



Based on NEP

Head Way Science

Teacher's Manual

Class I to V

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Head Way Science - 1

Chapter - 1 : Things Around Us

A. Tick (3) the correct option :

- | | |
|--------------------|------------------|
| 1. flowers | 2. teacher |
| 3. man-made things | 4. living things |
| 5. river | |

B. Fill in the blanks :

- | | |
|---------------|----------------------|
| 1. animals | 2. friends |
| 3. plants | 4. non-living things |
| 5. non-living | |

C. Name the following :

- | | |
|------------|----------|
| 1. Animals | 2. Table |
| 3. Book | 4. Moon |
| 5. Parents | |

D. Match the following :

- | | |
|------------------|----------------|
| 1. in the sky | 2. grow |
| 3. living thing | 4. do not move |
| 5. natural thing | |

E. Write 'T' for true and 'F' for false statements :

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

F. Answer the following questions :

- Three things we see in the house are table, chair, curtain.
- We see sun in the sky.
- The characteristics of living things are:-
 - ☼ Living things breathe and feel.
 - ☼ Living things need food to grow.
 - ☼ Living things move.
- Book, Table.

Chapter - 2 : Plants Around Us

A. Tick (3) the correct option :

- | | |
|------------|--------------|
| 1. climber | 2. beautiful |
|------------|--------------|

3. shade
4. herb
5. Rose

B. Fill in the blanks :

1. herbs
2. Trees
3. trees
4. Thorny plants
5. Climbers

C. Give two examples :

1. Mint, Tulsi
2. Neem, Mango
3. Pea plant, Money plant
4. Rose, Cotton

D. Match the following :

1. tree
2. herb
3. shrub
4. climber
5. hot desert
6. creeper

E. Write 'T' for true and 'F' for false statements:

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

F. Answer the following questions:

1. Very big, tall and strong plants are called trees.
2. The types of plants are:- Trees, Shrubs, Herbs, Climbers, Creepers, Thorny plants.
3. The plants that climb up taking the support of other plants, sticks, or walls are called climbers.
4. Pumpkin, watermelon plant.

Chapter - 3 : Parts of a Plant

A. Tick (3) the correct option :

1. baby plant
2. fruits
3. green
4. Leaves
5. seeds

B. Fill in the blanks with the help of given box :

1. Plants
2. Root
3. Fruits
4. Flowers
5. seed

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

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

D. Match the following :

- | | |
|---------|----------|
| 1. (ii) | 2. (i) |
| 3. (v) | 4. (iii) |
| 5. (iv) | |

E. Answer the following questions :

- A plant has many parts. They are -
 - Root
 - Stem
 - Leaves
 - Flowers
 - Fruits
- Leaf makes food for the plant.
- Root is the underground part of a plant.
- Mango, Plum
- Air, water and sunlight are the three helpers that help a seed to grow into new plant.

Chapter - 4 : Plants Give us Food

A. Tick (3) the correct option :

- | | |
|---------|---------------------|
| 1. both | 2. both 'a' and 'b' |
| 3. both | 4. dry-fruits |

B. Fill in the blanks with the help of given box :

- | | |
|-----------|-------------|
| 1. raw | 2. minerals |
| 3. Potato | 4. Cereals |

C. Match the following :

- | | |
|------------|----------|
| 1. cabbage | 2. apple |
| 3. mustard | 4. rice |
| 5. MOONG | |

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

- | | |
|---------|----------|
| 1. True | 2. False |
| 3. True | 4. False |

E. Answer the following questions :

1. Lentile, gram
2. Tea, coffee
3. Potato, onion
4. Orange, Pineapple

Chapter - 5 : Animal Around Us

A. Tick (3) the correct option :

1. Giraffe
2. Lion
3. Rabbit
4. pet
5. walk

B. Fill in the blanks :

1. forest
2. fly
3. Feathers
4. Beaks
5. Insects

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

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

D. Match the following :

1. (ii)
2. (v)
3. (iv)
4. (i)
5. (iii)

E. Answer the following questions :

1. Elephant and Tiger
2. Monkey and Squirrel
3. Animals which are tamed for food or work. They are called domestic animals. Eg- Cow.
4. Ostrich and Penguin

Chapter - 6 : Food and Shelter of Animals

A. Tick (3) the correct option :

1. aquarium
2. Horse
3. omnivores
4. grains
5. Fish

B. Fill in the blanks :

- | | |
|-----------|---------|
| 1. trees | 2. lion |
| 3. grains | 4. food |
| 5. nature | |

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

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

D. Match the following :

- | | |
|---------|----------|
| 1. hive | 2. nest |
| 3. den | 4. sties |

E. Answer the following questions :

1. Animals that eat grass or leaves are called plant-eaters or herbivores. Example: cow.
2. Spider spins a web.
3. Elephant lives in a cave.
4. Chicken lives in a coop.
5. Animals that eat both plants and flesh of other animal are called omnivores. Example: bear.

Chapter - 7 : House: Where We Live

A. Tick (3) the correct option :

- | | |
|----------------|------------|
| 1. pucca house | 2. both |
| 3. both | 4. Caravan |

B. Fill in the blanks :

- | | |
|-------------|------------|
| 1. house | 2. comfort |
| 3. soldiers | 4. Igloo |

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

- | | |
|----------|----------|
| 1. True | 2. True |
| 3. False | 4. False |

D. Match the following :

- | | |
|---------|----------|
| 1. (ii) | 2. (iii) |
| 3. (iv) | 4. (i) |

E. Answer the following questions :

1. Kuccha house is found in villages and town.
2. Caravan is a house on wheels that can be moved from one place to another.
3. Good house must have ventilation and trees near by.
4. The houses that are made up of bricks and cement are called permanent houses.

Chapter - 8 : Our Body

A. Tick (3) the correct option :

- | | |
|---------|---------|
| 1. eyes | 2. both |
| 3. two | 4. skin |
| 5. five | |

B. Fill in the blanks :

- | | |
|--------------|--------|
| 1. nose | 2. two |
| 3. hear | 4. see |
| 5. different | |

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

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

D. Match the following :

- | | |
|----------|----------|
| 1. see | 2. hear |
| 3. smell | 4. taste |
| 5. feel | |

E. Answer the following questions :

1. The five sense organs in our body are: eyes, ears, nose, tongue and skin.
2. Our nose helps us to smell.
3. We can hear different sound with our ears.
4. We can see many things with our eyes.
5. The parts of our body are called organs.

Chapter - 9 : Keeping Body Fit

A. Tick (3) the correct option :

1. cycling and swimming
2. 8 to 10 hours
3. both of these
4. morning
5. junk food

B. Fill in the blanks :

1. habits
2. health
3. tired
4. rest
5. meals

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

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

D. Answer the following questions :

1. We must go in park in the evening to play.
2. Swimming and cycling are two exercises which are very good for body
3. Playing keeps us healthy and fit.
4. Rest and sleep makes us fit for the next day.
5. Do not eat junk food. Eat clean and healthy food.

Chapter - 10 : Air Around Us

A. Tick (3) the correct option :

1. Air
2. dry
3. burning
4. wind

B. Fill in the blanks :

1. Air
2. moves
3. storm
4. fly
5. live

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

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

D. Match the following :

- | | |
|---------------------|-----------|
| 1. is called wind | 2. weight |
| 3. space | 4. air |
| 5. aeroplane to fly | |

E. Answer the following questions :

1. Moving air is called wind.
2. Air helps an aeroplane to fly. Plants and animals breathe in air to live.
3. Two characteristics of air are:
 - Air has weight.
 - Air occupies space.
4. When wind moves slowly it is called breeze.
5. Very fast blowing wind is called storm.

Chapter - 11 : Water: A Necessity for Life

A. Tick (3) the correct option :

- | | |
|-----------|----------|
| 1. rain | 2. clean |
| 3. Living | 4. waste |
| 5. wells | |

B. Fill in the blanks :

- | | |
|-------------|----------|
| 1. Water | 2. clean |
| 3. precious | 4. waste |
| 5. live | |

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

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

D. Match the following :

- | | |
|----------|----------|
| 1. clean | 2. water |
| 3. rain | 4. dam |
| 5. sick | |

E. Answer the following questions :

1. Rain is the main source of water.

2. No, it is not a good habit to waste water.
3. All living things need water to live.
4. Four uses of water are :
 - It is used for drinking.
 - It is used for cooking.
 - It is used for bathing.
 - It is used for washing clothes.

Chapter - 12 : Weather and Seasons

A. Tick (3) the correct option :

- | | |
|------------------|----------|
| 1. cotton | 2. Rainy |
| 3. summer season | 4. seven |
| 5. autumn | |

B. Fill in the blanks :

- | | |
|-------------|---------------|
| 1. pleasant | 2. rain coats |
| 3. strongly | 4. sun |
| 5. leaves | |

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

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

D. Match the following :

- | | |
|----------|---------|
| 1. (iii) | 2. (iv) |
| 3. (v) | 4. (ii) |
| 5. (i) | |

E. Answer the following questions :

1. Weather is the condition of air at a particular place or time.
2. A rainbow has seven colours.
3. When one type of weather stays for many days or months is called season.
4. There are five different seasons in a year. They are:-
 - Winter season
 - Spring season
 - Summer season
 - Rainy season
 - Autumn season.

5. Summer season:

- It is very hot during summer season.
- We wear cotton clothes to keep ourselves cool.

Chapter - 13 : Safety Habits and First Aid

A. Tick (3) the correct option :

- | | |
|--------------------|------------------|
| 1. on the footpath | 2. all of these |
| 3. both of these | 4. both of these |

B. Fill in the blanks :

- | | |
|--------------|------------|
| 1. protect | 2. road |
| 3. First Aid | 4. careful |

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

- | | |
|---------|----------|
| 1. True | 2. False |
| 3. True | 4. False |

D. Match the following :

- | | |
|-----------------------|-------------------|
| 1. to cross the road | 2. while swimming |
| 3. for walking | 4. unsafe |
| 5. cleaning the wound | |

E. Answer the following questions :

1. 'Green' Light says cross the road.
2. We should use zebra crossing to cross the road.
3. Rubber tubes can be used for swimming.
4. Knife, Scissors.
5. We need First Aid-Box in which you can keep bandage, dettol, cotton, scissor, any antiseptic cream, etc.

Chapter - 14 : The Sun, The Moon and The Stars

A. Tick (3) the correct option :

- | | |
|-----------------|--------------|
| 1. all of these | 2. the moon |
| 3. big | 4. half moon |
| 5. moon | |

B. Fill in the blanks :

- | | |
|--------|---------|
| 1. sun | 2. moon |
|--------|---------|

- 3. stars
- 4. east
- 5. stars

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

- 1. False
- 2. True
- 3. False
- 4. False

D. Match the following :

- 1. west
- 2. white ball
- 3. at night
- 4. big ball of fire
- 5. east

E. Answer the following questions :

- 1. Sun and Moon are two heavenly bodies that can be seen in the sky.
- 2. There is no air or water on the moon, so there is no life on the moon.
- 3. Sun gives us heat & light.
- 4. Sun and Stars are the two heavenly bodies that have their own light.
- 5. The moon is seen on a clear night.
The moon seems to change its shape every night.

Head Way Science - 2

Chapter - 1 : Living and Non-Living Things

A. Tick (3) the correct option :

- | | |
|----------|---------------------|
| 1. river | 2. chair |
| 3. both | 4. do not need food |

B. Fill in the blanks :

- | | |
|--------------|------------|
| 1. reproduce | 2. breathe |
| 3. plants | 4. natural |

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

- | | |
|----------|---------|
| 1. True | 2. True |
| 3. False | 4. True |

D. Match the following :

- | | |
|---------|----------|
| 1. (iv) | 2. (i) |
| 3. (ii) | 4. (iii) |

E. Answer the following questions :

1. Sun and River are natural things.
2. The things which have life in them are called living things. Human beings, animals, plants and trees are living things.
3. Living things can move. Living things can grow. Living things need food and water.
4. The things which do not have life in them are called non-living things. For example: clouds, mountains, sky, rivers, etc.

Chapter - 2 : Our Environment

A. Tick (3) the correct option :

1. Cutting trees
2. Everthing around us
3. Garbage and waste from industries
4. It can make us sick

B. Fill in the blanks:

- | | |
|-----------------|------------|
| 1. environment | 2. biotic |
| 3. water, paper | 4. dustbin |

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

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

D. Answer the following questions :

1. Our Environment consists of air, water, soil, plants, animals and all other natural things around us.
2. Our environment is made up of two components:
 - Living things (Biotic components)
 - Non-living things (Abiotic components)
3. There are several causes which are polluting our environment. Some of these factors are:
 - Cutting of trees.
 - Over population.
 - Dirty water from homes and industries pollutes rivers and lakes.
 - Use of polythene.
4. Some ways to save environment :
 - Do not waste paper.
 - Plant more and more trees.
 - Take care of animals around you.
 - Do not burn crackers.
 - Save water

Chapter-3 : Kinds of Plants

A. Tick (3) the correct option :

1. shrubs
2. pea
3. none of these
4. aquatic plants

B. Fill in the blanks:

1. green
2. support
3. Herbs
4. Geepers

A. Tick (3) the correct option :

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

D. Match the following:

- | | |
|---------|----------|
| 1. (ii) | 2. (iv) |
| 3. (i) | 4. (iii) |

E. Answer the following questions :

1. Very big and tall plants are called trees. Eg. Mango tree, Neem tree.
2. Shrubs are smaller than trees. They have thin and hard woody stems with many branches. Eg- Rose, Cotton.
3. Herbs are smaller than shrubs. They have weak and soft stems. Eg: Mint, Spinach.
4. Plants which grow in water are called aquatic plants. For example: Lotus plant, Hydrilla Plant.

