

## Growing Plants



### In The Beginning....

Look at the picture. Find out any five things obtained from plants and write in the space provided.

Ans.



1. Carrot
2. Tomato
3. Apple
4. Mango
5. Grapes

### Exercise

#### Section-1 Formative Assessment (CCE Pattern)

##### A. Oral Questions :

- Ans. 1. Plants are useful to us as they provide food, clothes medicines etc to us.  
 2. Crops grown from June to October are known as kharif crops.  
 Crops grown from November to April are called rabi crops.  
 3. Animals help in dispersal of seeds by eating and carrying them to far off places.

##### B. Choose the right option :

- Ans. 1. a.                  2. c.                  3. b.

#### Section-2 Summative Assessment (CCE Pattern)

##### A. Fill in the blanks :

- Ans. 1. The process by which a seed produces a new plant is called **germination**.  
 2. The seedling absorbs **water** and **nutrients** from the soil.  
 3. Seeds of **poppy**, **pea** and **bean** are dispersed by explosion.  
 4. **Crops** are plants that are grown in large quantities to provide food and other useful substances.  
 5. Crops grown from June to October are known as **Kharif** crops.

##### B. Match the following :

- |                       |                     |
|-----------------------|---------------------|
| 1. <i>Bryophyllum</i> | a. Mountainside     |
| 2. Carrot             | b. Stem             |
| 3. Step farming       | c. Fibrous covering |
| 4. Potato             | d. Leaf             |
| 5. Coconut            | e. Root             |

##### C. Answer the following questions :

- Ans. 1. Germination is the process by which a seed produces a new plant. The plants required the right amount of air, water and warmth (from the sun) for the germination.

2. Plants scatter their seeds in order to ensure that they do not grow too close to one another.
3. The process by which seeds are scattered away from the mother plant is called dispersal.

Some ways of seed dispersal are given below.

**Dispersal by wind :** Seeds of certain plants are very light and have wing-like structures or hair on them. These seeds are easily carried away by the wind from one place to another.



Wing-like structures in some seeds



Cotton seeds with hair on them

*Seeds having wing-like structure of hairs are dispersed by wind.*

**Dispersal by water :** The lotus fruit has a spongy part and the coconut has a fibrous outer covering to enable them to float on water.

**Dispersal by animal :** Some seeds have hooks or spines. They get stuck to the hairy skin of animals and are carried away.



Some seeds are dispersed by birds.



Seeds of coconut are dispersed by water.



Seeds of poppy are dispersed by explosion.

**Dispersal by explosion :** The fruits of some plants like the poppy, pea, and bean burst open when they are ripe, scattering the seeds in all directions. This method of seed dispersal is called explosion.

4. **Growing Plants From Roots :** Food is stored in the roots of carrot, radish, turnip, beetroot, and dahlia. New plants can grow from these roots.

**Growing Plants From Stems :** We eat stems of the potato and onion. New plants can grow from these stems.

In case of the rose, hibiscus, and money plant, new plants can grow from just stem cuttings of the mother plant.

**Growing Plants From Leaves :** The Bryophyllum leaf has many buds on its margins. New plants arise from these buds when the leaf falls on moist soil.

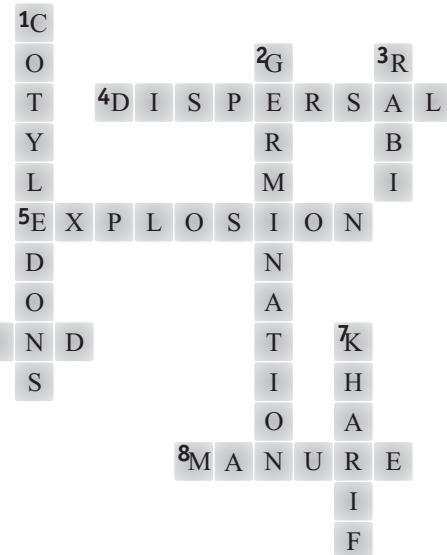
5. Crops grown from June to October are known as kharif crops. These crops depend largely on the monsoon rains. Examples of such crops are rice and maize.

Crops grown from November to April are called rabi crops. These crops do not depend on the monsoon rains. Examples of such crops are wheat and legumes.

#### Activity (CCE Pattern)

**Complete the crossword with the help of the clues given below.**

**Ans.**



## Health and Hygiene

#### In The Beginning....

Look at the pictures given below. These are some activities one must do to stay healthy. Name each activity in the spaces provided :

**Ans.**



1. Brushing teeth



2. Jogging

#### Now Try These

Name two foods each from the following groups :

- Ans.**
1. Bread and cereal group
  2. Vegetable group
  3. Fruit group
  4. Milk group
  5. Meat group

**Wheat,**  
**Tomato,**  
**Apple,**  
**Curd,**  
**Chicken,**

**Rice,**  
**Capsicum,**  
**Mango,**  
**Ghee,**  
**Fish,**

#### Now Try These

Name the following :

- Ans.**
1. Name one disease that spreads through air.
  2. Name one disease that spreads through water.
  3. Name one disease that spreads through insects.

**Common cold**  
**Jaundice**  
**Malaria**

## Exercise

### Section-1 Formative Assessment (CCE Pattern)

#### A. Oral Questions :

- Ans.** 1. **Milk group :** Milk groups provides calcium that helps to build strong bones and teeth. They also provide other important nutrients like proteins and vitamins.  
2. • Always drink pure and clean water.  
• Keep the house clean. Take care to see that the kitchen, toilets and bathrooms are particularly clean and dry.  
• If a person is suffering from a communicable disease, keep him away from other people.  
3. We need a balanced diet, exercise, rest and sleep to keep fit.

#### B. Tick (✓) the correct option :

- Ans.** 1. c. 2. a. 3. c. 4. c.

#### C. Name two foods rich in :

- |                       |          |            |        |
|-----------------------|----------|------------|--------|
| <b>Ans.</b> 1. Carrot | Butter   | 2. Rice    | Wheat  |
| 3. Fish               | Sea-food | 4. Spinach | Pulses |
| 5. Milk               | Egg      | 6. Pulses  | Egg    |

### Section-2 Summative Assessment (CCE Pattern)

#### A. Fill in the blanks :

- Ans.** 1. Vitamin A helps us to see in dim light.  
2. Our blood circulation improves when we **exercise**.  
3. Diseases that can spread from one person to another are called **communicable** diseases.  
4. Diseases like malaria and dysentery are caused by **protozoa**.  
5. **Cholera** is caused by drinking contaminated water.

#### B. Write true or false :

- Ans.** 1. F 2. T 3. F 4. T 5. T 6. T

#### C. Match the following :

A	B
1. Vitamin A	a. Goitre
2. Vitamin B	b. Night blindness
3. Vitamin C	c. Beriberi
4. Vitamin D	d. Scurvy
5. Iodine	e. Anaemia
6. Iron	f. Rickets

#### D. Give reasons for the following :

- Ans.** 1. We also need to rest our body. Our body gets a chance to repair worn out muscles and make them stronger when we rest. Sleeping for about six to eight hours is very important. It also helps to keep us alert and fresh.  
2. A house should be airy and should get enough sunlight because sunlight kills the many harmful germs. It keeps the house clean. This helps us to

keep the good health and prevent disease.

