1

# Plant life

## EXERCISES

**A. Tick (3) the correct option.**

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

**B. Fill in the blanks with correct words.**

1. seed coat 2. kharif 3. water 4. rabi 5. wind

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

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

**D. Match Column A and Column B.**

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

**E. Give two examples for the following :**

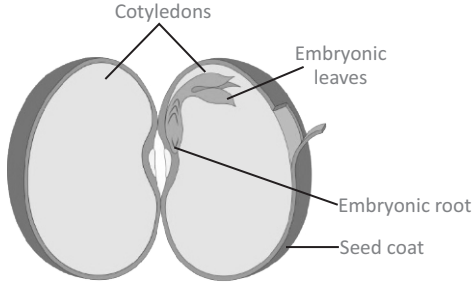
1. Rice, Jowar 2. Wheat Peas
3. Rice Wheat 4. Cotton Jute

**F. Answer the following questions.**

1. **Reproduction :** Reproduction is the process by which or organism produces a new our similar to itself.

   **Germination :** The process in which seed grows into a baby plant or seedling under the right growing conditions.

   **Dispersal of seeds :** The process of scattering or spreading of seeds to different places is called dispersal of seeds.

2. 

Structure of a seed

3. **Germination :** The process in which seed grows into a baby plant or

seedling under the right growing conditions. Air, water and sunlight are necessary for germination fo seeds.

4. Ahealthy crops need s Air, water, soil and sunlight to grow
5. **Kharif crops :** Crops grown from June to October (summer) are called kharif crops. Maize, rice, jowar and bajra are kharif crops. Millets, pulses, jute, hemp and peanuts are also kharif crops.

   **Rabi crops :** Crops grown from November to April (winter) are called rabi crops. Wheat, barley, peas and mustard are also winter crops.
6. **Dispersal by wind :** The seeds of some plants are very light. These seeds are dispersed away by the wind. Cotton and dandelion seeds are airy and float easily in the wind.

   **Dispersal by water :** Water helps in the dispersal of light seeds which float on the water and carried long distances by the water. The coconut is a good example of a seed carried by water.

   **Dispersal by animals :** Animals help to disperse the seeds and fruits by throwing away the seeds after eating the fruit. Sometimes along with the fruit, the seeds are also swallowed by men, animals and the birds. These seeds come out unharmed along with the undigested food. When the droppings fall on the soil, the soil, the seeds are set free to germinate.


# Human Skeletal System


**A. Tick (3) the correct option.**

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

**B. Fill in the blanks with correct words.**

1. lower jaw 2. femur 3. joint 4. heart 5. hinge

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

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

**D. Write one word for the following.**

1. Backbone 2. Lower Jaw 3. Skeletal System
4. Joint 5. Cardiac

**E. Match Column A and Column B.**

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

**F. Answer the following questions.**

1. Functions of Skeletal System

   **Shape and Support :** The skeleton system gives the basic shape and structure to the human body.

   **Protection :** The skeleton protects the internal organs of the body such as the heart, lungs, liver, etc.

   **Movement :** The bones of the skeleton allow the body to move in different directions.

2. The place where two bones meet is called a joint. The bones in a joint are held together by thick, elastic bands called ligaments. There are two main types of joints.

   **(i) Immovable joints :** The joints in the skull are immovable joints. The bones are fixed in such a way that they cannot move. The lower jaw is the only movable joint in the skull.

   **(ii) Movable joints :** Most joints of the body are movable showing different types of movements.

   There are four main types of movable joints present in the body.

   **(a) Pivot joint :** In this joint, the rounded surface of one bone fits into a ring formed by the other bone. This joint is found between the skull and the vertebral column.

   **(b) Ball and socket joint :** A ball and socket joint allows the bones to move easily in a large circle. The joint is formed by the round end of a long bone. Our shoulder is an example of ball and socket joint.

   **(c) Hinge joint :** A hinge joint is like the hinges in a door. It can move the bones only in one direction. These joints are found in bones in the elbow, knee, toes and fingers.

   **(d) Gliding joint :** This joint allows movement at the wrist and ankle and also between any two vertebrae of the spine. It allows our back to bend, twist and turn at each joint.