Chapter - 4 : Uses of Plants

A. Tick (3) the correct option :

- | | |
|---------------------|------------|
| 1. both (a) and (b) | 2. protein |
| 3. food | 4. Tulsi |

B. Fill in the blanks:

- | | |
|--------------------|-----------|
| 1. bamboo | 2. Cotton |
| 3. soaps, shampoos | 4. Plants |

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

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

D. Match the following :

- | | |
|------------|------------|
| 1. pumpkin | 2. jute |
| 3. moong | 4. mustard |
| 5. moong | |

E. Answer the following questions :

1. We get fruits, vegetables, cereals, pulses, medicines from plants.
2. We can make table, chair, door, box, paper.
3. Alovera and neem are two medicinal plants.
4. Oil is used to cook food. Oil is also used to make soaps and shampoos.

Chapter - 5 : Animals in Our Homes and Their Uses

A. Tick (3) the correct option :

- | | |
|-----------------|------------------|
| 1. all of these | 2. both of these |
| 3. wool | 4. all of these |

B. Fill in the blanks :

- | | |
|-------------|-----------|
| 1. domestic | 2. silk |
| 3. Leather | 4. winter |

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

- | | |
|---------|----------|
| 1. True | 2. True |
| 3. True | 4. False |

D. Match the following :

- | | |
|---------|----------|
| 1. (ii) | 2. (v) |
| 3. (i) | 4. (iii) |
| 5. (iv) | |

E. Answer the following questions :

1. Animals that are kept at home or in frame are called domestic animals. For example: cow.
2. Animals that live with us in our homes are called pets. For example: dog.
3. Hens and ducks give us eggs.
4. Leather is used to make beautiful shoes, purses and belts.
5. Camel is called the 'ship of the desert'.

Chapter-6 : Wild Animals and Their Shelters

A. Tick (3) the correct option :

- | | |
|----------|---------------|
| 1. Snake | 2. scavengers |
| 3. Lion | 4. carnivores |

B. Fill in the blanks :

- | | |
|---------------|--------------|
| 1. grass | 2. den |
| 3. Scavengers | 4. Omnivores |

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

- | | |
|----------|----------|
| 1. False | 2. True |
| 3. True | 4. False |

D. Match the following :

- | | |
|--------------|-----------|
| 1. snake | 2. lion |
| 3. bird | 4. monkey |
| 5. eat grass | |

E. Answer the following questions :

1. Wild animals live in forests.
2. Herbivores eat grass or leaves.
3. Horse, Deer, Elephant, eat grass.
4. Birds build nest to lay eggs in the nests.

Chapter - 7 : Exercise and Posture

A. Tick (3) the correct option :

- | | |
|------------------|------------------|
| 1. both of these | 2. both of these |
| 3. all of these | 4. both of these |

B. Fill in the blanks :

- | | |
|-------------|-------------|
| 1. bones | 2. Bones |
| 3. exercise | 4. straight |

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

- | | |
|---------|----------|
| 1. True | 2. False |
| 3. True | 4. True |

D. Match the following :

1. gives shape and support to the body
2. keeps the body fit and muscles strong
3. places in the body where two or more bones are joined
4. keeps the body fit and muscles strong
5. gives proper shape to the body

E. Answer the following questions :

1. The human body is made up of bones and muscles.
2. Bones are the hard parts of our body. They give shape and support to our body. Muscles are attached to the bones. They help the bones to move.
3. All parts of our body work properly and effectively when our posture is correct.

4. To keep our bones and muscles fit. We must do exercise and play games.
5. The position in which we keep our body when we sit, stand or move about is called posture.

Chapter - 8 : Food and Its Need

A. Tick (3) the correct option :

- | | |
|--------------------|-------------------|
| 1. protective food | 2. build our body |
| 3. food | 4. clean |

B. Fill in the blanks :

- | | |
|----------|----------|
| 1. clean | 2. fixed |
| 3. ill | 4. Food |

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

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

D. Match the following :

- | | |
|--------------------|--------------------------|
| 1. meat, egg | 2. fruits and vegetables |
| 3. rice, potato | 4. well |
| 5. plenty of water | |

E. Answer the following questions :

1. All living things need food to stay alive. Food gives us energy (strength) to work and play. Food also protects our body from diseases.
2. Food we can be divided into three groups:
 - **Energy giving food** : Food that gives the energy to work and play are called energy giving food.
 - **Body building food** : Food that helps us to grow and make or muscles and bones strong are called body building food.
 - **Protective food** : Food that protects us from falling ill is called protective food.
3.
 - Wash your hands before and after eating meals.
 - Always eat fresh and covered food.
 - Always eat slowly and chew the food well.

- Eat plenty of fruits and vegetables.
4. Meal is the food that we eat at a fixed time everyday. We take three main meals in a day.
- Breakfast
 - Lunch
 - Dinner

Chapter - 9 : Cooking

A. Tick (3) the correct option :

- | | |
|-----------------|-------------|
| 1. steaming | 2. frying |
| 3. All of these | 4. Roasting |

B. Fill in the blanks :

- | | |
|-----------------|--------------|
| 1. Vegetables | 2. Boiling |
| 3. earthen ware | 4. Non-stick |

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

- | | |
|----------|----------|
| 1. False | 2. False |
| 3. True | 4. True |

D. Answer in one or two words :

- | | |
|--------------------|------------|
| 1. Boiling | 2. Frying |
| 3. Pressure cooker | 4. Ceramic |

E. Answer the following questions :

1. Cooking makes food soft, tasty and easy to chew and digest. It is also kills germs present in the food.
2. The different material used for making cooking vessels are stone, wood, clay, iron, steel, copper and aluminium.
3. In some methods of cooking, water is used. In some methods food can be cooked without water.

Boiling is one of the simplest method of cooking. The food item along with water is placed in a pan or a wok and boiled.

Frying is a method of cooking food in hot oil or ghee. When food is completely soaked in hot oil or ghee in a pan, it is called deep frying.

4. Steaming food is the best method of cooking as the nutrients are not lost. Steamed food is healthy because no oil is used.

Chapter - 10 : Air Around Us

A. Tick (3) the correct option :

- | | |
|-----------------|------------------|
| 1. breathe | 2. water |
| 3. green plants | 4. fuels we burn |

B. Fill in the blanks :

- | | |
|-------------|-----------|
| 1. air | 2. wind |
| 3. windmill | 4. weight |

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

- | | |
|---------|----------|
| 1. True | 2. True |
| 3. True | 4. False |

D. Match the following :

- | | |
|--------------------|-------------------|
| 1. wind | 2. cause diseases |
| 3. good for health | 4. storm |
| 5. polluted air | |

E. Answer the following questions :

1. People, animals and plants need air to live.
2. When wind moves slowly it is called breeze.
3. Air occupies space, Air has weight, Air has different forms.
4. Uses of Air:
 - Plants and animals breathe in air to live.
 - Air helps an aeroplane fly.
 - Air helps in burning.

Chapter - 11 : We Need Water

A. Tick (3) the correct option :

- | | |
|----------|----------|
| 1. Rain | 2. tanks |
| 3. water | 4. 70% |

B. Fill in the blanks :

- | | |
|-----------|------------------|
| 1. water | 2. living things |
| 3. Plants | 4. Dirty |

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

- | | |
|---------|---------|
| 1. True | 2. True |
|---------|---------|

3. True 4. False

5. True

D. Match the following :

- | | |
|-------------------------|----------------------|
| 1. typhoid | 2. water |
| 3. main source of water | 4. underground water |
| 5. clean water | |

E. Answer the following questions :

- Water is used in many things:
 - It is used for drinking.
 - It is used for cooking.
 - It is used for bathing.
 - It is used for washing clothes.
- The three sources of water are ponds, lakes & rivers.
- We should close the tap while brushing our teeth. We should get repair leaking taps.
- Do not allow drain water to flow into a river.
Do not defecate near water bodies.

Chapter - 12 : Weather and Seasons

A. Tick (3) the correct option :

- | | |
|-----------|----------|
| 1. five | 2. seven |
| 3. autumn | 4. cool |

B. Fill in the blanks :

- | | |
|------------|-----------|
| 1. Weather | 2. sun |
| 3. cold | 4. autumn |

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

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

D. Match the following :

- | | |
|-----------|------------|
| 1. winter | 2. spring |
| 3. summer | 4. monsoon |
| 5. autumn | |

E. Answer the following questions :

1. Weather is the condition of air at a particular place or time.
2. When one type of weather stays for many days or month is called season.
3. There are five different seasons in a year:
 - Summer season
 - Winter season
 - Rainy season
 - Spring season
 - Autumn season
4. Trees shed their leaves during autumn season.

Chapter - 13 : Rocks and Minerals

A. Tick (3) the correct option :

1. all of these
2. Diamond
3. china clay
4. graphite

B. Fill in the blanks :

1. rocks
2. colours
3. marble
4. Coal

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

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

D. Match the following :

1. china clay
2. talc
3. white marble
4. diamond

E. Answer the following questions :

1. Rocks are the hard matter found on the surface of earth as well as underground. Eg: Marble, coal.
2. Marble and Sandstone are used for making statues and buildings.
3. Minerals are solid substance buried under the earth's crust.
4. Diamond is used to cut glass. Diamond is used to make jewellery.

Chapter-14 : Safety and First-Aid

A. Tick (3) the correct option :

1. zebra crossing
2. stop
3. in the park
4. sharp objects

B. Fill in the blanks :

- | | |
|-----------------|------------|
| 1. zebra | 2. push |
| 3. safety rules | 4. careful |

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

- | | |
|----------|----------|
| 1. False | 2. False |
| 3. True | 4. False |

D. Match the following :

- | | |
|------------------|-------------------|
| 1. stop | 2. wait |
| 3. go | 4. immediate help |
| 5. painted lines | |

E. Answer the following questions :

1. First-Aid is the help given to an injured person before the doctor arrives.
2. Do not play with knife, scissors or blade. Do not play with fire and matchsticks.
3. Play in safe places like parks and playground. Always play safe games.
4. We should always walk on the footpath.

Chapter - 15 : The Sun and Shadow

A. Tick (3) the correct option :

- | | |
|-----------------|------------|
| 1. all of these | 2. the sun |
| 3. west | 4. mid-day |

B. Fill in the blanks :

- | | |
|---------------|---------------|
| 1. stars | 2. sun |
| 3. east, west | 4. directions |

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

- | | |
|----------|---------|
| 1. False | 2. True |
| 3. False | 4. True |

D. Answer the following questions :

1. Sun and moon are two heavenly bodies.
2. East, West, North and South are the four directions.
3. When light cannot pass through an object, a shadow is formed.
4. Sun gives us heat and light.

Chapter-1 Our Environment

A. Tick (3) the correct option :

1. major body of saline water
2. cutting of trees
3. animals
4. 71%

B. Fill in the blanks :

1. water
2. plains
3. plants and animals
4. marine creatures

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

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

D. Match the following:

1. house of plants and animals
2. home of marine creatures
3. thickly populated
4. very cold areas
5. cutting down of trees

E. Answer the following questions:

1. Everything that is found on the earth naturally is called environment.
2. Forests acts like a house for animals and plants. Forests also consists of trees which clean the air and produce oxygen for us to breathe. Forests are also the home of many tribal people.
3. The cutting down of trees in the forest is called deforestation.
4. An ocean is a major body of saline water. The oceans are the home of several marine creatures.
5. The different oceans are the Pacific, the Atlantic, the Indian, the Arctic and the Antarctic.

Chapter-2 : Parts of a Plant

A. Tick (3) the correct option:

- | | |
|-----------------|------------------|
| 1. all of these | 2. both of these |
| 3. banana | 4. all of these |

B. Fill in the blanks:

- | | |
|----------------|------------|
| 1. root system | 2. Tap |
| 3. shoot | 4. flowers |
| 5. Leaves | |

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

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

D. Answer in one or two words:

1. Sweet -potato, Sugarcane
2. Wheat, Rice
3. Radish, Carrot
4. Chlorophyll

E. Answer the following questions:

1. Two different systems that each plant has in it are Root System and Shoot system.
2. There are two main types of roots:
 - Tap root
 - Fibrous rootRoots have many functions. Some of these are:
 - Roots of few plants store food in them.
 - Roots spread out to support the plant and bind it firmly to the ground.
 - Roots hair grow on the sides of larger roots which help the plants to absorb minerals and water from the soil.
3. Functions of stems:
 - The stem holds the plants standing up straight to get sunlight and air.

