAPTER-15

CHANGES IN OUR ENVIRONMENT

- A.** Tick (✓) the correct answer.

1. (b) 2. (d) 3. (c) 4. (c) 5. (d)
6. (c) 7. (c)

- B.** Fill in the blanks.

1. The bark of **cinchona** tree is used to make quinine.
2. Herbivorous animals eat **plants**.
3. Animals and human beings are called **living things**.
4. Quinine is used to treat **malaria**.
5. Paper is made from **the juice of kikar**.

C. Write True or False next to each statement.

1. False 2. True 3. False 4. True 5. True

D. Match the following columns by drawing lines.

1. Cows – Sheds 2. Dogs – Kennel
3. Sheep – Pens 4. Squirrels – Holes of trees
5. Horse – Stables

E. Answer the following questions.

1. Green plants are called the producers because they make their own food. All animals and human beings depend upon this food.
Animals and human beings are called consumers because they feed on plants directly or indirectly.
2. The flow of energy from producers to consumers and then to decomposers is called food-chain.
3. Bacteria are decomposers. They break down the lion's body into nutrients, which mix with the soil and are again used up by the plants.
4. Just as our lungs absorb carbon dioxide from the blood and infuse it with oxygen, green plants absorb carbon dioxide during photosynthesis and release oxygen into the atmosphere.
5. Carnivores animals eat flesh of other animals.

HOTS QUESTION

1. When deforestation occurs, much of the carbon stored by trees is released back into the

atmosphere as carbon dioxide, which contributes to climate change.

2. This means that if we are to love our neighbours unconditionally and generously, we will need to love ourselves that way too!

THINGSTODO

- B.** 1. Oxygen 2. Water 3. leaves
4. alcohol, iodine

CHAPTER-16

LIGHT AND SHADOW

Breather

1. wood, steel 2. butter paper, thick plastic sheet
3. glass, water

- A.** Tick (✓) the correct answer.

1. (c) 2. (c) 3. (a)
4. (a) 5. (a) 6. (a)

- B.** Write True or False next to each statement.

1. True 2. True 3. False 4. True 5. False

- C.** Tick (✓) the suitable words given in the brackets.

1. Waves 2. always 3. long 4. natural

- D.** Write two examples of each of the following.

1. Wood, steel 2. Glass, water
3. Butter paper, thick plastic sheet

- E.** Answer the following questions.

1. Light has seven different colours. These are – violet, indigo, blue, green, yellow, orange and red.

2. Objects that do not allow light to pass through them are called opaque objects.
3. The dark shape of an object, made on surfaces is called a shadow.
4. Size of the shadow depends on the distance of the object from the source of light. The shadow is shortest at noon.
5. The shadow is very long in the morning and in the evening.

F. Give reasons.

1. Leaves look green because it reflects only the green colour.
2. The sky looks blue because molecules in the air scatter blue light from the sun more than they scatter red light.
3. Each hemoglobin protein is made up of subunits called hemes, which are what give blood its red colour.

HOTS QUESTION

1. In space or on the Moon there is no atmosphere to scatter light. The light from the sun travels a straight line without scattering and all the colors stay together. Looking toward the sun we thus see a brilliant white light while looking away we would see only the darkness of empty space.

CHAPTER-17

NATURAL DISASTERS

Breather

1. True 2. True 3. False 4. False
- A.** Tick (✓) the correct answer.
1. (c) 2. (c) 3. (b)
4. (a) 5. (d) 6. (c)
- B.** Write True or False next to each statement.
1. True 2. True 3. False 4. True 5. True
- C.** Fill in the blanks.
1. In our country, **floods** are common in states like Bihar, West Bengal and Assam.
 2. Little and no rain causes **drought**.
 3. An earthquake is measured on a **richter** scale.
 4. Diseases which spread on a large scale and cause a number of deaths, are called **epidemic**.
 5. People living in the earthquake prone areas should live in **wooden** houses.
- D.** Match the following by drawing lines.
1. (c) 2. (d) 3. (a) 4. (b) 5. (f)
6. (e)
- E.** How can you help during the following natural disasters? Write any two ways in your own words.
1. Rush the affected people to the nearest open place, inform the neighbouring area about the disaster.
 2. Inform the people immediately about the danger, help to shift people to safer places.

3. Provide immediate relief in the form of food, drinking water and medicines, shift the affected people to other places till the situation becomes normal.
4. Help local authorities in providing essential commodities, help the police in maintaining law and order.

F. Answer the following questions.

1. Earthquakes occur all of a sudden such that people do not even get a chance to save their lives. They get crushed under the debris of the collapsed buildings. Sometimes earth cracks and fire also breaks out due to entangling and snapping of the electrical wires.
2. Drought is a continuous period of dry weather, when an area gets less than its normal amount of rain over months or even years. Lack of rainfall, surface water flow, deforestation and global warming are the causes of drought.
3. Steps to be taken in case of an earthquake—
 - (i) Immediately try to rush to the nearest open space.
 - (ii) Never stand near a high building, a tree or an electric pole.
 - (iii) Hide yourself under a strong table or a slab. Do not stand in a hall.
 - (iv) Never use a lift in an earthquake.
4. A flood is an overflow of water that submerges land which is usually dry.
Ways to check floods—

- (i) High embankments should be built on the rivers.
 - (ii) More and more trees should be grown on the banks of river.
 - (iii) Hedges and bushes should be planted along the rivers.
 - (iv) A flood alarm can warn the people to shift to safer places.
5. Earthquakes are caused due to the movement of the plates below the upper surface of the earth's crust. A volcanic eruption also causes an earthquake sometimes.
6. The following things we should not do during a natural calamity—
- (i) We should not panic ourselves and never spread panic and fear among the people.
 - (ii) We should never spread rumours.
 - (iii) We should not give wrong or incomplete information.

TEST PAPER-2

A. Fill in the blanks.

- 1. The mass movement of animals from one place to another is known as **migration**.
- 2. **Air** force slows down a moving object.
- 3. The **moon** is our earth's closest neighbour in space.
- 4. **tsunamis** are caused by an undersea earthquake or by a severe hurricane or cyclone.
- 5. Shadow is very **long** in the morning.

B. Write short answer.

- | | |
|---------------------------|---------------------------|
| 1. Ducks | 2. Asian Koel and cuckoos |
| 3. Gliding joints | 4. Oxygen |
| 5. Mt. Etna and Stromboli | |

C. Answer the following questions.

1. Soil has three layers– Top soil, Sub–soil and Bed rock.
2. The surface of the moon is solid and uneven. It is covered with a grey powdery dust. There are high mountains and plains on the moon. There are big and small craters scattered all over the moon.
3. (Same answer as of Question 2)
4. A richter scale is used to measure the intensity of earthquake. It was invented by Charles Richter.
5. Air pollution is fast leading to the discolouration of the Taj Mahal. Due to pollution it is slowly turning brownish yellow.

D. Tick (✓) the correct answer.

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