3. Disease like cholera, typhoid, jaundice and diarrhoea are spread by contaminated water. To prevent these disease water should be boiled before drinking.
4. Benefits of Exercise
  1. Exercise helps in maintaining physical fitness.
  2. Exercise strengthens bones and muscles.
  3. It increases the efficiency of the heart and improves blood circulation.
  4. Exercise makes us take deep breaths and strengthens our lungs. You should exercise and play in the open where there is fresh air.
  5. It also helps our nervous system by supplying more oxygen to the brain.
  6. After exercise we sweat. It helps to get rid of waste from our body.
5. Many water borne disease like cholera, diarrhoea, cholera etc. are spread by the contaminated water. To avoid these disease water should be boiled before drinking. Boiled water is free from germs. It keeps us healthy and fit.

**E. Define the following :**

- Ans.**
1. A diet that includes all the nutrients in their right proportion is called a **balanced diet**.
  2. There are tiny living organisms present everywhere in the air, in water, in soil, in food and also inside the bodies of animals. We cannot see them with our bare eyes. They can be seen only through a microscope. So they are called **microbes**.
  3. **Disease** is a state of unhealthy condition of the body in which one or more parts are affected and the body does not function normally.
  4. Some of these microbes cause communicable diseases. These disease-causing microbes are called **germs**. The main types of germs are bacteria, protozoa, fungi and virus.

**F. Answer the following questions :**

- Ans.**
1. A diet that includes all the nutrients in their right proportion is called a **balanced diet**.
  2. Louis Pasteur was a French scientist who did a lot of work in causes and prevention of diseases. He created the first vaccine for rabies. He invented a method to stop milk and wine from spoiling and making them germ free. The process is named after him as **pasteurization**. In the process of pasteurization, milk is heated to 60°C and then cooled quickly. The germs get killed by this process.
  3. Diseases which do not spread from one person to another are known as **non-communicable diseases**.
  4. Rickets is a deficiency disease caused by the deficiency of Vitamin D. The symptoms of rickets are bow legs (bent legs), bending of the spine etc. The disease can be prevented by eating vitamin D rich food, e.g., milk,

fish, egg, fish oil etc.

5. When a large number of people living in an area become ill with the same disease at the same time, it is called an **epidemic** or **outbreak** of the disease. Some diseases which cause an epidemic are jaundice, cholera, typhoid, malaria and plague.
6. Diseases are spread through food in many different ways.

Germs grow on garbage and dirt. Flies sit on these and carry the germs that stick to their legs. When these flies sit on uncovered food, the germs are left on the food and contaminate it.

There are germs in the dust and soil. When this dust and soil is blown away by wind and settles on food, the food gets contaminated.

When people suffering from intestinal diseases do not wash their hands properly after going to toilet, the germs are likely to stay on their hands and under the nails. When they touch food, the germs in their hand get transferred and contaminate the food. Anybody eating contaminated food is likely to fall ill.

#### Activity (CCE Pattern)

**Ans.** Do yourself

## Habitats and Life Styles of Animals



#### Now Try These

**Tick (✓) the correct answer :**

**Ans.** 1. (a)                  2. (c)                  3. (c)

## Exercise

#### Section-1 Formative Assessment (CCE Pattern)

##### A. Oral Questions :

- Ans.** 1. Bat is the only flying mammal.  
2. Man is that mammal which has the most developed brain.  
3. Dog and crow are two omnivorous animals.

##### B. Tick (✓) the correct option in each :

- Ans.** 1. Most of the animals have **four**/two limbs.  
2. Ducks/**Birds** are the only animals with feathers.  
3. Humming bird is the largest/**smallest** bird.  
4. **Ostrich**/Albatross is the biggest flightless bird.  
5. **Red**/White blood cells carry the oxygen in the blood.

##### C. Unscramble the following :

- Ans.** 1. REPTILES                  2. AMPHIBIANS                  3. MIGRATION  
4. INVERTEBRATES                  5. FISH

#### Section-2 Summative Assessment (CCE Pattern)

##### A. Fill in the blanks :

- Ans.** 1. Animals that can live both on land and in water are called **amphibians**.

2. The two limbs in the front are called **forelimbs**.
3. Animals who live in water are called **aquatic animals**.
4. **Mammals** are the most complex animal on the Earth.
5. **Blue whale** is the largest mammal in the world.
6. **Slow worm** is a legless lizard.

**B. Write true and false :**

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

**C. Match the following :**

- |                        |                                       |
|------------------------|---------------------------------------|
| <b>Ans.</b> 1. Giraffe | (a) Largest mammal on the land        |
| 2. Bat                 | (b) A flying mammal                   |
| 3. Penguin             | (c) Flightless birds of polar region  |
| 4. Fish                | (d) The simplest group of vertebrates |
| 5. Reptiles            | (e) Well-developed lungs              |

**D. Answer the following questions :**

- Ans.**
1. Migration is a periodic movement of animal from one place to another and back to their original homes when the favourable conditions return. Migration actually takes place in search of food or because of unfavourable climate changes. Fish and birds also migrate from one place to another in search of food and for breeding purpose.
  2. The mammals has well developed breathing organs. The lungs are the main breathing organs in mammals. They breath through their lungs.
  3. Adaptation is the set of unique characteristics which an animal develops according to their habitat. Habitat of an animal is the environment in which it lives. So when an animal adopt or develop some characteristics which are suitable for its environment, are called adaptation. An adaptation is helpful for an animal to survive in its environment.
  4. Frogs are the good examples of Amphibians. Amphibians can live both on land and in water. They have all the features of a fish like gills and fins when they live in water. So, they live in water like a fish. After a few days, lungs and limbs develop. Then they cannot live any more in water and come on to land. They go to the water only for protection and laying eggs. Frog has adaptation to breathe both on land and in water. On land it uses its lungs to breathe and inside water it breathes through its moist-skin. Frogs have webbed feet, short fore-limbs and long hind-limbs. Hind limbs help in swimming and for leaping on the ground.
  5. Snakes are reptiles that do not have limbs. Instead the scales on the undesirable of its body help it to move. They grip uneven ground and help the snake move forward. Snakes can even climb trees easily. They are able to do this by means of the broad plates on the lower sides of their body. To allow free movement the backbone of the snake is flexible and body is provided with strong muscles.

**Activity (CCE Pattern)**

**Ans.** Do yourself

# Our Skeletal System



## In The Beginning....

Look at the picture given below. Write their names in the boxes provided.

Skull



Ribcage

**Ans.** These two pictures form a part of the skeletal system.

## Now Try These

Match the following organ system with their jobs :

**Ans.**      **Column A**

1. Breathing system
2. Nervous system
3. Digestive system
4. Circulatory system
5. Muscular system
6. Reproductive system
7. Excretory system
8. Skeletal system

**Column B**

- a. helps us to breathe
- b. helps us in thinking, feeling, learning and smelling, etc.
- c. breaks our food into simpler substances
- d. transports nutrients and other substances
- e. helps us in movements
- f. helps in producing babies
- g. throws out our body wastes
- h. gives shape to our body

## Now Try These

Name the following :

- Ans.**
1. Any two internal organs: **heart, lungs**.
  2. Two systems which work closely together to make movement of the body possible : **The skeletal system the muscular system**.
  3. Two body parts with small bones: **palm, toe**.
  4. The soft, fatty substance inside hollow bones which makes new blood: **bone marrow**.

## Now Try These

**A.** **Fill in the blanks :**

- Ans.**
1. Eight flat bones in the **skull** protect the brain.
  2. The 33 small bones in the spine are called **vertebra**.
  3. The 12 pairs of bones in the chest from the **ribcage** which protects the heart and the lungs.

**B.** **Fill in the blanks by choosing the correct option :**

- Ans.**
1. The **skeletal** system forms the framework of the body.
  2. The vertebral column protects the **spinal cord**.