- Water and mineral salts are carried by the stem from roots to all other parts of the plants.
 - Food for the plant is made by the leaves. This food is carried by the stem to all other parts of the plant.
4. Mint and cabbages store food in their leaves. That is why, we eat the leaves of such plants.

Chapter-3 : Leaves Around Us

A. Tick (3) the correct option :

- | | |
|----------------------------|----------|
| 1. Mango | 2. Tulsi |
| 3. air, water and sunlight | 4. henna |

B. Fill in the blanks:

1. food factories
2. Petiole
3. Simple leaf, compound leaf
4. chlorophyll

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

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

D. Answer in one or two words:

- | | |
|------------|-------------------------------|
| 1. Stomata | 2. Neem |
| 3. Compost | 4. Simple leaf, compound leaf |
| 5. Spinach | |

E. Answer the following questions:

1. The broad part of a leaf is called a leaf blade.
2. Leaves of different plants differ in colour, shape, size, smell and touch.
3. The oxygen that we breathe in is released by the leaves during the process of photosynthesis.

The leaves of plants such as neem and tulsi are used as medicine.

The dried leaves of henna and indigo are used for dyeing hair and clothes.

4. We should remember not to add highly acidic food while making compost pit.

Chapter-4 : Food and Feeding Habits of Animals

A. Tick (3) the correct option :

1. both (a) and (b)
2. deer
3. carnivores
4. both (a) and (b)

B. Fill in the blanks:

1. food
2. carnivores
3. green plants
4. veterinarian

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

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

D. Answer in one or two words:

1. Cow, Buffalo
2. Leech
3. Rat, Rabbit
4. Cow, Buffalo

E. Answer the following questions:

1. Animals are classified into three categories on the basis of their food habits:
 - Herbivores: Herbivores are plant-eating animals. They eat only grass, leaves or green plants. Eg: Cow, Buffalo.
 - Carnivores: Carnivores are flesh-eating animals. They eat only flesh. Eg: lion, leopard.
 - Omnivores: Omnivores eat both plants and flesh of other animals. Eg: Bear, crow.
2. Omnivores: Omnivores eat both plants and flesh of other animals. Eg: Bear, crow.
3. Food chain is the flow of nutrients and energy, from the organism to another at different trophic level. Eg. Deer eat plants and lion eat deer.
4. Grass-eating animals like cows, buffaloes and sheep first bite off or nibble the grass and then swallow it without chewing. When they relax after sometime, they bring the swallowed food back into their mouth from the stomach and chew it well with the help of their strong and broad

back grinding teeth. These animals are called ruminants.

5. We should food them well to keep them healthy and active. Animals like cows, buffaloes, and goats give us milk. They need milk-producing food. They should be fed on rich grass, oilcakes, cotton seeds and other milk producing things. Birds like hens and ducks that lay eggs have to be given more of body-building food.

Chapter- 5 : Birds Behaviour

A. Tick (3) the correct option :

- | | |
|-------------------|------------------|
| 1. claws | 2. Hawk |
| 3. Humming bird | 4. down feathers |
| 5. short and hard | |

B. Fill in the blanks:

- | | |
|-----------|----------------|
| 1. talons | 2. teeth |
| 3. wings | 4. webbed feet |
| 5. Down | |

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

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

D. Answer in one or two words:

- | | |
|--------------------|----------------|
| 1. Flight feathers | 2. Eagle |
| 3. Duck | 4. Duck, Geese |
| 5. Tail feathers | |

E. Answer the following questions:

1. There are four kinds of feathers:
 - **Body feathers** : Body feathers are those feathers which give shape to the bird's body.
 - **Flight feathers** : Feathers that are attached to the wings and tail of the bird are bigger in size and are strong. They help the bird to fly. These are known as flight feathers.
 - **Down feathers** : Down feathers are small, soft and fluffy. They keep the body warm.

- Tail feathers:- tail feathers are used for steering and braking. They use them to attract females.
2. Birds fly with the help of wings. When a birds want to fly, it flaps its wings up and down and goes up gradually into the air.
Wings perform two types of motion:
 - Up stroke: When the wings move upward and backward.
 - Down stroke: When the wings move downward and forward.
 3. Wading birds like cranes and herons can walk through water using their long legs and widely spread out toes.
 4. Birds use their feet and claws to catch and hold food. Claws also help birds to climb, walk and sit on branches of tree.
 5. Preying birds like eagle, hawk and owl have sharp, strong and curved claws called talons. These claws help them to catch, kill, tear and hold their prey firmly.

Chapter- 6 : Our Body: A Wonderful Machine

A. Tick (3) the correct option :

- | | |
|---------------------|------------------------|
| 1. excretory system | 2. lungs |
| 3. both of these | 4. reproductive system |
| 5. 500 | |

B. Fill in the blanks:

- | | |
|--------------------|------------|
| 1. five | 2. organ |
| 3. nerves | 4. kidneys |
| 5. large intestine | |

C. Write ‘T’ for true and ‘F’ for false statements:

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

D. Answer in one or two words:

- | | |
|--------------------|----------|
| 1. Muscular system | 2. Heart |
| 3. Arteries | 4. Mouth |

E. Answer the following questions:

1. The sense organs make us know everything about the outside world. We have five organs-eyes, ears, nose, tongue and skin. Our eyes help us to see. Our ears help us to hear. Our nose helps us to smell. Our tongue helps us to taste. Our skin helps us to feel temperature, pressure, pain and touch.
2. Skeleton System gives shape and support to the body. It protects all the organs inside the body.
3. The body has two bean shaped kidneys which excrete the waste of the body regularly. The kidneys throw out the urine. The lungs send out carbon dioxide and the skin lets out sweat.
4. (a) Respiration : Nose, wind-pipe, lungs.
(b) Excretion : Kidneys
(c) Circulation : Heart
(d) Digestion : Mouth, Rectum, Anus
(e) Movement : Muscles

Chapter-7 : Housing and Clothing

A. Tick (3) the correct option :

1. snow
2. plant fibres
3. winters
4. permanent houses
5. tent house

B. Fill in the blanks:

1. yarn
2. Caravan
3. plants, animals
4. house
5. cotton plant

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

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

D. Answer in one or two words:

1. Pucca house
2. Igloo

3. Cotton, Jute
4. Nylon, Polyester
5. Wool

E. Answer the following questions:

1. We all need a house to live in. House protects us from heat, cold, rain, animals and enemies. Once we are in house we feel safe. A good house gives us comfort and peace.
2. A good house has following features:
 - A good house should be airy and well ventilated, so that fresh air and sunlight can come in. Sunlight kills the germs and fresh air helps us to breathe well.
 - It should have open spaces like verandah or a courtyard, where children can play or study and enjoy fresh air at the same time.
 - The floors of the bathroom, kitchen should be well sloped to avoid water to stagnate.
3. Houses which are made up of bricks, iron and cement are called pucca houses or permanent houses. These types of houses are found in cities. Flat and bungalows are the example of pucca house.

Advantage:

 - These houses are very strong.
 - They are safe.

Disadvantage:

 - It requires large investment.
4. Houses which are made on poles are called stilt houses. These type of houses are found where rains a lot.
5.
 - Natural fibres:- Fibres that are obtained from either plants or animals are called natural fibres. Examples are cotton, wool and silk.
 - Artificial fibres/ Man-made fibres:- Fibres that are made by man are called man-made or synthetic fibres. Examples are nylon and polyester.

Chapter-8: Food We Eat

A. Tick (3) the correct option :

1. roots
2. stems

3. seeds
4. energy giving food

B. Fill in the blanks:

1. activities
2. Fats
3. Cucumber, carrot
4. proteins
5. nutrients

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

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

D. Answer in one or two words:

1. Egg
2. Fruits
3. Potato
4. Potato
5. Meat

E. Answer the following questions:

1. Different parts of plants are eaten as food.
Carrot, radish, beetroot and turnip are roots of plants. Cabbage, lettuce, are leaves of plants. Cauliflower and broccoli are flowers of plants. Cereals such as rice, wheat and bajara are also seeds of plants. We get vegetable oil from the seeds of plants such as groundnut, sunflower, coconut and mustard.
2. Spices add aroma and taste to the food. We get spices such as pepper, clove, cinnamon, cardamom, turmeric and cumin from plants.
3. Body-building food helps our body to grow as they are rich in proteins. Eggs, milk, meat, fish, paneer, cheese, soyabean and pulses are rich in proteins.
4. Food travels a long journey before it reaches our homes or plates. Plants are grown by farmers. They sow crops and harvest them when they ripen. The produce is then sold in a mandi or a wholesale market. Shopkeepers and vendors buy the produce from the mandi. We buy fruits and vegetables from shopkeepers or vendors.

Chapter-9 Safety Rules and First Aid

A. Tick (3) the correct option :

1. first aid
2. all of these

3. both of these
4. footpath

B. Fill in the blanks:

1. safety rules
2. moving
3. wet
4. accidents
5. green

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

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

D. Answer in one or two words:

1. Nylon and Polyester
2. Zebra crossing
3. Switches
4. Knife

E. Answer the following questions:

1. Accidents can take place at any place or at any time. Most of the accidents take place when people are careless or in a hurry.
2. Walk on the footpath or on the left hand side of the road. Cross the road at the zebra-crossing. Look carefully in both directions before crossing the road.
3. We should not play carelessly as a slight carelessness causes accidents and can spoil the fun.
4. We should not touch electrical things or switches with wet hands as we may get a shock. An electric shock can kill a human being. This is why, all electrical machines and wires are covered with plastic.
5. The first help given to an injured person or sick person, before the doctor comes, is called as first aid.

Chapter-10 : Air, Water and Weather

A. Tick (3) the correct option:

1. all of these
2. at noon
3. breeze
4. all of these
5. rain and snow

B. Fill in the blanks:

- | | |
|--------------|-------------|
| 1. two-third | 2. dissolve |
| 3. weather | 4. wind |
| 5. storms | |

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

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

D. Answer in one or two words:

- | | |
|-------------|-----------------|
| 1. Rain | 2. Condensation |
| 3. Rain | 4. Loo |
| 5. Freezing | |

E. Answer the following questions:

- Air helps in burning.
Air dries our clothes faster.
Air helps birds to fly in the sky.
Moving air helps in the generation of electricity through windmills.
- Rain and snow are the main source of water. Water is found in ocean, rivers, lakes, wells, ponds, etc.
- We cannot drink sea water as it is salty.
- At noon, the sun is overhead and the rays fall straight. That is why; noon time is the hottest part of the day.
- Weather changes are caused by the sun, the wind, the clouds and the rain.
- (i) Condensation:- The process by which water vapour of changing the liquid water is called condensation.
(ii) Evaporation:- The process of changing water into water vapour is called evaporation.

Chapter- 11 : Soil

A. Tick (3) the correct option :

- | | |
|-----------------|-----------------|
| 1. loamy soil | 2. gravel |
| 3. all of these | 4. all of these |

B. Fill in the blanks:

- | | |
|-------------|----------|
| 1. soil | 2. loamy |
| 3. bed rock | 5. sandy |

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

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

D. Answer in one or two words:

1. Top soil
2. Top soil, Sub soil, Bed rock
3. Humus
4. Sandy soil
5. Loamy soil

E. Answer the following questions:

1. Earth was covered with rocks. These rocks broke down into smaller pieces over time due to the action of the sun's heat, the rain and the wind. Remains of dead plants and animals too got mixed with these pieces. This process continues over thousands of years and rocks broke down into small pieces increasingly and eventually become soil.
2. **Sandy soil** : It provides good aeration to the plants roots.
Clayey soil : It is used for making toys and pots.
Loamy soil : It contains both sand and clay. It is the best soil for growing plants.
3. It contains both sand and clay. It can hold both air and water. It is the best soil for growing plants. A good garden soil is loam with more humus. Humus makes the soil fertile.
4. The soil is made of several layers commonly called horizons.
 - Horizon O : The very top layer: The very top layer of the soil is made up of organic materials such as remains of dead plants and animals.
 - Horizon A : Top soil: The top soil is the layer where most of the roots of plants are found.

- Horizon B: Sub soil: The soil is the layer of soil below the top soil. Here plants or organic materials are not found much.
- Horizon C: Bed rock: The rocks is the layer of soil where rock is found. Organic materials is very little here.