3. We need muscles for all our movements. Without muscles, the human body cannot move. The muscles attached to the bones, pull the bones to make them move at the joints.

   Our muscles are of three types :

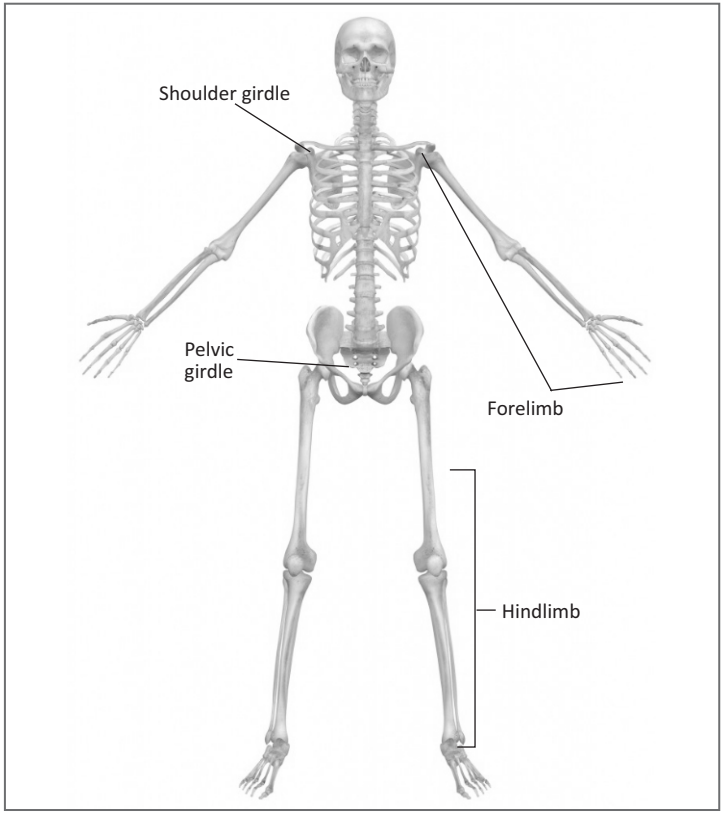
   **(i) Voluntary muscles :** These muscles are under our control. They can be moved or stopped at will. Arms and legs have voluntary muscles. These muscles are long and cylindrical. They are also called stripped muscles.

**(ii) Involuntary muscles :** These are the muscles we cannot control. Food pipe, stomach, blood vessels, intestine are some parts which have involuntary muscle. They are also called smooth muscles.

**(iii) Cardiac muscles :** These muscles are specifically found in heart. They began working seven months before birth and keep on working all our life pumping blood throughout the body.

4. **Rib cage :** Ribs are thin, flat and curved bones. They form a protective cage around the heart and the lungs called the rib cage. The rib cage consists of 24 bones arranged in 12 pairs of ribs. The ribs are joined to the breast bone or the sternum in the front and to the backbone at the back. Apart from protecting the heart and the lungs, the ribs also protect parts of the stomach, spleen and kidneys. The last two pairs of ribs are smaller than the rest of the pairs and are only attached to the backbone. They are called the floating ribs.

## Fun Activity




# Our Nervous System


**A. Tick (3) the correct option.**

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

**B. Fill in the blanks with correct words.**

1. nervous 2. backbone 3. cerebellum 4. eardrum

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

1. F 2. F 3. T 4. T 5. T 6.F

**D. Match Column A and Column B.**

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

**E. Write one word for the following.**

1. Brain 2. Skin 3. Sensory Nerves 4. Motor Nerves

**F. Answer the following questions.**

1. Our nervous system consists of three main parts– brain, spinal cord and nerves.
2. The brain has three main parts as follows :

   (i) Cerebrum (ii) Cerebellum

   (iii) Brain stem or Medulla oblongata

   **(i) Cerebrum :** It is the largest part of the brain. Its outer surface has many folds and twists. The cerebrum controls our memory, thoughts, reasoning, intelligence as well as our sense organs. It gives the brain, the ability to think.