3. The **rib cage** protects the heart and lungs.
- C. **Write the correct numbers for the following :**
- Ans. 1. The number of bones in an adult human skeleton **206**.  
2. The number of bones in a skull **22**.  
3. The number of pairs of ribs **12**.  
4. The number of vertebrae in the backbone **33**.

**Now Try These**

**Fill in the blanks :**

- Ans. 1. A group of organs together make up an **organ** system.  
2. The skull is made up of **22** bones.  
3. The backbone is made up of 33 small bones called **a vertebra**.

**Now Try These**

Ans. Do yourself.

## **Exercise**

**Section-1 Formative Assessment (CCE Pattern)**

A. **Oral Questions :**

- Ans. 1. The skeleton is a framework of bones which gives the body a form and shape. it also protects the internal organs.  
2. The skeleton system forms the fram work of bones in our body.  
3. The different kinds movable joints are:, pivot joints, ball-and-socket joints, sliding joints and hinge joints.  
4. The hinge joints work like the hinges in a door. They move the bones through  $180^\circ$  only in ones.

B. **Tick (✓) the correct option :**

- Ans. 1.c. 2.a. 3.c. 4.a.

**Section-2 Summative Assessment (CCE Pattern)**

A. **Answer in one sentence :**

- Ans. 1. Skull, Ribs and Spine  
2. Bones are held together by strong band of fibre-like struction called ligame.  
3. A joint is a place where two or more bones fit together.  
4. Pivot joints, ball-and-socket joints sliding joints and hinge joints.  
5. Stomach.  
6. Valuntary muscles are attached to bones by strong bands of fibres called tendons.

B. **Fill in the blanks with the correct option :**

- Ans. 1. The heart is an **organ** system.  
2. The strongest and the longest bone in the body is the **femur**.  
3. The long bones which are hollow have **bone-marrow** inside them.  
4. The **lower** jaw is the only movable part in the skull.  
5. Fibres that join one bone with another are called **ligaments**.

**C. Match the following :**

<b>Joint</b>	<b>Movement</b>
1. Ball-and-socket joint	a. allows rotatory movement
2. Pivot joint	b. allows movement of bones through $180^\circ$
3. Sliding joint	c. allows circular movement
4. Hinge joint	d. allows movement of bones over each other

**D. Define the following terms :**

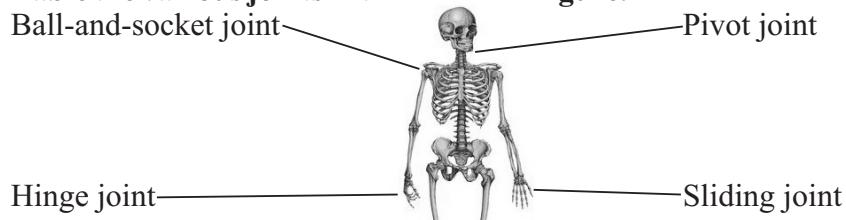
- Ans.** 1. **Skeleton** : The skeleton is a frame work of bones which gives the body a form and shape. It also protects the internal organs.  
2. **Tendon** : Voluntary muscles are attached to bones by strong bands of fibres called tendons.  
3. **Joint** : A joint is a place where two or more bones fit together.

**E. Answer the following questions :**

- Ans.** 1. The skeleton gives shape and support to our body. It protects our internal organs. For example, the skull protects the brain, and the ribcage protects the heart and the lungs.  
2. **Ball-and-socket joint** : A ball-and-socket joint allows a circular movement. Here, one bone that ends in a ball fits into the socket or hollow of another bone. Ball and socket joints are found in shoulders and hips.  
At the shoulder, the long bone ends in a ball and fits into the socket to the shoulder blade. At the hips, the femur ends in a ball and fits into the socket to the hip bone  
3. **Voluntary or skeletal muscles** : These muscles are attached to our skeleton and are under our control. These muscles are found in the arms, legs, eyes, etc.  
**Involuntary muscles or smooth muscles** : These muscles are not under our control, they work automatically. They are found in our stomach, intestine, etc.  
4. The muscular system helps the body in movement. Some muscles are attached to the bones. These muscles pull the bones and help in movement. The leg muscles help to walk and jump. The arm muscles help to lift things. The face muscles help to smile, blink, and wink.

**Activity (CCE Pattern)**

- **Lable the various joints in the following figure.**



- Find 10 words in this word search that are related to the skeletal system. You can move horizontally or vertically. Write the words you have found.

**Ans.**

HIP	SKULL
SPINE	RIBS
TENDON	LIGAMENT
SKELETON	JOINT
FEMUR	KNEE

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

## Nervous System



### In The Beginning....

Look at the pictures given below. Name the activity that the kids are doing in these pictures.

**Ans.**



1. Eating



2. Smelling



3. Thinking



4. Singing



5. Laughing

### Now Try These

#### A. Name the following :

- Ans.** 1. The nervous system      2. The Brain      3. The Cerebrum  
4. The Cerebellum      5. Mixed nerves

### Now Try These

Tick (✓) the correct answer :

- Ans.** 1. c.      2. b.      3. a.

## Exercise

### Section-1 Formative Assessment (CCE Pattern)

#### A. Oral Questions :

- Ans.** 1. The brain has three main parts, the cerebrum, the cerebellum and the medulla.  
2. Pinna is the outer part of the ear. It is also called outer ear or external ear.  
3. Nervous system controls all other system of our body.

#### B. Tick (✓) the correct answer :

- Ans.** 1. The **brain/skull** controls most of the functions of our body.  
2. The **medulla/cerebrum** is the longest part of the brain.  
3. **Nerves/Bones** are made of bundles of fibres.  
4. **Eyes/Ears** have the sense of vision.  
5. The **sensory nerves/spinal cord** links several parts of the body to the brain.

**D. Tick the correct answer :**

- |             |                |               |             |                 |
|-------------|----------------|---------------|-------------|-----------------|
| <b>Ans.</b> | 1. Medulla,    | <b>Liver,</b> | Cerebellum, | Cerebrum        |
|             | 2. <b>Eye,</b> | Nerves,       | Spinal,     | Cord            |
|             | 3. Iris,       | Pupil,        | Retina,     | <b>Ear drum</b> |

**Section-2 Summative Assessment (CCE Pattern)**

**A. Fill in the blanks :**

- Ans.** 1. The **Sensory nerves** carry messages from all body parts to the brain.  
2. The **Brain** controls and coordinates all our actions.  
3. The medulla is active even we are **asleep**.  
4. An auto movement in response to a stimulus is called a **reflex action**.

**B. Write true or false :**

- Ans.** 1. T 2. T 3. T 4. T 5. T

**C. Match the following :**

- |                            |  |
|----------------------------|--|
| <b>Ans.</b> 1. Spinal cord | (a) <b>Reflex action</b>               |
| 2. Eye                     | (b) <b>Pupil</b>                       |
| 3. Tongue                  | (c) <b>Taste buds</b>                  |
| 4. Medulla                 | (d) <b>Controls involuntary action</b> |
| 5. Cerebellum              | (e) <b>Controls muscular action</b>    |

**D. Answer the following questions :**

**Ans.** 1. Our nervous system consists of the brain, the spinal cord and the nerves. Brain is the centre of the nervous system. Brain sends and receives messages through the network of nerves. This network of nerves allows the brain to communicate with every part of the body.

2. **Cerebrum** : The cerebrum is the longest part of the brain. It helps us to remember and learn. It also controls the functions of sense organs. It also controls our voice. It is the centre of the intelligence. We can think, learn, remember and recall because of the cerebrum.

**Cerebellum** : Below the cerebrum is the cerebellum. It controls the muscles activity and maintains balance of our body and keeps it in an upright position. If the cerebellum does not function property our body movements becomes jerky.