Chapter-12 : The Earth and Its Neighbours

A. Tick (3) the correct option :

- | | |
|----------|---------------------------|
| 1. east | 2. 365 $\frac{1}{4}$ days |
| 3. stars | 4. west to east |
| 5. moon | |

B. Fill in the blanks:

- | | |
|----------------|--------------|
| 1. atmosphere | 2. 24 |
| 3. sun | 4. full moon |
| 5. Astronomers | |

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

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

D. Answer in one or two words:

- | | |
|-------------------|-----------------|
| 1. Constellations | 2. Bhaskara |
| 3. Pole Star | 4. Vaning Phase |
| 5. Orion | |

E. Answer the following questions:

1. A thick layer of air is known as atmosphere.
2. The different layers of the earth are Crust, Mantle & Core.
3. The earth has two types of movements. They are:
 - The earth spins like a top on its axis, an imaginary line between the North pole and the South pole. This movement of the earth is called as rotation.
 - The earth revolves around the sun from west to east. The movement of the earth around the sun is called revolution.
4. When the earth rotates from west to east; only half faces the sun. This half which faces the sun has day. The other

half which does not get sunlight has night. When the earth rotates, day changes to night and night changes to day. Thus, the rotation of the earth causes day and night.

5. The groups of stars are called constellations. Some famous constellations are orion (hunter), scorpius (scorpion), ursa major (great bear) and leo (lion).

Chapter-13 : Measurement

A. Tick (3) the correct option :

1. kilogram
2. beam balance
3. second
4. Celsius or Fahrenheit

B. Fill in the blanks:

1. hand span
2. volume
3. Celsius or Fahrenheit
4. Millemetres, Centimeter, Meter

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

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

D. Answer in one or two words:

1. Meter
2. Kilogram
3. 60
4. Degree Celsius

E. Answer the following questions:

1. Measuring thing help us to express everything we see around us in the form of unit.
2. Mass is the amount of material in an object. We measure the mass of an object using a weighing scale, beam balance or an electronic balance.
3. Time is the measure of the interval between two events. Time is measured in seconds, minutes and hours.
4. Capacity is the amount that a container or space can hold.
5. Temperature is the measure of how hot or cold an object is. It is measured using a thermometer.

Chapter- 14 : Light, Sound and Force

A. Tick (3) the correct option :

- | | |
|----------|-----------|
| 1. soft | 2. shadow |
| 3. noise | 4. bulb |
| 5. soft | |

B. Fill in the blanks:

- | | |
|----------------|----------|
| 1. Light | 2. earth |
| 3. energy | 4. push |
| 5. size, shape | |

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

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

D. Answer in one or two words:

- | | |
|--------------|-----------------|
| 1. Sun, Bulb | 2. Chair, Table |
| 3. Noise | 4. Friction |

E. Answer the following questions:

- The objects that emit their own light are called luminous objects. Eg: sun. The objects that do not emit their own light and are visible in the light of luminous objects are called non-luminous objects. Eg: chair
- Sound is a form of energy that is made by vibrations.
- A push or pull is called a force. Force helps us to do many things.
 - Force can change the shape and size of an object.
 - Force can slow down the moving body.
 - Force can move an object.
 - Force can stop a moving object.
- Friction is a kind of force that slows down the motion of an object. All the moving objects stops due to friction. It is difficult to move on a rough road because friction is more but we slide on a smooth surface because friction is less.
- When something comes in the path of light, the shadow of that object is formed. During the day time shadow is formed due to the light of the sun or various objects.

Chapter-1 : Plants Kingdom

A. Tick (3) the correct option :

- | | |
|----------------|-----------|
| 1. Plants | 2. Leaves |
| 3. Chlorophyll | 4. oxygen |

B. Fill in the blanks:

- | | |
|------------------|---------------|
| 1. sugar, oxygen | 2. blue-black |
| 3. petiole | 4. stem |
| 5. stomata | |

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

- | | |
|----------|----------|
| 2. True | 3. False |
| 4. False | 5. False |

D. Match the following:

- | | |
|-------------------|----------------------|
| 1. food factories | 2. green plants |
| 3. stored food | 4. exchange of gases |
| 5. petiole | |

E. Answer in one or two words:

1. Sunlight, Water
2. Carbon dioxide, Oxygen
3. Sugar, Oxygen
4. Crotons, Mushrooms
5. Lamina, Stomata

F. Answer the following questions:

1. The process of making food by plants is called photosynthesis.
3. Stomata are the tiny pores present on the surface of the leaf. Stomata helps in the exchange of gases like carbon dioxide, oxygen and water vapour.
4. Some plants have chlorophyll but still their leaves appear to be red in colour as their red pigment overlaps the green colour of the chlorophyll.
5. A food chain in the transfer of food energy from plants to an animal and then to another animal.

Eg: Plant \bar{O} Deer eating plant \bar{O} Lion eating deer.

Chapter- 2 : Adaptation in Plants

A. Tick (3) the correct option :

- | | |
|-----------------|--------------|
| 1. on land | 2. nitrogen |
| 3. all of these | 4. evergreen |

B. Fill in the blanks :

- | | |
|------------|------------|
| 1. habitat | 2. insects |
| 3. papyrus | 4. Bamboo |

C. Match the following :

- | | |
|----------------------|--------------------|
| 1. grass family | 2. Papyrus |
| 3. under water plant | 4. non-green plant |
| 5. desert plant | |

D Write 'T' for true and 'F' for false statements :

- | | |
|----------|----------|
| 1. True | 2. False |
| 3. False | 4. True |

E. Answer in one or two words :

- | | |
|----------------|-------------|
| 1. Pine | 2. Pondweed |
| 3. Spruce tree | 4. Sundari |

F. Answer the following questions :

- Plants are able to change themselves slowly in order to live in their environment. This change is called adaptation.
- Under water plants are kept in aquarium as they supply oxygen by photosynthesis. Oxygen is necessary for the fishes to respire.
- Following adaptations help cactus to survive in desert:
 - Leaves have modified into spines so that there will be minimum water loss by transpiration.
 - The roots of cactus go deep into the soil, this helps them to extract water from underground.
- Plants of grass family useful to us in following ways:

They provide food for humans and animals.

Bamboo is actually giant grass. It is used for making brooms, baskets, chairs, mats, toys, huts, etc. Grass plants have also medicinal value. Various kinds of grasses are now used to make different types of paper.

Chapter- 3 Reproduction in Animals

A. Tick (3) the correct option

- | | |
|---------|-----------------|
| 1. yolk | 2. 4 |
| 3. Bat | 4. birth giving |

B. Fill in the blanks:

- | | |
|---------------|----------------|
| 1. viviparous | 2. laying eggs |
| 3. dog | 4. yolk |
| 5. mammals | |

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

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

D. Match the following:

- | | |
|-----------------------|----------------------|
| 1. leathery egg shell | 2. spawning |
| 3. caterpillar | 4. egg laying animal |
| 5. mammal | |

E. Answer in one or two words:

- | | |
|------------------|----------|
| 1. Frogs, Fishes | 2. Camel |
| 3. Tadpoles | 4. Dog |
| 5. Bat | |

F. Answer the following questions:

1. **Egg** : A butterfly starts its life as an egg.

Larva: The larva (caterpillar) hatches from an egg and eat leaves or flowers almost constantly.

Pupa : This is the stage of resting when caterpillar turns into pupa.

Adult : At last, a beautiful flying adult emerges.

2. Animals which give birth to their babies are called mammals or viviparous. Eg: Human being. Those which lay eggs are called egg laying or oviparous. Eg. Insects, reptiles.
3. Hatching is to produce young ones i.e. to come from the egg.
4. Froga lay eggs in the water and then the males release sperm to fertilize them. The eggs will hatch within 3-25 days. Young frogs are called tadpoles and they look like a little fish.

The process of transformation from an egg to an adult in two or more distinct stages is called metamorphosis. In the metamorphosis of frog, the tadpole grows its hind limbs. After both the pairs of limbs are completed, and the animals has exchanged its gills for lungs, the young frog crawls out on land. Its tail disappear and the tadpole turns into an adult frog.

5. Reptiles are the animals such as snake, lizard that has cold blood that lays eggs and has a body covered with scales or hard parts.

Chapter- 4 : Adaptation in Animals

A. Tick (3) the correct option :

1. all of these
2. aerial animals
3. chameleon
4. frogs

B. Fill in the blanks:

1. Omnivores
2. suckers
3. Amphibian
4. Polar bear

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

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

D. Match the following:

1. Hibernation
2. Camels
3. Ducks
4. Arboreal animal
5. Birds

E. Answer in one or two words:

1. Grasshopper
2. Frogs
3. Gills
4. Lizard

F. Answer the following questions:

1. Camouflage is the resemblance of animals to their natural surroundings giving some protection from enemies. In case of stick insect, leaf insect and grasshopper, they are protected by their resemblance with green plants.
2. The process of adjustment in a specific environment in order to meet the demands of food, shelter and reproduction is called adaptation.

3. Animals that live mostly in the air or fly in the air are called aerial animals. Such animals as birds, bats and insects have wings to fly.
4. Amphibians have lungs which help them to breathe on land. They also have moist skin to breathe in water. These animals have limbs both suited in water to swim and leap on the land.

Chapter- 5: Food

A. Tick (3) the correct option :

- | | |
|----------------------|------------------|
| 1. growth and repair | 2. Pizza |
| 3. Water | 4. carbohydrates |

B. Fill in the blanks:

- | | |
|--------------|--------------|
| 1. chew | 2. nutrients |
| 3. Junk food | 4. Roughage |

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

- | | |
|----------|----------|
| 1. False | 2. False |
| 3. False | 4. True |

D. Answer in one or two words:

- | | |
|-----------------------|------------------|
| 1. Eggs, Meat | 2. Pizza, Burger |
| 3. Vegetables, Fruits | 4. Canning |

E. Match the following:

- | | |
|-----------------|-------------|
| 1. preservation | 2. milk |
| 3. potatoes | 4. beetroot |
| 5. butter | |

F. Answer the following questions:

1. Vitamins are organic substances, present in small amounts in different food items.

Functions of Vitamins:

- Vitamin A maintains our eyesight.
- Vitamin B helps our body to make protein and energy.
- Vitamin C helps our body to heal.
- Vitamin D makes our bones strong.
- Vitamin E is an antioxidant.
- Vitamin K prevents excessive bleeding.

2. Roughage prevents constipation and helps in the proper movement of the digested food in the intestines.
3. Water is an essential component of food that is needed in large quantities. It also keeps our body cool and removes waste products from our body.
4. We get a large number of minerals from the food we eat. Some minerals are: calcium, sodium, potassium, phosphorus etc. Calcium and phosphorus make our bones and teeth strong and iron helps in formation of blood and haemoglobin.
5. We can preserve food for a long time using the following methods:
 - Boiling
 - Freezing
 - Canning
 - Salting

Chapter- 6 : Tasty Bites

A. Tick (3) the correct option :

- | | |
|-----------------|---------------|
| 1. all of these | 2. 6-8 months |
| 3. 32 | 4. Acid |
| 5. protozoa | |

B. Fill in the blanks:

- | | |
|-------------|----------|
| 1. teeth | 2. four |
| 3. viruses | 4. fungi |
| 5. Microbes | |

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

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

D. Match the following:

- | | |
|--------------------------------|------------------------|
| 1. Microbes | 2. to grind food |
| 3. tooth decay | 4. outer part of tooth |
| 5. hard, whitish part of tooth | |

E. Answer in one or two words:

- | | |
|------------|----------------|
| 1. Measles | 2. Tooth decay |
| 3. Canines | 4. Root |
| 5. Six | |

F. Answer the following questions:

1. Our teeth help us to bite and chew food well, thus breaking it into smaller bits so that they may be digested easily. Clean and well kept teeth add charm to our face. They help us to speak properly and give us expressions and a beauty of a happy smile.
2. There are four main kinds of microbes which are:
 - Bacteria: These are single-celled organisms without chlorophyll.
 - Viruses: These are much smaller than bacteria. They cannot exist on their own, instead they must invade a plant or animal cell.
 - Protozoa : These are unicellular organisms which grow on decaying matter.
 - Fungi : These are non-green plants like bacteria which grow on dead and decaying matter.
3. The four kinds of teeth in a permanent set:
 - Incisors Or Cutting Teeth: There are eight incisors, four front teeth in each jaw shaped like chisels. They are used to cut vegetable and food.
 - Canines Or Tearing Teeth: There are four canines, two in each jaw. They are sharp like pick axes. They are used to sipping or tearing the flesh.
 - Premolars Or Cracking Teeth: There are four premolars in each jaw. These are the broad teeth next to canines. They act like nut-crackers.
 - Molars Or Grinding Teeth: There are six molars in each jaw. They are broader than the premolars and have broad surfaces so that the food can be grounded finely.
4. To keep our teeth healthy and free from decay, certain rules have to be followed:
 - We should brush our teeth every morning and every night before going to bed.
 - We should eat rough, coarse food which will exercise our teeth, gums and muscles of the jaws.
 - We should not eat too many sweets and chocolates.
 - We should visit the dentist for regular checkup.