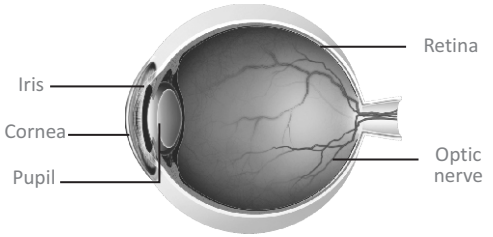
   **(ii) Cerebellum :** It is located below the cerebrum, at the back of the skull. It coordinates and controls the movement of muscles in our body. It helps us to maintain our posture and keep our balance.

   **(iii) Brain stem or medulla oblongata :** It is the lower portion of the brain. It connects the brain to the spinal cord. It is shaped like a stem which controls involuntary body functions like digestion, respiration and blood circulation.
3. Reflex actions are immediate, automatic response of the body to a sudden change in the surroundings.

   For example, when our hand comes near fire, the sensory neurons in the hand pass a message to the spinal cord that the flame is hot. The spinal cord immediately sends a massage back to move away from the hot

vessel. Though this message reaches the brain, the response in controlled by the spinal cord.

4. Nerves send messages to the brain that tell us about what we are touching such as weather it is warm, hot, cold, painful, soft, prickly, rough, etc. There are three main types of nerves : sensory nerves, motor nerves and mixed nerves.

5. 

Human eye

6. When we breathe in air goes into our nose through the nostrils. Nerves inside the nose take messages to the brain about the smells that come into the nose through the air.

**Think and Answer**

| Touch | Sight | Hearing |
|---|---|---|
| Soft | Shiny | Ringing |
| hard | Staring | Loud |
| hot | Squint | meow |

| Taste | Smell |
|---|---|
| Salty | Perfume |
| Sweet | Stinking |


# Food, Health and Diseases

## EXERCISES

**A. Tick (3) the correct option.**

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

**B. Fill in the blanks with correct words.**

1. Proteins 2. obesity 3. Anaemia 4. Water 5. hygiene

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

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

**D. Match Column A and Column B.**

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

**E. Answer the following questions.**

1. **(i) Balanced Diet :** A diet which provides the body with all the essential nutrients in the correct amount needed for healthy growth and activity is called a balanced diet.

   **(ii) Communicable Diseases :** The disease that can be spread from one person to another are known as communicable disease. These diseases are spread by germs.

   **(iii) Non-communicable Diseases :**The disease that cannot be transmitted from one person to another are known as non-communicable diseases. For example– anaemia, cancer, scurvy, rickets and beri-beri.

   **(iv) Beficiency Diseases :** diseases occur due to deficiency of nutrients in one's diet and are called deficiency diseases.

2. Proper rest and regular hours of sleep relax our muscles and give our body the much needed rest. We feel fresh and ready to work again and regular exercise helps to develop and tone up our muscles. Exercise helps the nervous system by supplying more oxygen to the brain.

3. Germs enter the air when an infected person coughs, sneezes or spits. These germs can enter the body of a healthy individual and cause the same disease. So, we should avoid direct contact with infected individual.

4. Maintaining good personal hygiene habits helps us to remain healthy.

5. Brushing teeth twice a day, taking a bath regularly, keeping our nails trimmed, wearing clean clothes.

6.

| Deficiency Diseases | Caused due to Deficiency of | Symptoms | Sources of Nutrients |
|---|---|---|---|
| Night blindness | Vitamin A | Poor vision in dim light | milk, green leafy, vegetable, fish, egg yolk, papaya, carrot |
| Beri-beri | Vitamin B | Tiredness, loss of muscle function, speech problems | cereals, unpolished rich beans, cabbage |
| Scurvy | Vitamin C | swelling, infection, and bleeding of gums | orange, melon, tomato, amla, cabbage |
| Rickets | Vitamin D | soft, weak bones | milk, eggs, sunlight |

7. Prevention of Diseases
   (i) Germs of disease stay on clothes, combs, towels and toys used by a patient. Such articles must be disinfected or boiled to kill the germs. The floor and walls of the rooms must be sprayed with a disinfectant.
   (ii) Children suffering from any communicable disease should stay away from the school till they are fully recovered.
   (iii) We should make efforts of prevent the breeding of germs. Destruction of mosquitoes and their breeding grounds is best solution for protection from these dreadful diseases.
   (iv) Houses should be airy and open. Fresh air and sunlight are natural disinfectants. Mattresses, lenin and clothes should be exposed to sunlight from time to time.
   (v) Toilets and bathrooms should also be cleaned and disinfected regularly.