**Medulla** : Beneath the cerebellum lies the bulb-shaped medulla. It connects the brain to the spinal cord. It controls the involuntary actions like the movements of the lungs and the heart. The medulla is active even when we are asleep.

3. There are three types of nerves. They are as follows :  
1. Sensory nerves 2. Motor nerves 3. Mixed nerves.

**Sensory Nerves** : They carry messages from the sense organs i.e., eyes, nose, tongue, ears and skin to the brain and spinal cord.

**Motor Nerves** : They carry messages from the brain and spinal cord to the different parts of the body.

**Mixed Nerves** : They carry messages in both ways. They are present in the brain and the spinal cord.

- Reflex action is the action which takes place automatically as a response to a stimulus. At times, the body needs to respond quickly to avoid any damage. At such times message is taken to the spinal cord which immediately sends a message back. An auto movement in response to a stimulus is called a reflex action. For example, when our finger comes close to a hot object, then we pull our hand away from the hot object even before we feel the pain. Blinking of the eyes and watering of the mouth are two other examples of reflex actions.
- (i) Eyes :** We must try to avoid any kind of injury to our eyes. Remember the following rules to keep eyes safe and healthy.
  - Sit 6-9 feet away from the television set.
  - Do not work in a dim light or very bright light. This tries the eyes. Let the light fall from the left side of the reading material.
  - Do not read in a moving vehicle.
  - Wash our eyes regularly with clean water.
  - Do not play games on the computer for long period.
  - Never touch our eyes with dirty hands, handkerchiefs or towels.
- (ii) Ears :**
  - Do not put any sharp or pointed things like pin etc. into the ear for cleaning.
  - Avoid to hear loud sounds. They may damage our ears.
  - Visit a doctor, if we have an ear ache.
  - Do not let water enter our ears while swimming. Use earplugs. Dry them with the end of a soft clean towel.
- (iii) Nose :**
  - Keep our nose clean by blowing it gently.
  - Do not pick our nose with our fingers or nails.
  - If we have a cold, inhale steam to clean the nose.
- (iv) Skin :**
  - Dry ourselves thoroughly after washing and wear clean and comfortable clothes. Clothes should be loose enough to allow fresh air in during warm weather.
  - A scratch or cut on the skin should be treated with an antiseptic to stop the growth of germs.
  - Use a good quality soap, and water to remove dust and sweat.

#### Activity (CCE Pattern)

**Ans.** Do yourself



## Force and Energy

**In The Beginning....**

**Identify the simple machine in the following pictures.**



1. Bucket



2. Screw

### **Now Try These**

**Fill in the blanks :**

- Ans.** 1. When the fulcrum is in between the load and the effort it is a **first-class lever**.  
 2. A **pulley** is a small wheel with a groove around its outer edge.  
 3. A pulley does not reduce the effort. It changes the **direction** of force.

## **Exercise**

### **Section-1 Formative Assessment (CCE Pattern)**

**A. Oral Questions :**

- Ans.** 1. **A force can be used to :**

- move a stationary object.
- stop a moving object.
- make a moving object move faster.
- slow down a moving object.
- change the direction of a moving object.
- change the shape and size of an object.

2. **Law of Conservation of Energy :** 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.  
 3. Forces are of different types muscular, gravitational, frictional, elastic, mechanical and buoyant.

**B. Tick (✓) the correct option :**

- Ans.** 1. a. 2. c. 3. d. 4. a.

**C. List two activities in each column :**

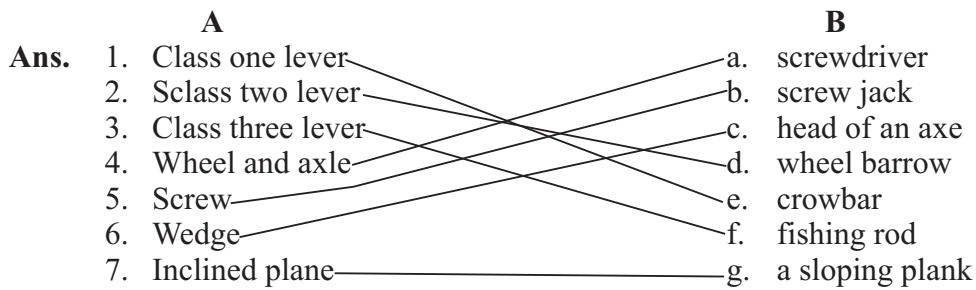
- |   |                     |
|---|---------------------|
| <b>Ans.</b> 1. a. Diluting sugar in water | b. Wiping the floor |
| 2. a. Tightening screw with screw drivers |                     |
| b. Cutting the clothes with scissors      |                     |

### **Section-2 Summative Assessment (CCE Pattern)**

**A. Fill in the blanks :**

- Ans.** 1. **Push or pull** means applying force.  
 2. Most simple machines make use of **mechanical** force.  
 3. We are able to walk because of the presence of **frictional** force.  
 4. Simple machines change the **direction** of applied force.  
 5. **Energy** is the ability to do work.

**B. Match the following :**



**A.** **Answer the following questions :**

- Ans.** 1. **Types of Forces :** There are different types of forces.

**Muscular Force :** When we push, pull or lift something we apply muscular force.

**Gravitational Force :** On television you must have seen astronauts floating in space. They are able to float because there is no gravitational force pulling them down. We are able to stay on the ground because of gravitational force.

**Frictional Force :** Why does a rolling ball stop after some time? This is because of the force of friction. Frictional force slows down a moving object. We are able to walk because of frictional force.

**Elastic Force :** A stretched rubberband regains its original position on being released because of elastic force. Elastic force arises when a body deforms.

**Mechanical Force :** Most simple machines make use of mechanical force. For example, a pair of scissors uses mechanical force to cut something.

**Buoyant Force :** If we push down a mug or a block of wood floating on water, we feel an upward thrust. The upward push of water on a floating object is called **buoyant force** or **upthrust**. This force acts on every object, even on you when you enter a swimming pool.

2. **Simple Machines :** Simple machines are tools which make our work easier and faster. They help us to do work by applying force at a convenient point which either changes the direction of force or increases the force applied. Some examples of simple machines are lever, inclined plane, wheel and axle, pulley and screw.
3. **Levers :** Commonly used tools like scissors, pliers, screwdrivers and hammers are levers.

A small stone is kept as a support for the rod, very close to the rock under the rod. One uses a downward force on the other end of the rod. The rock is lifted upwards. Here the rod is a lever. The weight lifted by the person is the **load** (see figure given on below). The point of support or the pivot point of the rod where it touches the small stone is the **fulcrum**. The force used is the **effort**.

Lever can be classified according to the position of the fulcrum, the

load and the effort.

When the fulcrum is in between the load and the effort it is a **first-class lever**.

When the load is in between the fulcrum and the effort, it is a **second-class lever**.

When the effort is in between the fulcrum and the load, it is a **third-class lever**.

4. **The Inclined Plane :** Walking up a slope is easier than climbing a ladder to the same height. An **inclined plane** is a slope which makes work easier. When workers have to load or unload a truck they use a plank of wood as an inclined plane. In hospitals and some other building inclined planes called ramps are provided next to staircases. This helps in pushing up wheelchairs.
5. A **screw** is a simple machine used to hold things tightly together. Why is a screw better than a nail? When we join things together with a screw they are held together through a longer distance and thus cannot be forced apart easily. On the other hand, when we join things with a nail, they are held together only for a short distance, that is through the length of the nail.
6. **Different Forms of Energy :**

**Mechanical Energy :** Mechanical energy is the energy which is possessed by an object due to its motion or due to its position. Mechanical energy can be either kinetic energy (energy of motion) or potential energy (stored energy of position). A moving car possesses mechanical energy due to its motion (kinetic energy). A drawn bow possesses mechanical energy due to its stretched position (elastic potential energy).