5. Microbes are tiny organisms that we can not see with our naked eyes. They can be seen only through a microscope. Useful microbes:

- Some bacteria make the soil fertile by converting the dead animals and plants into useful manure.
- Some fungi like yeast help in baking bread and making wines.
- Some bacteria can change milk into curd.
- Some bacteria produce vitamins in our body.

B. Name the following :

1. Crown, Dentine, pulp.
2. Bacteria virus, Protozoa, Fungi.
3. Typhoid, Tuberculosis, Diphtheria Pneumonia.

Chapter- 7 : Clothes We Wear

A. Tick (3) the correct option :

1. Hanbok
2. Lycra
3. all of these
4. Silk

B. Fill in the blanks:

1. Woollen, Silk clothes
2. Nylon
3. yarn
4. Cotton, Jute
5. Napthalene balls, dried neem leaves

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

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

D. Name the following:

1. Cotton
2. Wool
3. Napthalene balls
4. Nylon
- Jute
- Silk
- Neem leaves
- Rayon

E. Answer the following questions:

1. Clothes protects us from heat, cold, rain, dust and insect bites. They also make us look smart.
2. Different people living in different places wear different

types of clothes depending upon the weather conditions and the culture.

- We wear dark coloured woollen clothes in winters to protect ourselves from cold.
 - We wear light coloured cotton clothes in summer which absorb sweat and protect us from the heat of the sun and hence keep us cool.
 - We wear rain coats when we go out in rain. Gumboots also protects our legs from getting wet.
3. Natural Fibres:-The fibres obtained from nature are called natural fibres. These fibres are either plant fibres or animal fibres. Cotton, jute, flax are plant fibres while wool and silk are animal fibres.
- Synthetic fibres :-Synthetic fibres are man-made fibres which are made in factories. They do not occur in nature. Nylon, rayon, polyester and lycra are some examples of synthetic fibres.
4. Synthetic fibres :-Synthetic fibres are man-made fibres which are made in factories. They do not occur in nature. Nylon, rayon, polyester and lycra are some examples of synthetic fibres. They are prepared artificially and possess various qualities. They are waterproof, stretchable, wrinkle free etc.
5. We must follow the following rules to keep our clothes in proper condition:
- Clothes should be washed with good quality detergent or soap..
 - Coloured clothes must be dried in shade and white clothes should be dried in the sun.
 - Woollen or silk clothes must be stored long by keep naphthalene balls or dried neem leaves in them.
 - We should mend clothes that are torn or have broken buttons before wearing them.

Chapter- 8 : Safety and First Aid

A. Tick (3) the correct option :

- | | |
|--------------|---------------------|
| 1. open wire | 2. careful |
| 3. fire | 4. antiseptic cream |

B. Fill in the blanks:

- | | |
|--------------|----------|
| 1. knife | 2. floor |
| 3. push | 4. climb |
| 5. synthetic | |

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

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

D. Match the following:

- | | |
|------------------------|---------------------|
| 1. on zebra crossing | 2. on the foot path |
| 3. immediate help | 4. electric shock |
| 5. matches and lighter | |

E. Answer the following questions:

- Always cross the road through safe passage like subways, foot bridges, traffic light and zebra crossing.
 - Before crossing the road, always look first to your right, and then to the left and then again to your right.
- We should not touch electric sockets while taking a bath as may give electric shock and may cause injury or death.
- At school :***
 - Never fight with your classmates.
 - Never run on the stairs or push anyone on it.
 - Never throw things in the classroom.
 - Never climb on the desk and chairs, you may fall and get hurt.
- For nose bleeding :***
 - Put an ice-pack on bleeding nose, and keep the nostrils tightly pressed with your fingers.
 - Keep it closed for about 5-10 minutes. This will stop the flow of blood through the nose.
 - The person needs to breathe through mouth and need to wait.
- For burn :***
 - Wash the burnt area with cold water.
 - Never use ice-except on small superficial burns, because it cause body heat loss.

- Keep it clean, let it dry and apply an ointment such as burnol.
- Cover the burn. Use dry and clean cloth to help prevent infection and reduce pain.
- Bandage loosely.

Chapter- 9 :Air, Water and Weather

A. Tick (3) the correct option :

- | | |
|----------------|------------|
| 1. atmosphere | 2. ice |
| 3. evaporation | 4. lighter |

B. Fill in the blanks:

- | | |
|-----------|----------|
| 1. sun | 2. cloud |
| 3. warmer | 4. Land |
| 5. mass | |

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

- | | |
|----------|----------|
| 1. True | 2. False |
| 3. False | 4. False |

D. Define the following terms:

1. Dew:-When the water gets evaporated its vapour rises up. Since it is cold at great heights, water vapour in the air condenses in the form of tiny water droplets. It is called dew.
2. Frost:-In extremely cold places the ground temperature falls below 0° Celsius. This causes the water vapour to freeze on the ground into a white coating called frost.
3. Snow:- When water vapour freezes in the air, it forms crystals of ice called snow.
4. Fog:-In cold weather, water vapours condense into fine drops on dust particles present in the air and hang in the air close to the ground. This is called fog.

E. Answer in one or two words :

- | | |
|------------------|----------------|
| 1. Sedimentation | 2. Water table |
| 3. Condensation | 4. Snow |
| 5. Wind | |

F. Answer the following questions:

1. **Wind**:- Evaporation is faster on a windy day.

Dry air:- Evaporation takes place faster when the air is dry.

Temperature:- Evaporation is faster if the temperature is higher.

Surface area:- Evaporation is faster if the exposed surface area is more.

2. **Sea Breeze:-** During the day, the land gets heated quickly. It heats the air above it. Hot air is light and rises up. The water in the sea does not get heated and the air above it is cool. The cool air above the sea rushes to take the place of the warm air. So cool air blows from the sea towards the land during the day. This is called sea breeze.

Land Breeze:- During the night, the land cools down quickly, the air above the land is also cool. Sea water is warm, the warm air above the sea rises, and the cool air over the land rushes to occupy the space of the warm air. So cool land breeze blows towards the sea during the night. This is called land breeze.

3. The sun heat up the land and water unevenly. Thus, sun is responsible for blowing winds.
4. The weather is the condition of the atmosphere around us at a particular time. The sun causes all the changes in weather. The sun caused all the weather because it heats the earth unevenly. The heat of the sun also helps the moisture to rise and form clouds, bringing rain, snow or thunderstorm. So, all the changes in weather in indirectly related to the sun.

The sun influences the seasons on earth. The earth revolves around the sun in fixed orbit. This revolution of the earth around the sun causes the change in seasons. When the sun is near to the orbit at one place, the earth comes closer to the sun. The area that comes closer to the sun experiences the summer season and other half experiences the winter season.

5. The different method of purifying water are :

Sedimentation :- It is a process by which insoluble impurities present in the water settle down at the bottom.

Decantation:- It is a process that follows sedimentation,

in which the clear water is carefully poured and collected in another container.

Filtration:- It is process of removing insoluble impurities by pouring it through a filter paper.

Chapter 10 : Soil Erosion and Soil Conservation

A. Tick (3) the correct option :

- | | |
|------------------|------------------|
| 1. all of these | 2. both of these |
| 3. all of these | 4. three |
| 5. both of these | |

B. Fill in the blanks :

- | | |
|-----------------|----------------------|
| 1. layers | 2. bed rock |
| 3. silt | 4. soil conservation |
| 5. soil erosion | |

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

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

D. Match the following :

- | | |
|----------------------|-------------|
| 1. three layers | 2. top soil |
| 3. soil conservation | 4. hills |
| 5. sub soil | |

E. Answer in one or two words :

- | | |
|--------------------|-------------------|
| 1. Soil erosion | 2. Planting trees |
| 4. Terrace farming | 5. Soil profile |

F. Answer the following questions :

1. The earth's crust was made up of huge block of hard and solid rocks. These rocks were continually heated by the sun and cooled by the rain. The wind, water, heat and the cold helped these rocks to crack and break into smaller pieces. Finally, stones, pebbles and grains of sand were formed. Many species of plants and animals lived and died on the surface of the earth. Their remains mixed up with the stones, pebbles and sand to form soil.
2. The soil is carried away from one place to another is known as soil erosion. The top soil being soft and light is

carried away more easily. The main causes of soil erosion are:

Erosion by water :

- The rain water and rivers wash away the soil and deposit it to the other places as they flow along.

Erosion by wind:

- When the strong wind blows, it takes away a good part of the top soil. Thus, the top soil is damaged mostly because it can easily be carried away by strong air down from these higher lands to the plains.

3. The different layers of soil are Top soil, sub soil, bed rock. The plants and trees grow mostly in Top soil.
4. The process of protecting the soil from erosion is called conservation of soil.
5. Two measures that can be adopted for the conservation of soil are:-

Making Terrace Or Furrows:- In hilly areas, the method is employed where water flowing from hills washes away large chunks of soil. Here terraces or furrows are made to prevent soil erosion.

Preventing Overgrazing:- Overgrazing by cattle should be prevented. More areas should be brought under grass.

Chapter - 11 : States of Matter

A. Tick (3) the correct option :

1. both of these
2. both of these
3. changing of milk into curd
4. solids
5. both of these

B. Fill in the blanks :

1. material
2. Solids
3. Gases
4. chemical
5. oxygen

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

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

D. Match the following :

- | | |
|-----------------------------|--------------------|
| 1. chemical change | 2. physical change |
| 3. solute | 4. solvent |
| 5. fixed shape fixed volume | |

E. Answer in one word :

- | | |
|--------------------|----------|
| 1. Water | 2. Sugar |
| 3. Physical change | 4. Gases |
| 5. Solution | |

F. Answer the following questions :

- Anything that occupies space and has weight called matter. Matter exists in three forms:- solid, liquid and gas.
- Physical change is the change in which a substance changes its form without creating a new substance. Eg:-
 - Melting of ice
 - Cutting of paper
- Chemical change is the change in which the original substance gives rise to a new substance. Eg:-
 - Burning of a candle
 - Burning of wood and paper
- Solute : It is the solid that dissolve in a liquid. For example:- sugar, salt.
Solvent:- It is the substance usually a liquid in which the solute dissolves. For example water.
Solution:- It is a uniform mixture of solute and solvent. For example:- Sugar + Water; solute + solvent = solution.
- Aquatic animals like fish breathe the oxygen dissolved in water. If the fish is taken out of water, it dies because it cannot utilize the atmospheric oxygen. It uses only oxygen dissolved in water.

Chapter - 12 : Force, Work and Energy

A. Tick (3) the correct option :

- | | |
|-------------------|----------------------|
| 1. muscular force | 2. increase friction |
| 3. solar energy | 4. all of these |

B. Fill in the blanks :

- | | |
|------------------|---------------------|
| 1. Energy | 2. solar energy |
| 3. atomic energy | 4. mechanical force |
| 5. weight | |

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

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

D. Match the following :

- | | |
|---------------------|----------------------|
| 1. Solar energy | 2. Geothermal energy |
| 3. Atomic energy | 4. A push or pull |
| 5. Mechanical force | |

E. Answer in one word only :

- | | |
|------------------------|----------------------|
| 1. Coal | 2. Rough grooves |
| 3. Gravitational force | 4. Geothermal energy |
| 5. Lever | |

F. Answer the following questions :

1. Force is an external agency which causes an object to start moving or to stop when it is in motion.

There are different kinds of forces acting all around us. These are as: Frictional force, Muscular force, Mechanical force, Elastic force, Gravitational force.

2. Any tool or device which makes our work easier is called a machine. For example, you may have strain in lifting a heavy weight by your hands, but you can lift it with the help of the machine easily.

Any machine, whether big or small does the following:

- Makes work easier.
- Changes the direction of force.
- Increases the speed of doing work.

3. Energy is the ability or capacity to do work. The amount of work which can be done by an object is called energy of that object.

The energy that we get from the sun is called solar energy.

Energy stored in an atom is called atomic energy.

The hot interior of the earth is another important source of energy. This kind of energy is called geothermal energy.

4. Give reasons :
 - a. The soles of the shoes worn by players have spikes in them because it increases friction and thus prevent them from slipping.
 - b. The machine makes our work easier as less effort is used.

Chapter-13 : Waste Material and Pollution

A. Tick (3) the correct option :

1. all of these
2. all of these
3. plants
4. afforestation
5. all of these

B. Fill in the blanks :

1. rot
2. non-biodegradable
3. Pollution
4. environment
5. environment

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

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

D. Match the following :

1. biodegradable
2. non-biodegradable
3. vehicles
4. composite
5. health hazard

E. Answer in one word :

1. Glass bottles
2. Plants
3. Plastic
4. Vehicles
5. Waste from industries

F. Answer the following questions :

1. The environment is everything that is around us especially the air, water, soil, plants and animals. We should keep

our environment neat and clean as we need fresh air and pure water to remain healthy.