# Safety and First Aid


**A. Tick (3) the correct option.**

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

**B. Fill in the blanks with correct words.**

1. children 2. fracture 3. Dehydration
4. Baking soda 5. lighter 6. First Aid

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

1. T 2. T 3. F 4. T 5. F 6. T

**D. Give one word for the following.**

1. First aid 2. sling 3. RICE 4. ORS

**E. Match Column A and Column B.**

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

**F. Answer the following questions.**

1. First aid is the medical help given to an injured person before a doctor arrives. First aid is very useful in accidents like bleeding, burns, electric shocks.
2. • Do not wear synthetic clothes like nylon and polyester while working in the kitchen as they catch fire easily.
   • Use a lighter to light the gas stove.

- Do not place candles and lamps on the floor. They can be knocked over and cause fire to spread.
- Do not keep kerosene, diesel, petrol or other substances which can catch fire easily near the gas stove.

3. - Keep the patient calm and comfortable and send for the doctor.
   - Apply a splint to give support to the broken bone and try to avoid unnecessary movement. Any easily available articles like sheets of newspapers, magzines, a piece of cardboard or a pillow around the injured bone can also act as a spint. This will prevent movement and help the broken bone to heal.
   - A sling made from a triangular piece of cloth can be used for a support.
4. If your own clothes catch fire lie down at once and put out the flames by rolling up in a blanket, rug or overcoat, leaving the hand uncovered.
5. Place a thin pad of cotton wool or sterile gauze on the wound and press it with your thumb and fingers. This will stop bleeding in most cases. A tourniquet can be used. This is a bandage tightly tied over the wound to stop bleeding.
6. Take a person bitten by a poisonous snake to a nearby hospital. While transporting the person to a hospital, wash bitten area with soap water. Ask the person to stay calm. Keep the bitten area lower than the heart. Monitor vital signals like breathing and pulse. If help takes more than 30 minutes to arrive, tie a slightly tight bandage, two to four inches about the bitten area, towards to heart to slow down the flow of venom. The bandage should be loose enough to slip a finger under it. Do not make a cut on the wound.

## Fun Activity

| | | | | |
|---|---|---|---|---|
| C | O | B | R | A |
| Y | K | Z | X | D |
| V | R | V | E | D |
| V | A | T | C | E |
| V | I | P | E | R |
| N | T | P | U | S |
| C | O | R | A | L |
| S | N | A | K | E |
| C | A | T | L | E |


# Our Life Supports : Air and Water


**A. Tick (3) the correct option.**

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

**B. Fill in the blanks with correct words.**

1. alum 2. ozone 3. 35 4. wind mills 5. Evaporation

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

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

**D. Match Column A and Column B.**

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

**F. Answer the following questions.**

1. The thick layer of ari that surrounds the earth is called atmosphere.

   Atmosphere consists of five layers:

   **Troposphere :** It is the lowermost layer of the earths atmosphere . It extends up to 10 to 15 kilometers above the earth's surface.

   **Stratosphere :** It is the second layer which is about 35 km above the troposphere. In stratosphere, a thin layer of ozone is present, it is called ozone layer.

   **Mesosphere :** It is extends from 50 kilometers to 85 kilometers above eart's surface.

   **Thermosphere :** The layer beyond the mesosphere is called the thermosphere. It extends form 85 kilometers to more than 500 kilometers. Space shuttle orbit around this layer.

   **Exosphere :** This is the outermost layer of the atmosphere . it extends form the top of the thermosphere up to 10,000 km.

2. Air is a mixture of many gases, water vapour, dust and smoke. Clean air consists of about 78% nitrogen, 21% oxygen and less than 1% of carbon dioxide, argon, water vapour and other gases. The percentage of dust, smoke and water vapour in the air may vary according to the environment.