**Solar Energy :** Solar energy is the most readily available source of energy. It is the most important source of energy because it is non-polluting. When we hang our clothes to dry in the sun, we use the energy of the sun. Similarly, solar panels absorb the energy of the sun to provide heat for cooking.

**Geothermal Energy :** The word geothermal comes from the Greek words geo (earth) and therme (heat). So, geothermal energy is heat from within the Earth. We can use the steam and hot water produced inside the Earth to heat buildings or generate electricity. Geothermal energy is a renewable energy source because the water is replenished by rainfall and the heat is continuously produced inside the Earth.

**Wind Energy :** Wind energy is plentiful, renewable, widely distributed, clean and non-polluting. Therefore, it is considered by experts to be more environment friendly than many other energy sources. Wind power is the conversion of wind energy into a useful form, such as electricity, using wind turbines.

7. Solar energy and wind energy do not cause pollution.

**Activity (CCE Pattern)**

**Ans.** Do yourself

## Safety and First Aid



### In The Beginning....

Look at the pictures given below. Write Y where safety rules are being followed and N where safety rules are not being followed:

**Ans.**



### Now Try These

Tick (✓) the correct answer :

**Ans.** 1. (a)            2. (b)            3. (c)

## Exercise

### Section-1 Formative Assessment (CCE Pattern)

#### A. Oral Questions :

- Ans.** 1. We should obey safety rules on the road because these rules help us in reducing the risk of accidents.  
 2. A fracture is the breaking of a bone. The affected body part becomes very painful and swells up.  
 3. We should not throw water on the fire caused by electric fault because it may give us a shock. It may be harmful for us.

#### B. Unscramble the following :

- Ans.** 1. FSTEYA            SAFETY            2. RFECATRU            FRACTURE  
 3. PSLTNI            SPLINT            4. EABEWR            BEWARE  
 5. ERTNEOUTNQ            TOURNIQUET

## **Section-2 Summative Assessment (CCE Pattern)**

### **A. Fill in the blanks :**

- Ans.**
1. Never use **water** to put out fire caused by electricity.
  2. Never wear **synthetic** clothes while bursting crackers.
  3. A **fire extinguishers** can be used to put out a small fire.
  4. A **tourniquet** is a tight bandage that stops bleeding by applying pressure.
  5. **Fracture** is a crack in the bone.
  6. The main reason for fire in our homes is our **carelessness**.

### **B. Give reasons for the following :**

- Ans.**
1. We should always wash our hands before giving first aid because if our hands are dirty, they cause infection to the injured person. So, for avoiding the risk of infection, we wash our hands before giving first aid. Dirty hands may contain various types of germs which can enter the wound of the victim and may cause infection.
  2. We should keep a broken arm in a sling because it gives support to the broken arm.
  3. Always swim in the presence of a guide or a teacher because it is necessary for our safety. Do not go out for swimming alone, it may be harmful for us.
  4. Wash all vegetables and fruits before eating them because they may have been sprayed with harmful insecticides and pesticides. If we eat them without washing, it may cause poisoning.
  5. Electric switches should not be touched with wet hands because we may get a shock.

### **C. Answer the following questions :**

- Ans.**
1. The immediate help given to the person before the arrival of a doctor is called the first aid. First aid is only given when the injury is small.
  2. This is very common among children during summer when the days are very hot. It is due to the rupturing of the walls of the blood vessels. Nose bleeding can be stopped by pressing the nose on the bleeding side between the thumb and the forefinger for few minutes.
  3. In case of an animal bite we should give the following first aid :
    - Wash the bitten part with soap and water.
    - Take the victim to the doctor for antirabies injection.
    - In case of a snake bite :
    - Do not move the person.
    - Apply a tourniquet just above the bite to slow down the poison flow towards the heart.
  4. Fire can easily be prevented by following some simple safety rules :
    - Generally fire can be controlled by throwing water or sand.
    - If fire occurs because of an electric short-circuit, we should immediately put off the main switch to stop the electric supply.
    - Never use water, if the fire is caused by electricity.

- A fire extinguisher can be used to put off a small fire.
  - If fire occurs and the situation is beyond the control, we should immediately inform to the nearest fire station.
5. The very first help we can give is to make sure that the body part where there seems to be a fracture is not moved. After that we can :
- Apply splint long enough to extend well beyond the joints above and below the fracture.
  - Padding in the form of cotton, towel, handkerchiefs, etc. should be placed between the fractured part and the splint.
  - Tie the splint with the help of bandage or handkerchief.
  - Keep the victim still till the doctor comes.
  - Make sure that the broken limb is in as a natural a position as possible.
  - Use a triangular piece of cloth to make a sling for supporting the broken limb.
  - Get an X-ray taken.

#### Activity (CCE Pattern)

**Ans.** Do yourself

## Rocks and Minerals



#### Now Try These

- A.** Read the clues to unscramble the letters, and write the answers. One has been done for you.

- Ans.**
1. It is an igeous rock **BASALT TALASS**
  2. It is a sedimentary rock **SANDSTONE EONNASDST**
  3. It is a metamorphic rock **MARBLE LBMAER**

- B.** Match the columns. One has been done for you.

<b>Ans.</b>	<b>Column A</b>	<b>Column B</b>	<b>Column C</b>
	Granite	Metamorphic rock	Used in making glass and jewellery
	Limestone	Igneous rock	Used as a building material
	Quartzite	Sedimentary rock	Used in making lime, bricks, and cement

#### Now Try These

**Ans.** Do yourself.

## Exercise

#### Section-1 Formative Assessment (CCE Pattern)

- A.** Oral Questions :

- Ans.**
1. Sedimentary rocks are formed due to the process of weathering.
  2. We need to conserve fossil fuels because they are available to us in limited quantity.

3. Metamorphic rocks are formed due to the change in form of sedimentary rocks.

**B. Tick (✓) the correct option :**

- Ans.** 1. d. 2. a. 3. d. 4. a.

**C. Write one word for the following :**

- Ans.** 1. Mantle                    2. Crust                    3. Pumice  
4. Coal                            5. Mineral

**Section-2 Summative Assessment (CCE Pattern)**

**A. Fill in the blanks :**

- Ans.** 1. Sedimentary rocks are formed from **weathering**.  
2. **Marble** is a metamorphic rock.  
3. Coal and petroleum are **fossil fuels**.  
4. **Obsidian** is an igneous rock formed by quick cooling of lava and is used in making jewellery.  
5. **Talc** is a soft mineral used to make talcum powder.  
6. Wind and solar energy are **weathering agents**.

**B. Write true or false :**

- Ans.** 1. F      2. F      3. T      4. T      5. F      6. T

**C. Match the following :**

<b>A</b>	<b>B</b>
1. Slate	a. limestone
2. Marble	b. sandstone
3. Quartzite	c. igneous
4. Pumice	d. shale
5. Conglomerate	e. quick cooling of lava
6. Obsidian	f. rough and uneven to touch

**D. Answer the following questions :**

- Ans.** 1. The Earth is like a big ball made up of several layers of material. The centre of the Earth is called the **core**. The surface layer is called the **crust**. Both, the core and the crust are solids. Between the core and the crust lies a layer of partly solid rock mixed with molten rock and metal. It is the **mantle**.  
2. The Earth is very hot inside. The rocks inside the Earth are found in molten form. This hot liquid rocky material is called **magma**. The cooled magma solidifies either below the surface or on the surface of the Earth to form igneous rocks. When this magma is pushed out of the Earth's surface, it is called **lava**. This usually happens during volcanic eruptions.  
3. • Rock salt that we use sometimes in our food is a mineral.  
• Talc is a soft mineral. It is used to make talcum powder.  
• Chalk too is a soft mineral. It is used for making **Portland cement** and also for writing on blackboards.