2. Pollution is the introduction of harmful material into the environment. The various types of pollution are:
 - Water Pollution
 - Air Pollution
 - Noise Pollution
3. The rubbish that decompose naturally are called biodegradable. They break down biologically. All food waste, plant, trees and paper are biodegradable. The waste material that cannot decompose, we call such rubbish non-biodegradable. They cannot be broken down naturally. Plastic, metal and glass are non- biodegradable. These two kinds of rubbish need different treatment.
4. We should use materials which can be provided.
 - We should avoid using plastic bags. Jute bags or paper bags are best substitutes for them.
 - We should grow more and more trees.
 - We should dispose garbage properly.
5. **Recycling:-** Recycling is converting waste into reusable material. A number of waste like newspaper, empty glass bottles can be recycled and turned into new products.
6. Reduce, Reuse and Recycle are essential in today world to save our mother earth.

Reduce:- Do not buy you do not need. The more things you have, the more waste your produce.

Reuse:- Instead of buying new ones reuse the old ones. In this way, you will not produce more waste.

Recycle:- Recycling is converting waste into reusable material. A number of waste like newspaper, empty glass bottles can be recycled and turned into new products.

Chapter - 14 : The Solar System

A. Tick (3) the correct option :

- | | |
|----------|------------|
| 1. sun | 2. Jupiter |
| 3. Pluto | 4. helium |

B. Fill in the blanks:

- | | |
|---------|-----------------|
| 1. moon | 2. solar system |
|---------|-----------------|

3. Pluto
4. Saturn
5. Venus

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

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

D. Match the following :

1. spinning of a planet on its own axis
2. movement of planet around the sun
3. planet closest to the sun
4. the only planet with life on it
5. imaginary line passing through the centre of planet

E. Answer in one or two words :

1. Mercury
2. Earth
3. Jupiter
4. Mars

F. Answer the following questions :

1. A planet is a large celestial body that revolves around sun in fixed orbit whereas a star is a huge ball of gases. It gives out its own light and heat. Stars look small because they are very far from us.
2. In the solar system, eight planets revolve around the sun. The sun is the centre of the solar system while the planets revolve around it in circular path. This path is known as Orbit.

The eight planets are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.
3. The axis of the earth is tilted slightly. As the sun shines on the earth, it shines more directly on the northern hemisphere in June and more directly on the southern hemisphere in December. As the earth moves around its orbit, the portion leaning towards the earth changes. That is why the seasons are different in each hemisphere.
4. The earth spins around the axis of rotation. The axis passes through the north and south poles of the earth. This spinning movement of the earth on its axis is called rotation.

Chapter - 1 : Reproduction in Plants

A. Tick (3) the correct option :

- | | |
|---------------|----------------|
| 1. seed coat | 2. germination |
| 3. rabi crops | 4. monocot |
| 5. embryo | |

B. Fill in the blanks :

1. dicot
2. kharif
3. bryophyllum
4. stem
5. dispersal

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

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

D. Match the following:

1. grow from buds
2. grow from root
3. outer hard covering of seeds
4. explosion
5. new plants arise along the edges of the leaf
6. stem cutting

E. Answer in one or two words :

- | | | |
|--------------|--------------|--------|
| 1. Seed coat | 2. Dispersal | 3. Air |
| 4. Carrot | 5. Rice | |

F. Answer these questions in three or four lines:

1. The process by which living things produce young ones of their own kind is called reproduction.
2. Plants with one cotyledon are called monocot plants while plants with two cotyledons are called dicot plants.

3. The growing of a plant from a seed is called germination.
4. Substances used for killing insects and other pests which destroy crops are called insecticides.
5. Plants of one kind grown in a particular area at a particular time are called crops. Eg: Rabi crops.

G. Answer these questions in detail:

1. Germnation of seeds:-The growing of a plant from a seed is called germination. A seed needs good soil which is rich in nutrients. It needs air, warmth and water.
2. Plants reproduce in various ways:
 - From seeds
 - From spores
 - From different parts of plants

New Plants from Seeds:-Mostly plants reproduce through seeds. Most plants bear flowers. Once flowers bloom, they turn brown, the petals fall off and they change into fruits. Fruits contain seeds inside them. Eg: Cotton

New Plants from Spores:-Some non-flowering plants which do not have fruits or seeds reproduce through spores. They produce spores which germinate under suitable conditions and grow into new plants. Eg: Fern

Other ways of Growing Plants:- Some plants can be grown without seeds. They can grow their body parts like root, stem, leaves etc. this is called vegetative reproduction.

Eg: Rose, Carrot.

3. Dispersal of Seeds:- The process by which the seeds are scattered away from the parent plant is called dispersal. The various agents of seed dispersal are air, water animals, birds, human beings and explosion.
4. Crops that grow in winter from November to April are called rabi crops. Examples: Wheat and gram.
Crops that grow in summer from June to October are called Kharif crops. Examples: Rice, jawar and bajra.
5. Dispersal prevents growing of baby plants very close to mother plant. Thus, new plants get enough air, water and warmth (sunlight) to grow.

Chapter- 2: Varying Life-Styles of Animals

A. Tick (3) the correct option :

- | | |
|-----------------|------------------|
| 1. all of these | 2. both of these |
| 3. rabbit | 4. all of these |

B. Fill in the blanks:

- | | |
|----------------|-------------------|
| 1. environment | 2. oxygen, energy |
| 3. lungs | 4. gills |
| 5. probosis | |

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

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

D. Match the following:

- | | |
|-----------|--------------|
| 1. fins | 2. cow |
| 3. tiger | 4. spiracles |
| 5. scales | |

E. Answer in one word only:

- | | |
|----------------|------------|
| 1. Arctic Tern | 2. Ostrich |
| 3. Turtle | 4. Bat |
| 5. Amoeba | |

F. Answer these questions in three or four lines:

1. The surroundings in which an animal lives is called as an environment.
2. Animals need energy to move and doing various activities.
3. The periodic (seasonal) movements of animals from one place to another and back to their original homes is called as migration.
4. Animals that gnaw their food are called rodents. Eg: Rabbit, Rats.
5. Mammals usually have two pairs of limbs. Limbs are called legs when used for walking and running. Terrestrial animals used all the four legs to walk for run. Kangaroo moves only by jumping or hopping. Man walks, runs and stands with only one pair of hindlimbs called as legs.

G. Answer these questions in detail:

1. Birds:- Birds can walk on land, fly in air and swim in water. Birds have wings to fly in the form of forelimbs, hindlimbs to walk on land and webbed toes of hindlimbs to swim. Wings have feathers which are attached to the breast bones of the bird with the help of flight muscles. These muscles help the birds to flap their wings when they fly.

Hindlimbs or legs of birds are used to walk or hop on the ground.

2. Animals that eat plants are called herbivorous animals. Plant eaters or herbivorous animals have sharp front teeth for cutting and biting leaves and grass. They have strong teeth at the back for chewing. Eg: cows, horses.

Animals that eat only flesh of other animals are called carnivorous animals. Eg: Lions, tigers.

3. All mammals, birds, reptiles and amphibians breathe through their lungs in adult stage. Man breathes through his nose. The air is taken into the lungs through wind pipe. Inside the lungs, there are many small blood vessels called capillaries. From the lungs, the air goes to different parts of the body through the blood stream. The oxygen helps to burn the absorbed food and to release energy. This energy is used by our body for various activities.
4. Different animals have different habits, behavior and body features to survive in their habitat, to escape from their predators,, for getting food, to breathe and to show movement.
5. Butterflies have a sucking tube that helps them to draw juice (nectar) from the flower.

Chapter- 3: Our Skeletal System

A. Tick (3) the correct option :

- | | |
|------------------|------------------|
| 1. all of these | 2. 33 |
| 3. both of these | 4. gliding joint |

B. Fill in the blanks:

- | | |
|-----------------|----------|
| 1. organ system | 2. bones |
|-----------------|----------|

3. oxygen 4. smooth

C. Write ‘T’ for true and ‘F’ for false statements:

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

D. Match the following:

1. 206 bones 2. A joint
3. striped muscles 4. skull’s first two verebrae
5. unstriped muscles

E. Answer in one or two word:

1. Shoulder girdle 2. Hinge joint
3. Femur 4. Brain
5. Striped Muscles

F. Answer these questions in three or four lines:

1. A group of organs together make up an organ system.
2. Give shape to the body. Protects vital organs in our body from physical damage.
3. The humun skeleton consists of the skull, the backbone, the ribs girdles and the limbs.
4. A joint is the meeting point of two bones held together by strong tissues called Ligaments.
 • Hinge Joint
 • Ball And socket joint
5. The bony cage protects the heart and the lungs from injury.

G. Answer these questions in detail:

1. The different types of muscles found in our body are:-
 • Voluntary Muscles: The muscles is our body whose actions are under our control are called voluntary muscles. These muscles bring about the movements of the skeleton.
 • Involuntary Muscles: The muscles in our body whose actions are not under our control are called involuntary muscles. They work automatically.
 • Cardiac Muscles
2. It provides red cells carry oxygen to different parts of the body and white blood cells fight with infection.

Give shape to the body. Protects vital organs in our body from physical damage.

3. The skull rest on backbone which is made up of 33 irregular small bones. These are called vertebrae. The vertebrae are all linked together to form a column known as vertebral column.
4. The skull is made up mostly of immovable joints due to which skull bones cannot move except for lower jaw. The bones in skull are interlocked.

Chapter- 4 :The Nervous System and Senses

A. Tick (3) the correct option :

1. cerebrum
2. Ears
3. Skin
4. involuntary actions
5. Brain

B. Fill in the blanks:

1. Eyes
2. Nose
3. Reflex action
4. Mixed
5. Cerebellum

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

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

D. Match the following:

1. the largest part of the brain
2. helps us to smell and breathe
3. part of the brain that controls the voluntary actions
4. the largest sense organ
5. lies below the cerebellum

E. Answer in one or two words:

1. Skin
2. Antiseptic
3. Skin
4. Cerebellum
5. Motor nerves

F. Answer these questions in three or four lines:

1. Nerves are thin thread like structures spread throughout the body. They carry messages between every part of the body and main control centre, the brain.
2. This system carries and brings messages to and from the brain. It sense and control the activities of all the other organ systems of our body.
3. The organs which help us to know about the outside world around us are called sense organs. The five sense organs are eyes, ears, nose, tongue and skin.
4. (i) Eat healthy, balance diet.
(ii) Wear protective eye wear
5. The tongue has different areas covered with thousands of different taste buds on it. These buds help us to taste sweet, sour, bitter and salty food.

G. Answer these questions in detail:

1. The automatic response of body to an event is called reflex action. The reflex action involves only the nerves and spinal cord.
2. Sense organs: The organs which help us to know about the outside world around us are called sense organs.
Eyes:- Eyes help us to see various objects in the surroundings.
Ears:- Ears help us to hear sound around us.
Nose:- Our nose helps us to smell and breathe.
Tongue:- Tongue is muscle that helps us to speak, swallow and taste.
Skin:- Skin is the largest organ of the body which covers our entire body.
3. Nerves are thin thread like structures spread throughout the body. They are like telephone wires connecting and they carry messages between every part of the body and main control centre, the brain.
There are three kinds of nerves:
 - Sensory nerves:- They carry messages from sense

organs to the brain. We see, hear, smell and taste because of these nerves.

- Motor nerves:- They deliver messages from brain to other body parts helping us in movement for muscles.
 - Mixed nerves:- Mixed nerves perform the action of both sensory nerves and motor nerves. They carry messages to and from the brain.
4. Eyelids and eyelashes keep the eyes clean and dust free. Eyes help us to see various objects in the surroundings.
 5. Brain has three main parts- cerebrum, cerebellum and medulla.

Cerebrum:- It is the largest portion of the brain. It receives messages from the sense organs and sends back messages about what has to be done. It controls our thoughts, memory, learning and sense organs.

Cerebellum:- It is situated at the back of the brain. It controls and coordinates the movement of the voluntary muscles. Playing, running, moving hand, riding a bike and other movement are controlled by cerebellum.

Medulla:- It is also known as brain stem. It controls involuntary actions like heart beat, digestion and breathing.

Chapter- 5: Food, Health and Diseases

A. Tick (3) the correct option :

1. all of these
2. sea food
3. all of these
4. tuberculosis
5. bones and teeth

B. Fill in the blanks:

1. energy
2. Calcium
3. Exercise
4. vaccination
5. disease

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

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

D. Match the following:

- | | |
|-------------------|-----------------------|
| 1. Pasteurization | 2. Virus |
| 3. Vitamin C | 4. Sources of protein |
| 5. Immunity | |

E. Answer in one word only:

- | | |
|------------|-------------|
| 1. Malaria | 2. Cholera |
| 3. Rickets | 4. Exercise |
| 5. Disease | |

F. Answer these questions in three or four sentences:

1. A balanced diet is one that supplies the different types of nutrients in the right amounts- not too much and not too little of each.
2. Diseases caused due to lack of some nutrients in the food are called deficiency diseases.
3. When we take rest our muscles feel relaxed, we feel fresh and become ready to work again. A good sleep gives the time to the body for growth and repair of body cells. It provides freshness to us.
4. Food contains different kinds of substances. These substances are called nutrients. The main nutrients in the food are proteins, carbohydrates, fats, minerals and vitamins.
5. In order to stay healthy, one must do exercise early. Regular exercise helps to develop and tone up our muscles. Exercise increases the flow of blood to the muscles. It increases the heart beat rate and blood circulates faster.