3. **Insoluble substances :** Ghee, Chilli

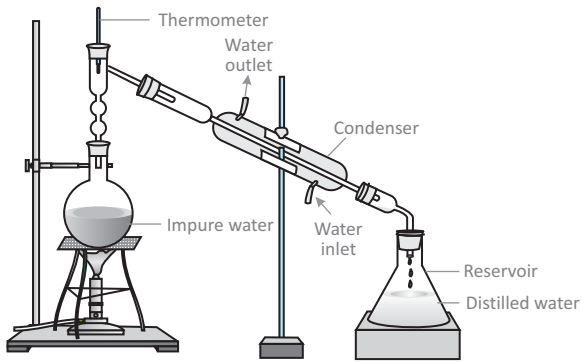
   **Soluble substances :** Sugar, Salt

4. Two simple ways of separating soluble impurities from water explained below :

   **Evaporation :** When a liquid contains a dissolved substance, we can get the solute by heating the mixture until all the liquid evaporates. The solid substance (solute) is left behind. Salt and sugar can be separated from their solutions in water by using this method.

   **Distillation :** It is a method which gives us both the substance and the solvent separately. On heating the solution the water evaporates. It enters the condenser which is kept cool by the cold water circulating around it. On entering the condenser, the hot steam changes into water again, which collects in the flask below. This water is totally pure and free from any impurities. It is called distilled water. The substance is left behind in the flask.

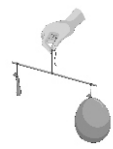
5. **Distillation :** It is a method which gives us both the substance and the solvent separately. On heating the solution the water evaporates. It enters the condenser which is kept cool by the cold water circulating around it. On entering the condenser, the hot steam changes into water again, which collects in the flask below. This water is totally pure and free from any impurities. It is called distilled water. The substance is left behind in the flask.




6. Take a stiff wire or a stick about one metre long. Blow up two balloons and tie their strings to the two ends of the stick. Hand the stick by tying another piece of string to its middle. Hold it in your hand and move one of the balloons along the stick till it is balanced.

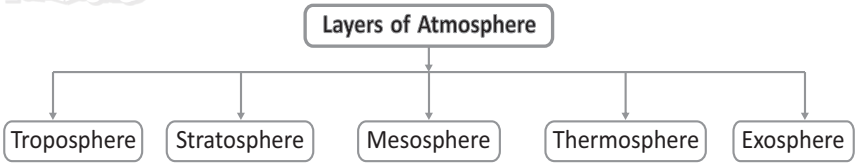
   Now make a small slit in the neck of one of the balloons to allow the air escape from it.

   **Observation :** We see that the stick is not balanced. The inflated balloon will weigh more than the uninflated balloon. So, it is clear that air has weight.



7. (i) Air occupies space.
   (ii) Air has weight.
8. **Uses of Air**
   - Air is used for breathing. There can be no life without air.
   - Air is essential for burning. There can be no fire in vacum.
   - Air helps birds and aeroplanes to fly.
   - Air is used to run wind mills.
   - Air occupies space and is used to fill balls, balloons, tyres.

**Fun Activity**





# Rocks and Minerals


**A. Tick (3) the correct option.**

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

**B. Fill in the blanks with correct words.**

1. ores 2. sandstone 3. Pumice
4. lavas 5. heat, pressure

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

1. T 2. F 3. T 4. T 5. F 6. T

**D. Match Column A and Column B.**

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

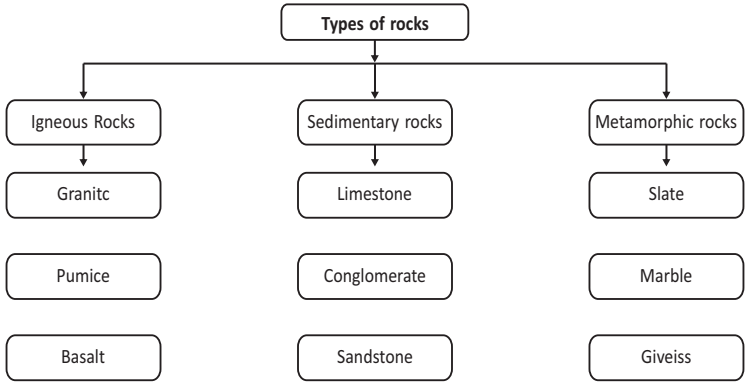
**E. Answer the following questions.**

1. Igneous rocks are formed by cooling and hardening of molten rocks.
2. Rocks are made of minerals, which is a natural material in the crust. They are divided into three groups :
   (i) Igneous rocks. (ii) Sedimentary rocks.
   (iii) Metamorphic rocks.
3. Metamorphic rocks are formed when igneous or sedimentary rocks

undergo a change in form due to intense heat and pressure. Slate and marble are the example of metamorphic rocks.