- Some minerals contain metals which can be extracted. Some of these useful metals are copper, iron and aluminium. The minerals from which these metals are obtained are called ores. Iron is used in making steel, **copper** in electrical wires and aluminium in making utensils and foil.
  - Precious metals such as **gold** and silver are used in making jewellery.
  - Some minerals like **diamond**, **ruby** and **emerald** are found in the form of crystals. They are very beautiful and shiny, so are used as **gemstones**.
4. The Earth is very hot inside. The rocks inside the Earth are found in molten form. This hot liquid rocky material is called magma. The cooled magma solidifies either below the surface or on the surface of the Earth to form igneous rocks. When this magma is pushed out of the Earth's surface, it is called lava. This usually happens during volcanic eruptions. Almost ninety-five percent of the Earth's crust is made up of igneous rocks.  
The type of igneous rock formed depends on the type of minerals it contains, and the rate at which it cools. Some common igneous rocks are granite, basalt, pumice and obsidian.
5. **Fossils** are remains of dead plants or animals that get buried millions of years ago and hardened with the passage of time in the Earth. Fossils are found mostly in sedimentary rocks. Fossils help scientists discover the various forms of life that existed in the prehistoric period.
6. Most rocks are made up of minerals of various kinds. Some minerals like diamond and ruby are found in the form of crystals. They are used as gemstones. A mineral has the following properties.
- Minerals are inorganic substances : 'Inorganic' means that they are not of plant or animal origin.
  - Minerals occur naturally; they are not man-made. You can find them in rocks, soil and water.
  - Minerals are usually formed of crystals that are geometric in shape. They have edges and lines.
  - Minerals may be simple substances like gold or silver, or complex such as quartz.
  - Rare and expensive minerals such as diamonds, emeralds or rubies are called gems.

#### Activity (CCE Pattern)

Ans. Do yourself

# Our Environment



## Now Try These

Tick (✓) the correct answer :

- Ans. 1. (a)            2. (c)            3. (a)

## Exercise

### Section-1 Formative Assessment (CCE Pattern)

#### A. Oral Questions :

- Ans. 1. Recycling is an effective measure to reduce pollution. In it, new useful things are made from waste things.  
2. We think that vehicles are the major source of air pollution because they run on petrol or diesel release smoke, soot and harmful gases into the air. These pollute the air in a large scales.  
3. Bicycle is the most common mode of transport and it does not create pollution.

#### B. Circle the odd one. Give reasons for your answer :

- Ans. 1. **Dust** : Because dust is not the constituent of the air and the rest three are the constituent of air.  
2. **Oxygen** : Because oxygen is a useful gas and the rest are harmful substances.  
3. **Van Mahotsava** : Because Van Mahotsava is the programme of planting more and more trees and the rest are shows the physical discomfort.

#### C. Tick (✓) the correct option in each :

- Ans. 1. Air, water and soil are known as **natural/artificial** sources.  
2. The **harmful/useful** substances are called pollutants.  
3. Vehicles which run on **petrol/water** release, harmful gases.  
4. The Earth's atmosphere is a blanket of soil/**gases**.  
5. Planting/**Cutting** of trees in large number is knowns as deforestation.

### Section-2 Summative Assessment (CCE Pattern)

#### A. Fill in the blanks :

- Ans. 1. Human beings cannot live without **air** and **water**.  
2. The harmful substances are called **pollutants**.  
3. **Man** is the only organism that interferes with the environment.  
4. All buses run on non-polluting **fuel CNG**.  
5. Excess of **carbon-di-oxide** gas causes global warming.

#### B. Match the following :

- |                 |                                       |
|-----------------|---------------------------------------|
| Ans. 1. WWF     | (a) World Wild fund                   |
| 2. Loudspeakers | (b) Sound pollution                   |
| 3. Oxygen       | (c) Supports life                     |
| 4. Environment  | (d) The surroundings in which we live |
| 5. Pollutants   | (e) Harmful substances                |

#### C. Write true and false :

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

**D. Answer the following questions :**

- Ans.**
1. Our surroundings in which we live is called our environment. Thus our environment is everything that is around us. Our environment has an effect on us and we also have an effect on the environment. Plants and trees, soil and land, buildings, air, water, temperature, living beings etc. are the components of the environment.
  2. Pollution is the release of substances in air, water or soil that are harmful to living beings. These harmful substances are called pollutants. Pollution is an environmental problem. It leads to diseases and many other problems. The main kinds of environment pollution are as follows :  
(i) Air pollution (ii) water pollution (iii) soil and land pollution (iv) noise pollution.
  3. **(i) Air pollution :** The main sources and reasons of air pollution are given below :  
Deforestation takes place when man cuts down trees and forests for wood or residential purposes. It is the main cause of air pollution because plants and trees purify the air and also release oxygen.  
Vehicles which run on petrol or diesel release smoke, soot and harmful gases into the air. These pollute the air in cities and large towns.  
During wars, chemical compounds are released into the air when explosion of different kinds of bombs take place. These harmful gases pollute the atmosphere.  
There is an increase in gases and particles from factories and industries such as sulphur dioxide and oxides of carbon and nitrogen.  
**(ii) Water pollution :**
    1. **Fertilizers, insecticides and pesticides :** Often farmers add fertilizers to the soil to increase the crop yield. These fertilizers may be carried to the rivers. Insecticides and pesticides which are used to kill insects and pests that harm the crops are also carried to rivers and lakes which pollute the water.
    2. **Industrial wastes :** Poisonous substances from factories flow into the drains which empty into water bodies such as lakes and rivers.
    3. **Sewage :** The drains of the towns, cities and large villages empty out their contents in rivers and lakes.
    4. **Chemical compounds :** Dissolved chemical compounds are present in the ground water which affect human health.
    5. **Oil :** Sometimes oil spills from tankers into the sea, thereby destroying marine life.**(iii) Soil pollution :** Our soil can get polluted by using excessive amounts of chemicals in it for agriculture. Soil also gets polluted when people bury various wastes in it.
  - (iv) Noise pollution :** Loud and noisy sounds from loudspeakers,

vehicles, machines, etc. disturb the quietness of our environment and cause noise pollution which is very harmful for us. They may cause irritation, sleeplessness, headache, etc. Some serious diseases like deafness or high blood pressure may also be caused by it. It affects our work efficiency and mental ability badly.

4. The three activities of human beings that have damaged the environment are as follows :
  - (i) Cutting down the trees and forests for wood and residential purposes.
  - (ii) Increasing the number of vehicles which run on petrol or diesel.
  - (iii) Poisonous substances from factories flow into the drains which empty into water bodies such as lakes and rivers.
5. Our environment provides us some important things which are essential for our survival on the earth. These things are air, water, soil, food, fuels etc. These are known as natural resources. Conservation is the wise and careful use of these resources. Conservation involves not only preventing wastage of resources but also maintaining their quality. We should use our natural resources very carefully and conserve them as much as possible because unlimited and indiscriminate use of natural resources will make them get exhausted soon.

#### Activity (CCE Pattern)

Ans. Do yourself

## Soil Erosion and Conservation



#### In The Beginning....

Fill in the blanks by looking at the pictures.

Ans.