G. Answer these questions in detail:

1. (i) Proteins : *Sources:* Pulses, nuts, milk, eggs, fish, meat, soyabeans.
Functions : Help the body to grow. Also repair worn out tissues.
- (ii) Fats : *Sources :* Milk, butter, ghee, meat.
Functions : Provide lubrication to the body.
- (iii) Carbohydrates : *Sources :* Sugar, cereals, potatoes, rice, sweet, fruits and wheat.

- Functions : Provide energy to body to work and play
- (iv) Vitamins : **Sources** : Fresh fruits and vegetables
- Functions : Ability to fight against diseases.
- (v) Minerals : **Sources** : Fruits, vegetables, nuts, milk, whole-grain cereals
- Functions : Help in proper growth, help to build bone.
2. **Communicable Diseases** : Are those diseases which are passed on from one person to another. Most of the communicable diseases are caused by germs which can be seen only with the help of microscope.
- The communicable diseases are spread in following ways :
- Through direct contact the diseases like small pox are spread through direct contact.
 - Through air diseases like cold, flu are spread through air. When a sick person sneeze or coughs, germs go into air.
 - Through Contaminated Food and Water:- Diseases like cholera, typhoid, jaundice, dysentery and food-poisoning are spread through contaminated water and food.
3. The spreading of communicable diseases can be prevented in the following ways:
- A. By Preventing the Spread of Germs:
- By isolating the patient from other members of family.
 - After the recovery of patient, all the articles of the room of the patient should be properly disinfected.
- B. By Checking the Growth and Multiplication of Germs:
- Rubbish and garbage should be collected in separate bins and always kept covered.
 - Toilets should always be kept clean and washed.
- C. By Vaccination :
- The best way to prevent the communicable diseases is through vaccination.
4. Vaccination develops immunity resistance against some

communicable diseases in our body. In vaccination, a small dose of the germs of a disease is injected into the body of a person. This help the body cells to fight against the germs of that disease.

5. The four different kinds of germs that causes diseases in our body are: bacteria, virus, protozoa and fungi. Bacteria are very small organisms having different shapes. Diseases like typhoid, pneumonia and tuberculosis are caused by bacteria. Virus are the smallest micro-organisms. Diseases like common cold, influenze, measles and rabies are caused by viruses. Protozoa are single called micro-organisms. Some of these cause diseases like malaria and amoebic dysentery in human beings. Virus is a tiny type of germ get inside body & make person sick. It causes common cold, measles, chicken pox in human beings.

Chapter- 6 : Safety and First-Aid

A. Tick (3) the correct option :

- | | |
|-----------------|-------------|
| 1. all of these | 2. dog bite |
| 3. fracture | 4. Splint |

B. Fill in the blanks:

- | | |
|-------------|--------------|
| 1. medicine | 2. toys |
| 3. footpath | 4. First-Aid |

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

- | | |
|----------|---------|
| 1. True | 2. True |
| 3. False | 4. True |

D. Match the following:

1. anti-rabies vaccine
2. application of cold water or ice
3. using a splint
4. affects heart and nervous system
5. use of tourniquet

E. Answer in one or two words:

- | | |
|----------------------|-------------------|
| 1. Accidents | 2. Zebra crossing |
| 3. Simple burns | 4. Dettol |
| 5. Fire extinguisher | |

F. Answer the following questions:

1. Accidents may harm our body and even our lives. The injuries may be from road accidents, fire, shock, animal bites and other reasons.

We should follow the safety rules to avoid these accidents.

2. Safety on the Roads:
 - Always walk on the footpath.
 - Never play on the road.
 - Cross the road at zebra crossing or a subway.
3. The poison injected by the snake travels through the blood and affects the heart and nervous system.
4. Safety At Home:
 - Never leave your toys on the floor.
 - Never play with sharp objects like knife, blade etc.
 - Keep the bathroom clean. Do not leave water with soap or detergent on the floor.
 - Electrical appliances should be unplugged when not in use.
 - Always switch on the appliances with dry hands.

Do not play with fire.
5. Prevention from fire:
 - If a person's clothes catch fire, cover the person with a thick blanket. This cuts off air and helps in putting off fire. Don't let him run, running makes the fire burn faster.
 - In case the fire severe, call for help. Dial 101 and call for the fire brigade.
6. First Aid for Fracture:
 - Don't let the patient move.
 - Tie a splint above and below the fracture.
 - Splint is a temporary support to the broken bone.
 - If fracture happen in an arm bone, give support of a sling to the broken arm.
 - Call hospital ambulance if patient is unconscious.

Chapter- 7 : States of Matter

A. Tick (3) the correct option :

1. liquids
2. gases
3. kerosene
4. both of these
5. physical change

B. Fill in the blanks:

1. Matter
2. molecules
3. gas
4. solid
5. Atoms

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

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

D. Match the following:

1. miscible in water
2. dissolved oxygen
3. rust
4. 107 kinds
5. chemical change

E. Answer in one or two words:

1. Physical change
2. Atoms
3. Solids
4. Liquids
5. 2 atoms of oxygen & 1 atom of carbon

F. Answer these questions in three or four sentences:

1. Matter is anything that has weight and occupies space. It is found in three states. Solid, liquid and gas.
2. A molecule is a group of two or more atoms.
A molecule can be further split into still smallest particles called as atoms. Atoms are the building block of matter.
3. Solubility is a property of a substance to dissolve in some other substance to form a uniform mixture.

G. Answer the following questions:

1. **Solid**
 - A solid has a definite shape and volume.
 - The shape of a solid does not change unless some force is applied on it.

- A solid does not flow and can be easily held in hand.
- The force of attraction between the atoms of a solid is strongest.

Liquid

- A liquid is a substance that has no shape of its own. It takes the shape of the container in which it is kept.
- The force of attraction between the molecules of a liquid is less as compared to solids.
- Liquid can flow.

Gas

- A gas is a substance that has no definite shape or volume.
- The force of attraction between the molecules of a gas is weakest.

It can flow in any direction.

2. The liquids that easily dissolve in water in a similar manner to solids. They are called miscible liquids. Examples: milk, ink, alcohol etc.

The liquids which do not dissolve in water are said to be immiscible liquids. Examples: petrol, kerosene, oil, etc.

3. Physical Changes:- When the change is only in the state of matter it is called physical change. It is a temporary change which can be reversed.

Eg: Melting of ice, drying of clothes, tearing of paper.

Chemical Change: Chemical change is a permanent change in which one or more new substances are formed. The original substance can not be obtained back.

Eg: Burning of wood, rusting of iron, etc.

4. When iron is exposed to damp air its gets rusted. The rust cannot be changed back into iron. Parts of oxygen from the air, hydrogen from moisture and parts of iron together form the red dust. Thus, we cannot get the iron back so, rusting of iron is a chemical change.

Chapter- 8 : Air and Water

A. Tick (3) the correct option :

1. atmosphere
2. humidity

3. polluted air
4. Water
5. 70%

B. Fill in the blanks:

1. Sweat
2. Air
3. Troposphere
4. Soluble
5. Barometer

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

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

E. Answer in one or two words:

1. Nitrogen
2. Carbon dioxide
3. Stratosphere
4. Oxygen
5. Water

F. Answer these questions in three or four sentences:

1. Air contains nitrogen, oxygen, carbon dioxide, hydrogen, argon, water vapour, smoke and dust.
2. Property-1:-Air is colourless, tasteless and odourless mixture of gases. We cannot see air. Air has no colour. Pure air is also without any taste or smell.
Property-2:-Air occupies space.
3. This blanket of air surrounding the earth is called the atmosphere. The layers of the atmosphere are –
Troposphere, Stratosphere, Ionosphere, Exosphere.
4. Carbon dioxide:- Carbon dioxide present in the atmosphere is used by plants to prepare food during photosynthesis.
5. Soluble impurities:- These are soluble in water. Example: salt etc.
Insoluble impurities:- These are insoluble in water. Example: mud, chalk powder etc.

F. Answer the following questions:

1. This blanket of air surrounding the earth is called the atmosphere. The Layers of the atmosphere are:-
 - Troposphere:- It is the layer of the atmosphere closest to

the earth's surface. It contains water and gases mostly oxygen and nitrogen.

- Stratosphere:- It lies above the troposphere. It is about 30km thick. It is a clear, cloudless layer. The upper part of the stratosphere is the ozone layer.

- Ionosphere:- It is the thickest of all layers. Ionosphere has electrically charged particles.

- Exosphere:- It is the outermost layer of the atmosphere. It contains very little air.

2. Air Pollution:- Man is contaminating the air by releasing unwanted poisonous gases from factories, power stations and smoke from vehicles.

Prevention of air pollution:

- To control air pollution we must grow more and more trees.

- Vehicles like cars, scooters, must be checked regularly for pollution.

- Factories and mills should be located away from residential area.

4. The impurities found in water are of two kinds:

Insoluble impurities:- These are insoluble in water. Eg. salt. Insoluble impurities are separated through the process of filtration and sedimentation.

Soluble impurities:- These are soluble in water. Soluble impurities are more difficult to separate than insoluble impurities. These are separated through evaporation or distillation.

5. Filtration:- Separation of insoluble impurities with the help of a filter paper is called filtration.

The process of filtration uses a filter paper. A circular piece of filter paper is folded twice to make a cone. This paper cone is kept inside a funnel. A beaker is kept below the funnel and the mixture with insoluble impurities like sand, chalk etc. is poured into the beaker through the funnel. The impurity is retained in the filter paper and clean water is poured in the beaker.

Chapter- 9: Rocks and Minerals

A. Tick (3) the correct option :

- | | |
|------------------|-----------------|
| 1. igneous rocks | 2. all of these |
| 3. mica | 4. all of these |
| 5. limestone | |

B. Fill in the blanks:

- | | |
|---------------|------------|
| 1. weathering | 2. Igneous |
| 3. Pumice | 4. waste |
| 5. Rocks | |

C. Match the following:

1. non-metallic mineral
2. metallic mineral
3. limestone
4. porous, light igneous rock
5. fossil fuel

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

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

E. Answer in one or two words:

- | | |
|-------------|----------------------|
| 1. Coal | 2. Metamorphic rocks |
| 3. Sulphur | 4. Sandstone |
| 5. Obsidian | |

F. Answer these in three or four sentences:

1. Rocks are solid mass present under the soil and sand. According to the method of rock formation, rocks are divided into three main types:
 - Igneous rocks
 - Sedimentary rocks
 - Metamorphic rocks
2. Sedimentary rocks are made from layers of tiny pieces of older rocks or shells and skeletons of aquatic animals.
3. The word igneous means fire. Hence igneous rocks are also called as fire rocks, are formed by cooling and

hardening of hot liquid rock material called as magma.

4. Coal and petroleum are called fossil fuels as these were formed from the dead remains of living organisms.
5. Metamorphic rocks are formed by the action of heat and pressure on igneous and sedimentary rocks.

G. Answer the following questions:

1. The fuels that are made from decomposing plants & animals are called fossil fuels. Eg: coal, petroleum etc.

Coal:- Coal is used in blast furnaces for making steel, in locomotives to produce steam and in power stations to generate electricity. Petroleum:- Petroleum is mainly used as fuel for cars, buses, trucks, autos, aeroplanes and in factories. It is also used in laundry for dry cleaning and for making printing ink.

2. Conservation of Natural Resources: We must take certain steps to conserve natural resources. These steps are:-

- We must use them according to our need.
- We should develop and use other methods of renewable resources of energy like solar energy, wind energy, geothermal energy.
- To save fuel we must keep our machines and vehicles in good conditions.
- We must protect the water, air and soil from bad effects or pollution.
- We must grow more and more forest health.

3. Minerals:- A mineral is a natural non living substance. These minerals are divided into two groups: metallic minerals and non-metallic minerals.

A. Iron, copper, aluminium, tin, lead, gold and silver are metallic minerals. We obtain metals from the ores. For example, we obtain iron from the ore called haematite.

B. Coal, sulphur, mica, manganese and petroleum are non-metallic minerals. Mica is used in electrical equipment. Phosphorus and sulphur are used as fertilizers.

4. The word igneous means fire. Hence igneous rocks are also called as fire rocks, are formed by cooling and hardening of hot liquid rock material called as magma.

These are among the oldest kinds of rocks on the earth. The type of igneous rock formation depends on the mineral content of the magma and that rate of its cooling. Eg: Granite, Pumice.