4. Minerals are underground natural resources. These are the chemicals of which rocks are made. Minerals are two types – Metallic minerals and Non-metallic minerals.
5. We conserve natural resources with the help of these steps.
   (i) Mineral deposits in the earth are limited. They should not be wasted while mining or used carelessly.
   (ii) We should develop and use other methods of renewable energy like wind energy, solar energy, biogas and use coal and oil carefully.
   (iii) To save fuel at home, we must keep stoves and machines in good working conditions.
   (iv) We must use them wisely and not waste any of them.
   (v) Deforestation and unnecessary killing of animals may threaten the life of both. We need to grow more trees.
6. Uses of Rocks and Minerals
   (i) Rocks like diamond, emerald, ruby and sapphire are beautiful. These rocks are polished and used in jewellery.
   (ii) Some rocks like coal are used as fuel. The mineral uranium is used to get a kind of energy called nuclear energy.
   (iii) Metals like gold, silver, copper are present as minerals in rocks. These minerals are separated and made pure.
   (iv) Rocks are used to make roads and as building material.

## Fun Activity




# Soil and its Importance


**A. Tick (3) the correct option.**

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

**B. Fill in the blanks with correct words.**

1. wind, water 2. Overgrazing 3. Terrace
4. minerals 5. Clayey

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

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

**D. Match Column A and Column B.**

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

**E. Answer the following questions.**

1. The sun heated the rocks. The rain made them cold and the wind blew over them. This continued for thousands of years. As a result, the rocks broke into small pieces.

   These small pieces broke into still smaller pieces. They were carried around by wind and water. They rubbed against each other till they became tiny particles. It took millions of years for these tiny particles to change into the loose material which we call soil.

2. The condition of wearing off or carrying away of soil by the action of water or wind is known as soil erosion.

3. Agents of Soil Erosion:

   **Wind :** Due to wind a lot of topsoil is blown away. Especially in desert areas, strong winds carry a lot of sand with them and deposit them in the form of sand dunes on the fertile layer of the land.

   **Water :** When rainwater falls to the ground, it carries the fertile topsoil along with it, leading to soil erosion.

   **Deforestation :** Excessive cutting of trees in a forest is called deforestation. It leads to soil erosion.

   **Overgrazing by Cattles :** Leaving the cattle to graze on the same piece of land year after year makes it barren, resulting in soil erosion.

   **Other Causes :** Poor farming methods result in soil erosion. Natural causes like forest fires also destroy plant cover leading to soil erosion.

4. In hilly regions, crops are cultivated on the slopes of hills. If the slop of a hill is cleared for farming, the rainwater would flow of the fertile layer of

topsoil. In hilly areas, the farmers therefore convert hills into steps to grow crops. Such farms are known as terrace farms.

Advantages of terrace farming :

(i) Increase sloping field farm ability and production.

(ii) Improves rainwater gathering and contributes to water conservation by slowing and reducing water run-off.

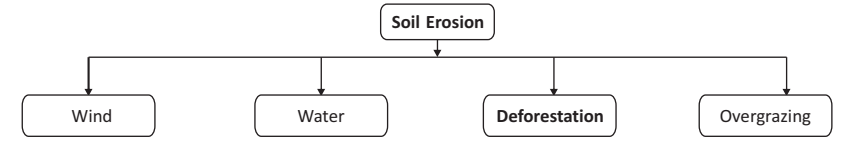
(iii) Reduces rill forms, which prevents soil erosion.

(iv) Soil conservation is aided.

5. Soil can be conserved in following ways:
   (i) Trees should be planted in large numbers.
   (ii) Soil should be covered with grass or other dry vegetation ot prevent its erosion.
   (iii) Overgrazing by animals should be checked regularly.
6. Soil erosion : The condition of wearing off or carry in of soil by the action of water or wind is called soil erosion.

   Soil conservation : The protection of soil against erosion and stop deforestation is called soil conservation.