SOIL



FOREST



WATER

#### Now Try These

Fill in the blanks :

- Ans.
1. The **soil** is the foundation of life on earth.
  2. River Kosi caused havoc in Bihar.
  3. Felling of trees or **deforestation** causes soil erosion.

## Exercise

### Section-1 Formative Assessment (CCE Pattern)

#### A. Oral Questions :

- Ans.**
- When the Earth was formed, there were only water, air and hard rocks. 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 year for these tiny particles to change into the loose material which we call soil.
  - Heavy rains cause floods. Flooded rivers and running water remove the top soil. Running water washes the soil off the hill slopes.
  - Human Beings also Cause Soil Erosion :** Roots of trees and plants hold the soil together. Falling of trees or deforestation is a major cause of soil erosion. When trees are cut down the soil becomes loose and is easily carried away.  
Ploughing of hill slopes is yet another human factor that leads to soil erosion. Overgrazing by cattle also causes soil erosion.
  - Human Beings also Cause Soil Erosion :** Roots of trees and plants hold the soil together. Falling of trees or deforestation is a major cause of soil erosion. When trees are cut down the soil becomes loose and is easily carried away.  
Ploughing of hill slopes is yet another human factor that leads to soil erosion. Overgrazing by cattle also causes soil erosion.

**B. Tick (✓) the correct option :**

- Ans.** 1. b.      2. b.      3. b.

**C. Tick (✓) the correct word :**

- Ans.**
- Process of wearing away of soil is called **erosion**.
  - In 2008 river Kosi caused a flood in **Bihar**.
  - Plants and trees hold the soil by their **roots**.
  - Soil erosion occurs due to soil **deforestation**.

**D. Identify the following pictures. Write their names in the spaces provided :**

**Ans.**



1. Deforestation



2. Overgrazing



3. Terrace Farming

#### Section-2 Summative Assessment (CCE Pattern)

**A. Fill in the blanks :**

- Ans.**
- The breaking down of rocks into soil is called **weathering**.
  - The removal of fertile topsoil is called **soil erosion**.
  - The roots of plants** act as soil-binders to prevent soil erosion.
  - The protection of soil from its erosion is called **soil conservation**.
  - Soil, Forests and water are known as **resources**.

**B. Match the following :**

- Ans.**
- |                        |                      |
|------------------------|----------------------|
| 1. Loss of soil        | a. afforestation     |
| 2. Sorrow of China     | b. deforestation     |
| 3. Cutting down trees  | c. Hwang Ho          |
| 4. Protection of soil  | d. soil erosion      |
| 5. Planting more trees | e. soil conservation |

**C. Answer the following questions :**

**Ans.** 1. Soil is the uppermost layer of the Earth. It supports plants which provide food to all living things on this planet. Thus, soil is the foundation of all life on Earth.

2. **Running Water Causes Soil Erosion :** Heavy rains cause floods. Flooded rivers and running water remove the top soil. Running water washes the soil off the hill slopes. This makes the slopes unfit for cultivation. The Chambal Valley of Madhya Pradesh is one such example.

A river coming down the hill carries a lot of mud with it. Upon reaching the plains, the flow of the river slows down. It leaves part of the soil on its way. Over a period of time soil accumulates and makes the river change its course. You may have heard of the Yellow River in China, called Hwang Ho. It was known as the **Sorrow of China**, because it changed its course very often. This resulted in loss of life and property. In Bihar, River Kosi which changes its course frequently caused great havoc in 2008 when lakhs of people were affected.

**Wind Causes Soil Erosions :** In desert and semi-desert where strong winds blow, a lot of top soil is carried away. This affects the farmers because manure too is blown away. Quite often the roots of plants lose their soil cover and the plants die.

**Human Beings also Cause Soil Erosion :** Roots of trees and plants hold the soil together. Felling of trees or deforestation is a major cause of soil erosion. When trees are cut down the soil becomes loose and is easily carried away.

Ploughing of hill slopes is yet another human factor that leads to soil erosion. Overgrazing by cattle also causes soil erosion.

3. **Soil Conservation :** Nature took millions of years to form soil. It is our responsibility to preserve and protect it. The protection of soil against erosion is called **soil conservation**.

We cannot stop natural forces like wind and water from causing soil erosion. However, soil can be conserved by controlling the actions of these agents of erosion. This can be done in a number of ways.

4. A river coming down the hill carries a lot of mud with it. Upon reaching the plains, the flow of the river slows down. It leaves part of the soil on its way. Over a period of time soil accumulates and makes the river change its course. You may have heard of the Yellow River in China, called Hwang Ho. It was known as the Sorrow of China,

because it changed its course very often.

5. **On Flat, Open Grounds :** After harvesting and before raising the next crop, fields lie bare. This is when the wind blows off the top soil. To prevent the soil from getting blown away, farmers grow cover crops such as grass and creepers. The roots of plants of these cover crops hold the soil particles together and prevent them from being blown away. Trees and bushes are grown along the boundary of the fields. They act as a shield against strong winds.

**On Hill Slopes :** Cutting the slope into steps or terraces can reduce soil erosion. Steps slow down the flow of water. As the water flow slows down, some soil from one step is left on the next step, reducing the amount of soil lost.

**Afforestation or growing trees** is another effective method of soil conservation on hill slopes.

**On Fields near Rivers :** During the monsoon many rivers overflow our flood the field. To prevent floods, embankments along river banks are built. This holds the water between the banks and prevents soil erosion.

#### Activity (CCE Pattern)

- Mention whether the following activities encourage soil erosion (SE) or soil conservation (SC). Colour the box brown for SE and green for SC.

Ans. 1. SC      2. SE      3. SE      4. SC      5. SC  
6. SC      7. SE      8. SC      9. SE      10. SC

- Stop soil erosion!

Ans. Do yourself

- Can plants break up rock?

Ans. Do yourself

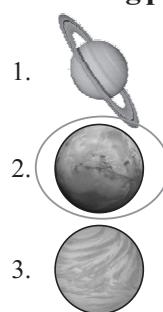
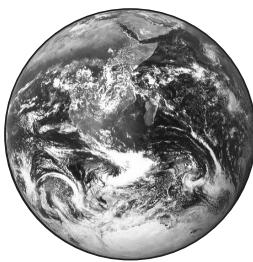
## Our Neighbour : Moon



#### In The Beginning....

Find and circle the Earth's moon in the following pictures.

Ans.



#### Now Try These

Tick (✓) the correct answer :

Ans. 1. (c)      2. (a)      3. (b)

## **Exercise**

### **Section-1 Formative Assessment (CCE Pattern)**

#### **A. Oral Questions :**

- Ans.** 1. The space far away from us is called the sky. It is a wide and silent place.  
2. Because the surface of the moon is more rough and uneven in the comparison of the earth.

#### **B. Tick the correct answer :**

- Ans.** 1. The **moon/sun** is about 3,84,400 km away from the earth.  
2. There is no life on the surface of the **moon/earth**.  
3. The smallest/**largest** crater on the moon is the south pole.  
4. The earth/**moon** is about 4,500 million years old.  
5. Neil Armstrong/**Yuri Gagarin** was the first man to go into the space.

#### **C. Circle the odd one. Give reasons for your answer :**

- Ans.** 1. **Shadow** : Because all other are shapes of the moon.  
2. **Michael Collins** : Because all of these are those men who walk on the moon.  
3. **Moon** : Because all of these are planets but the moon is a satellite of the earth.

### **Section-2 Summative Assessment (CCE Pattern)**

#### **A. Fill in the blanks :**

- Ans.** 1. **Lunar eclipse** occurs when the moon is completely in the dark shadow of the earth.  
2. The moon is the only natural **satellite** of the earth.  
3. Tides are caused in the oceans due to the gravitational pull of the **moon**.  
4. The **tides** are the cyclic rising and falling of the ocean water.  
5. The first artificial satellite was **Sputnik-1**.