Chapter - 10 : Force, Work and Energy

A. Tick (3) the correct option :

- | | |
|---------------|------------------|
| 1. potential | 2. wind |
| 3. sound | 4. gravitational |
| 5. frictional | |

B. Fill in the blanks:

- | | |
|-------------|------------------|
| 1. Force | 2. Gravitational |
| 3. Solar | 4. Lightening |
| 5. Muscular | |

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

- | | |
|----------|----------|
| 1. False | 2. False |
| 3. False | 4. True |

D. Match the following:

- | | |
|-------------------------|----------------------|
| 1. sound energy | 2. wind energy |
| 3. magnetic energy | 4. light energy |
| 5. stops moving objects | 6. kinetic energy |
| 7. elastic force | 8. electrical energy |

E. Answer in one or two words:

- | | |
|-------------------|---------------------|
| 1. Magnetic force | 2. Frictional force |
| 3. Energy | 4. Solar energy |
| 5. Wind energy | |

F. Answer these questions in three or four lines:

1. A push or pull acting on a body is called a force.
2.
 - Mechanical energy
 - Solar energy
 - Electrical energy
 - Wind energy
 - Heat energy
 - Light energy
 - Sound energy
 - Magnetic energy
3. Effects of force :
 - Force can change the speed of a moving object.

- Force can change the direction of motion of a body.
 - Force can change the shape or size of an object.
 - Force can make stationary object move or moving object move faster.
4. Icy and oily surfaces have negligible friction, so we slip or slide away on such surfaces. Walking is easier on rough surface.

G. Answer the following questions:

1. **Gravitational force:-** The force of attraction of earth that pulls objects towards its centre is called gravitational force of the earth.

Electrostatic force:- Electrostatic force is due to attraction between charged bodies. If you rub a comb through your hair, the comb becomes charged and can attract small bits of paper. This is known as electrostatic force.

Magnetic force :- Magnetic force is exerted by a magnet on metals like iron. Magnetic force is used to separate waste iron from garbage dumps.

2. **Work:-** work is said to be done only when the force applied can move an object in the direction of force. Work is not done when there is no movement.

Moving a car, hitting a ball with a bat, pushing a door etc. are some examples of work.

3. **Kinetic energy:-** Energy possessed by an object due to its motion is called kinetic energy. Example: a moving ball, flowing water etc.

Potential energy:- Energy possessed by an object due to its position is called potential energy. An object kept at a height possesses potential energy.

4. **Light energy:-** Light energy is a form of energy related to visible light. Light energy from the sun is needed by the plants to make food. We get this energy from the things which get illuminated like bulb, torch, sun etc.

Electrical energy :- It is delivered by tiny charged particles by moving through a wire. It can also be stored in a battery and used to start a car. Lightning an example of electrical energy.

Chapter - 11 : Simple Machines

A. Tick (3) the correct option :

- | | |
|------------------|------------------|
| 1. effort | 2. a nut cracker |
| 3. both of these | 4. fixed pulley |
| 5. wedge | |

B. Fill in the blanks :

- | | |
|-----------------|-------------------|
| 1. effort | 2. inclined plane |
| 3. pulleys | 4. six |
| 5. fixed pulley | |

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

- | | |
|----------|---------|
| 1. True | 2. True |
| 3. False | 4. True |

D. Match the following :

- | | |
|------------------------|------------------------|
| 1. Heavy loads | 2. Lever |
| 3. hold things tightly | 4. two inclined planes |
| 5. effort | |

E. Answer these in one word only :

- | | |
|-----------|------------------|
| 1. Lever | 2. A nut-cracker |
| 3. Pulley | 4. Gears |

F. Answer these in three or four sentences :

1. A simple machine is a mechanical device that changes the direction or magnitude of force. Eg: lever, inclined plane.
2. There are two types of pulleys:
 - (a) Fixed pulley
The pulley used for drawing water from a well is a fixed pulley.
 - (b) Movable pulley
Movable pulley is used to lift the load.
3. A screw is a simple machine used to hold things together tightly. A screw is more effective than a nail as it holds things together through a longer distance.
4. An inclined plane is a slope which makes work easier. The inclined plane joins lower level to higher level. We use inclined plane to keep scooter or car in a garbage.

G. Answer in detail :

1. **Kinds of Machine :** There are six kinds of simple machines; the lever, the inclined plane, the wedge, the screw, the wheel and axle and the pulley. Eg: scissors, a nut cracker, fishing rod, bottle caps, fen caps etc.
2. A lever is a rigid bar, capable of turning around a fixed point called fulcrum or pivot. Levers are divided into the following three orders, depending upon the relative positions of the fulcrum, the effort and the load:
 - **Lever of First Order :** When the fulcrum is in middle of the load and the effort, it is called lever of first order. For examples: a water pump, a pair of scissors.
 - **Lever of Second Order :** When the load is in middle of the fulcrum and the effort, it is called lever of second order. For examples: wheelbarrows.
 - **Lever of Third Order :** When the effort is in middle of the fulcrum and the load it is called lever of third order. For example: ice tongs, forceps.
3. Wheel by itself is not a simple machine. It becomes machine only when as axle or rod is attached to it. Wheels are used in many ways i.e. in machines, instruments and vehicles. Although wheels go round, they can be used to change the direction of a force. Wheels that have teeth are called gears.

Chapter - 12 : Fuels

A. Tick (3) the correct option :

- | | |
|-----------------|------------------|
| 1. all of these | 2. non-renewable |
| 3. coal | 4. petroleum |
| 5. CNG | |

B. Fill in the blanks :

- | | |
|------------------|----------------|
| 1. non-renewable | 2. reservoir's |
| 3. CNG | 4. VSA |
| 5. Solar energy | |

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

- | | |
|----------|----------|
| 1. False | 2. False |
|----------|----------|

3. False
4. True
5. True

D. Match the following :

1. fossil fuels
2. eco-friendly fuel
3. conserve fuel
4. clean fuel
5. petroleum

E. Answer in one word only :

1. Fossil fuels
2. Cycle
3. Fuel
4. Petroleum
5. USA

F. Answer these in three or four sentences :

1. They fuels that are formed from the remains of ancient plants and animals buried deep inside are known as fossil fuels. Eg: coal, petroleum.
2. Petroleum reservoirs in India are found in Mumbai High Field, located off the coast of Mumbai, Digboi and Sivasagar in Assam, and Ankleshwar and Khambhat in Gujarat.
3. Some vehicles that operate without fuels are bicycles, rickshaws and vehicles like tongas and bullock carts.
4. Non-renewable source of energy is defined as the source of energy which has accumulated in nature over a long time and cannot be quickly replaced when exhausted. Eg: coal, petroleum.

G. Answer in detail :

1. Natural Gas:- Natural gas is found along with petroleum in oil wells. It is used as a domestic and industrial fuel. CNG is also used as a fuel for motor vehicles. It is considered a clean fuel as it does not cause pollution. It is cheaper than petrol and diesel. CNG can be supplied directly from gas fields through pipelines.
2. Alternative sources of Energy:- There are many alternative sources of energy on the Earth. We get solar energy from the sun, geothermal energy from the earth and wind energy from wind. These are called renewable or alternative sources of energy as they are available to us in

large quantities and can be replenished.

3. Fuel is used for many purposes:
 - Petrol is essential for transportation. It is used in cars, school buses, trucks and other vehicles.
 - Diesel is widely used as fuel for vehicles such as tractors, trailer trucks, buses, boats and trains.
 - LPG is an eco- friendly fuel used at home and in some vehicles.
 - Coal is used as a fuel in factories. It used for generating electricity.
 - CNG is used as a fuel for vehicles. It is especially used in public transport as it is cheaper.
4. The following steps can be taken to conserve fuels:
 - Carpooling can help us conserve fuel. Carpooling means sharing rides with friends, family or even neighbours.
 - Using public transport and local trains also save fuel.
 - Turning off car engine when the car is not moving conserves fuel.
 - Using bicycles and rickshaws for travelling short distances saves fuel.
 - Walking to nearby places of using cars or motorcycle not only reduces pollution but also reduces the amount of fuel used.

Chapter - 13 : Conservation of Natural Resource

A. Tick (3) the correct option :

- | | |
|-----------------|------------------|
| 1. all of these | 2. both of these |
| 3. all of these | 4. both of these |
| 5. all of these | |

B. Fill in the blanks :

- | | |
|--------------|-------------|
| 1. conserve | 2. smoke |
| 3. renewable | 4. Terraces |

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

- | | |
|----------|---------|
| 1. False | 2. True |
|----------|---------|

3. False
4. False
5. True

D. Match the following :

- | | |
|-----------------------|----------------------------|
| 1. Terraces | 2. Makes soil fertile |
| 3. Renewable resource | 4. Extinction of wild life |
| 5. Soil erosion | |

E. Answer in one word only :

- | | |
|----------------------|--------------------|
| 1. Soil conservation | 2. Making Terraces |
| 3. Himachal Pradesh | 4. Plants |
| 5. Water | |

F. Answer these in three or four lines :

1. Conservation is the protection of environment in such a way that prevents it from being damaged or destroyed.
2. The different sources of water are- oceans, seas, lakes, river. Four uses of water are:
 - Water is used for bathing.
 - Water is used for plants to grow.
 - Water is used for irrigation.
 - Water is used for drinking.
3. We need to conserve water in the following ways:
 - We should use water wisely. We should keep the tap close when water is not in use.
 - We should check our taps and fittings for any dripping or leakage.
 - We should plant more and more trees to bring more rain. The roots of the trees hold the underground water also.
4. The protection of soil from being eroded is called soil conservation.

G. Answer in detail :

1. Water is a renewable resource. It keeps circulating in the atmosphere through water cycle. The water from various water bodies on the earth like oceans, seas, lakes, etc. evaporates and rise as vapours in the atmosphere. It goes up and form clouds. Later, it condenses to form rain or snow. Rain falls and the water is back on the earth. Some

- water also goes under the ground and form water table.
2. The four different ways by which we can conserve soil are :
 - a. Plating Trees and Grasses
 - b. Making Terraces
 - c. Constructing Banks and Embankment
 - d. Making Soil Fertile
 3. Forests are natural homes of many animals, birds and insects. They give us hundreds of useful things like wood, herbs, paper, medicines, etc. Forests help to bring rains and are the only natural source of oxygen. They also help to conserve ground water and avoid soil erosion.
 4.
 - We release a lot of smoke from vehicles and factories and pollute the air around us.
 - We release waste and garbage from factories and home into water, which pollutes it.
 - We cut forest and vegetation to make buildings. This leads to loss of habitat of many animals and destruction of vegetation.
 - Hunting animals for fun and other materials which we get from them has led to the extinction of wild life.

Chapter - 14 : Natural Calamities

A. Tick (3) the correct option :

1. movement in earth's crust
2. flood
3. lava
4. harbour waves
5. seismograph

B. Fill in the blanks :

1. drought
2. flood
3. Richter scale
4. Japanese
5. Extinct

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

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

D. Match the following :

1. harbour waves
2. shaking of the earth's crust
3. measure magnitude of earthquakes
4. excess rain
5. opening in the earth's crust

E. Answer in one or two word :

- | | |
|---------------|------------|
| 1. Lava | 2. 452 |
| 3. Earthquake | 4. Tsunami |

F. Answer these in three or four sentences :

1. Volcano is an opening in the earth's crust that allows magma to reach the earth's surface.
There are three types of volcanoes: Active volcanoes, dormant volcanoes and extinct volcanoes.
2. Earthquakes are recorded by an instrument called seismograph and the recording is called a seismogram.
3. Tsunami is originated from Japanese words 'Tsu' means harbour and 'nami' means wave.
When an earthquake takes place under the ocean, it causes giant waves that can travel hundreds of kilometers through water before it hits the coast.
4. A hot spring is a discharge of hot water from a vent at the earth's surface.

G. Answer these questions in detail :

1. A natural disaster is the effect of a natural event that causes great loss to the environment and human life.
Earthquakes, floods, volcanoes, tsunami, cyclones, droughts etc., are natural calamities.
2. Active volcanoes:- Active volcanoes may erupt any time as they erupt regularly in short intervals.
There are 1500 active volcanoes on the earth. Some famous volcanoes are Mount Fuji, Mount St. Helens etc.
Dormant volcanoes:- Dormant volcanoes are those volcanoes that have not erupted in a long time but may erupt in the future. Mount Fuji and Mount St. Helens are some examples of

dormant volcanoes.

Extinct volcanoes:- Extinct volcanoes have stopped erupting. They are unlikely to erupt again.

3. Earthquakes:- Earthquakes are caused due to movement in earth's crust. An earthquake is vibratory motion of the ground surface. The outermost layer of the earth is crust, which is made of rocks. These rocks are in the form of large plates. Some times these plates move part or slide against each other releasing a lot of energy in the form of vibrations. These vibrations cause earthquakes.
4. Flood can wash away people, residential colonies, villages, town etc. it may spread communicable diseases like cholera etc.
5. Natural disasters can have a life-altering impact on individuals and families. Natural disasters can have huge environmental impacts. It causes collapse of buildings, bridges, roads and even dams that leads to loss of human lives.