## Fun Activity





# Force and Energy


**A. Tick (3) the correct option.**

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

**B. Fill in the blanks with correct words.**

1. non-renevable 2. created, destroyed 3. push
4. primary 5. light

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

1. T 2. T 3. T 4. T 5. T

**D. Match Column A and Column B.**

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

**E. Answer the following questions.**

1. Force is defined as push or pull which changes or tries to change the state of motion of a body when acting on it. Some common examples of force are pushing or pulling a door to open it, a vegetable vendor pushing the cart to move it and kicking a ball.
2. A stationary object moves only when a force is applied on it. This is one effect of force. Some of the other effects of force are:
   (i) To change the direction of a moving objects.
   (ii) To stop a moving objects.
   (iii) To change the speed of a moving object.
   (iv) To change the shape of an objects.
3. There are different types of energy :
   (i) Electrical energy. (ii) Magnetic energy.
   (iii) Wind energy. (iv) Mechanical energy.
   (v) Solar energy. (vi) Sound energy.
   (vii) Heat energy. (viii) Water energy.
   (ix) Light energy. (x) Geothermal energy.
4. Energy can neither be created nor destroyed." Energy just changes from one form to another. The total energy of an object never decreases or increases.
5. **Water energy :** It is one of the oldest source of energy. Hydropower is most often used. It was used thousands of years ago to turn a paddle wheel or grind grain. Because the source of hydropower is water, hydroelectric power plants must be located on a water source.

   **Wind energy :** This is the power of the moving air (wind) utilized with the help of windmills, which are used to generate electrical energy. Wind energy is available in abundance. Wind energy can be used to move the blades of a windmill. Wind power is the conversion of wind energy into a useful form, such as electricity, using wind turbines.

**Fun Activity**

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


# Simple Machines


**A. Tick (3) the correct option.**

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

**B. Fill in the blanks with correct words.**

1. lever 2. flat surface 3. fixed
4. simple machine 5. groove

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

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

**D. Match Column A and Column B.**

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

**E. Give one word for the following.**

1. machine 2. Inclined plane 3. Screw 4. wedge

**F. Answer the following questions.**

1. A machine which has a very few parts and simple structure and uses a single applied force to overcome a single force is called simple machine.

   We use different types of tools and machines to do our work easier and faster. A machine can be defined as a tool that makes our work easier in a short time with less energy.

2. A lever is a simple machine in the form of a rod that can turn around a fixed point. The force that you use on the lever is called the effort (E) and the weight that you are trying to move is called the load (L). The point on the lever that does not move is called the fulcrum (F).

   **Classification of Levers :** Based on the position of fulcrum, load and effort, levers are classified into three types :

   **(i) First-class lever :** In this lever, the fulcrum is in between the effort and load. The movement of the load is in the opposite direction to the movement of the effort. Scissors, trolley, pliers, crowbars and see-saw are examples of first-class levers.

   **(ii) Second-class lever :** In this lever, the load is in between the fulcrum and the effort. The movement of the load is in the same direction as that of the effort. Bottle openers, nut crackers and wheel-barrows are examples of second-class lever.

   **(iii) Third-class lever :** In this lever, the effort is in between the fulcrum and the load. Both the effort and load are in the same direction.

Tongs and fishing rods are examples of third-class lever.

3. A pulley is made up of a wheel with a groove in it. A rope passes through the groove. The pulley is used to lift or lower things. It is fixed to a support with the load attached to one end of the rope. A pulley makes our work easier by changing the direction of the force we apply.

   When water is drawn from a well directly without pulley, more effort has to be applied because the rope is pulled vertically upwards against the force of gravity.

4. The inclined plane is used to help raise a body which is too heavy to lift. In this machine a small effort is needed to raise a heavy load. In hospitals and some other buildings inclined planes called ramps are provided next to staircases. This helps in pushing up wheelchairs.

5. A wheel and axle is a simple machine in which a wheel is attached to a rod called axle. When the wheel is turned, the rod or axle also turns around. A wheel and axle is used to lift heavy loads and to move things faster. When we turn a round doorknob to open a door, we are using a wheel and axle. The round doorknob is the wheel and the rod it is attached to is the axle. Many machines use a wheel and axle arrangement to rotate other parts of the machines. All vehicles cars, buses, trains, trucks, skateboards roller skates have a wheel and axle.