#### **B. Match the following :**

- |                         |                                      |
|-------------------------|--------------------------------------|
| <b>Ans.</b> 1. The moon | (a) <b>Earth's natural satellite</b> |
| 2. Full moon            | (b) <b>Brightest heavenly body</b>   |
| 3. Lunar eclipse        | (c) <b>Moon-Earth-Sun</b>            |
| 4. Solar eclipse        | (d) <b>Earth-Moon-Sun</b>            |
| 5. Artificial satellite | (e) <b>Sputnik-1</b>                 |

#### **C. Write true and false :**

- Ans.** 1. T    2. T    3. F    4. T    5. T.

#### **D. Distinguish between the following :**

- Ans.** 1. When the moon casts a shadow on the earth then people in the shadow of the moon can not see the sun. It is called solar eclipse. In solar eclipse moon is in the between of the sun and the earth.  
When earth casts a shadow on the moon then it does not receive any

sunlight. Then it can not be seen. It is called lunar eclipse. In lunar eclipse earth is in between the sun and the moon.

2. Satellites are those objects which rotates around the planet. Natural satellites are made by nature. Moon is the natural satellite of our planet earth. It moves around the earth.

Artificial satellites are the man-made objects, equipped with scientific instruments sent into space to orbit the earth or another planet.

**E. Answer the following questions :**

- Ans.**
1. There is no layer of atmosphere surrounding the moon's surface, so there is no protection from the strong rays of the sun. The side of the moon facing the sun is extremely hot and the side away from the sun is far too cold to support any life. Moreover, there is no air or water on the moon.
  2. The changes in size of the moon while revolving around the earth, are called phases of the moon.
  3. The moon is continuously revolving around the earth. At times during this journey the moon moves into the dark shadow of the earth and does not receive any sunlight. Then it cannot be seen. We call this an eclipse of the moon or the lunar eclipse. It occurs only at night.
  4. When the moon is in complete dark shadow of the earth, it is a total lunar eclipse. At this time there is completely dark and the whole moon cannot be seen.
  5. Tides are the cyclic rising and falling of the ocean water on the earth due to the moon's pull. The gravitational pull of the sun and the moon together exert a pull on the earth's water bodies and cause tides in the sea. Since the moon is much closer to the earth than the sun, the moon's pull on the water is much more than that of the Sun.
  6. An artificial satellite is a man-made object, equipped with scientific instruments sent into space to orbit the earth or another planet. It revolves around the planet just as the moon does. Like the moon, artificial satellites reflect the sunlight and can be clearly seen in the night sky. Aryabhatta, Bhaskara and Rohini are the three examples of artificial satellites.

**7. Uses of Artificial Satellites**

They help in telephonic communication and in the live telecast of programmes on TV. INSAT 3E is a communication satellite.

They are used to forecast weather. They give early warnings of forthcoming storms, cyclones, etc.

They help to study outer space and galaxies.

**Activity (CCE Pattern)**

- Ans.** Do yourself

# Natural Disasters

# 12

## Now Try These

**Fill in the blanks :**

- Ans.**

  1. The crust or the upper layer of the Earth is made of **soil**.
  2. Seismologists study **earthquake**.
  3. Earthquake is measured in **richter scale**.
  4. The liquid that comes out of a volcano is called **magma or lava**.
  5. **Barren Island** is the only active volcano in the Indian subcontinent.

# Exercise

Section-1 Formative Assessment (CCE Pattern)

#### **A. Oral Questions:**



**B. Tick (✓) the correct option :**

- Ans.** 1. c. 2. d. 3. d. 4. a.

**C. Tick (✓) the correct word :**

- Ans.**

  1. Volcanoes are **cracks** in the Earth's crust.
  2. **Extinct** volcanoes are those that have stopped erupting.
  3. The point under the ground where the earthquake begins is called the **focus**.
  4. The most common scale to measure an earthquake is called the **Richter** scale.
  5. **Tidal wave** is the common name for a tsunami.

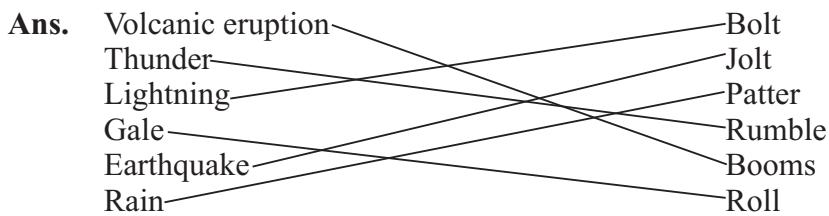
**D. One word is wrong in each of the following statements. Identify the wrong word and rewrite the statement correctly :**

- Ans.**

  1. **Drought** occur due to shortage to rainfall.
  2. **Extinct** volcanoes are those that are dead and inactive.
  3. **Earthquake** is measured on a Richter scale.
  4. **Floods** are common during rainy season.

Section-2 Summative Assessment (CCE Pattern)

**A. Use a dictionary and match the words on the right with events on the left :**



**B. Answer the following questions :**

- Ans.**
1. **Natural Disasters** : A natural disaster is a natural even that causes immense loss of life and property, often leaving people injured and homeless. Floods, earthquakes, cyclones, volcanic eruptions, hurricanes and droughts are all natural disasters.
  2. **Earthquakes** are sudden movements of parts of the Earth's surface. The Earth's crust is like a covering of the Earth. It is made up of many huge pieces called plates. The plates float over the thick liquid layer inside the Earth called mantle. Sometimes, the plates slide past each other causing an earthquake. The surfaces where the plates slip are weak points called fault lines. The location directly above the fault line on the Earth's surface is called epicentre of the earthquake.
  3. A drought happens when there are no rains for a long time—several months or year. Without rains, rivers and natural water bodies dry up, and ground water level goes down as it is not replenished. Lack of water affects all living beings. All vegetation including food crops dry and die. This leads to shortage of food which causes starvation.  
In the absence of water the soil becomes dry and loses its fertility. Useful insects, worms and microorganisms living in the soil die too. All this results in vast damage and destruction.
  4. Though we cannot prevent earthquakes, we can minimise the damage to life and property with better planning, and suitable building construction. The timely rescue and relief provided to the victims can help reduce **loss** of life and property.
    - If you live in an apartment building, find out if it is earthquake proof.
  5. **Rescue and Relief** : If a natural disaster strikes an area, the government makes arrangement for evacuation, that is, removal of people from disaster affected areas. Helicopters are used to rescue by airlifting people stranded in the affected area. Immediate relief is supplied in the form of food, shelter, clothing, water and medical services. Rehabilitation of displaced victims is done by finding shelter, clothing, jobs and slowly rebuilding their lives.

6. The severity of an earthquake is measured by an instrument called seismometer. The strength of an earthquake can be recorded on a Richter scale.

Most minor earthquakes measure no more than 2 on Richter scale, but a reading of 8 means that towns or cities could be destroyed.

7. **Types of volcanoes** : According to the level of activity, volcanoes can be of three types-active, dormant and extinct.

**Active volcanoes** are those which erupt quite often. Many active volcanoes are found around the Pacific Ocean, forming an area called the Ring of fire. Mount Etna in Italy, Mount Erebus in Antarctica and Barren Island in the Andaman Sea in India are some of the active volcanoes. Dormant volcanoes are those that have not erupted for a long time, but may erupt any time.

**Extinct volcanoes** are those that are dead and inactive.

#### **Activity (CCE Pattern)**

**Ans.** Do yourself