6. A wedge consists of two inclined planes that meet at sharp edge. Wedges are after used to cut a split objects. Other examples of wedges include the head of an axe, the pinted end of a needle and the cutting edge of a knife.


# States of Matter


**A. Tick (3) the correct option.**

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

**B. Fill in the blanks with correct words.**

1. things 2. gaseous 3. liquid 4. Ice 5. size, shape

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

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

**D. Match Column A and Column B.**

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

**E. Give one word for the following.**

1. Matter
2. Gases
3. Intermolecular
4. Condensation Point
5. Freezing Point

**F. Answer the following questions.**

1. Matter is a substance which has weight and occupies the space. Matter is composed by molecules
2. There is a strong intermolecular force of attraction between the molecules of a solid. Due to this, the molecules are packed very close to each other.
3. The difference between a gas and liquid is that gas has no definite shape or volume, while a liquid does.

   A gas take the shape of its containcr, while a liquid maintains a definite volume.
4. Any change in matter in which no new substance is formed is termed as a physical change.Water (liquid) on cooling becomes ice (solid) and on heating becomes steam (gas). Here even though the state of water has changed from liquid to solid and liquid to gas, it is still the same. Also if ice is heated or steam is cooled we get back water in its original form.


5. Any change in matter in which one or more new substances are formed is termed as a chemical change". It is a permanent change and cannot be reversed. For example – Burning of wood is a chemical change because it forms a new substance ash and we cannot get back the wood.
   - Keep some iron nails in a damp place. They will get rusted after a few days. The nails cannot be brought back into their original shape.
   - Milk turning into curd is also a chemical change.

## Fun Activity

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


# Light and Shadows


**A. Tick (3) the correct option.**

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

**B. Fill in the blanks with correct words.**

1. Sun, stars 2. Opaque 3. Transparent
4. Straight, 5. Shadow

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

1. F 2. F 3. T 4. T

**D. Give two examples of each one of the following.**

1. Sun Stars 2. Moon Wood
3. Stone Table 4. Glass cellophone

**E. Answer the following questions.**

1. Light enables us to see objects.
2.

| Opaque | Translucent | Transparent |
|---|---|---|
| (i) They do not allow any light to pass through them.<br>(ii) When light falls on them, they form dark shadows. | (i) They allow only some amount of light to pass through them partially.<br>(ii) They Form partilly shadows | (i) They allow light to pass through them totally.<br>(ii) They do not form any shadows. |

3. If any object comes in the path of light rays, then a dark region is formed behind the object, as the light cannot pass through the opaque object. The dark region thus formed is shadow.
4. The shadow depends on the following points :
   (i) The size of opaque object.
   (ii) The size of the light source.
   (iii) The distance between the object and the source of light.

## Fun Activity

| Object | Opaque | Translucent | Transparent |
|---|---|---|---|
|  | | | 3 |
|  | | 3 | |
|  | 3 | | |
|  | | 3 | |
|  | 3 | | |


# Sun, Moon and the Earth


**A. Tick (3) the correct option.**

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

**B. Fill in the blanks with correct words.**

1. New 2. gravity, 3. tides
4. Highest 5. 3,84,400 6. 27 million degrees

**C. Match Column A and Column B.**

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

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

1. T 2. F 3. T 4. F

**E. Answer the following questions.**

1. The surface of the moon is covered with a layer of dust. It has mountains, craters and valleys. Craters are deep holes that have been made when solid bodies called meteorities crashed into the moon's surface. Lava that flowed from these craters cover the earlier craters and they look smooth and dark now. There is no life on the moon because, there is no atmosphere surrounding the moon.
2. The atmosphere on the earth absorbs a part of sunlight, so it does not become so hot during the day.
3. The moon does not give out any light of its own. It only reflects the light of sun.
4. Solar eclips : occurs when the moon comes between the sun and the earth. The moon casts its shadow on the earth and people in certain parts of the earth cannot see the sun.
5. Satellites are used to promote education.
6. 

Phases of the moon

**Think and Answer**

1. Mantle
2. Galaxy
3. Satellite
4. Lunar