

Based on the Guidelines of National Education Policy (NEP)-2020 and  
Syllabus prescribed by N.C.E.R.T.

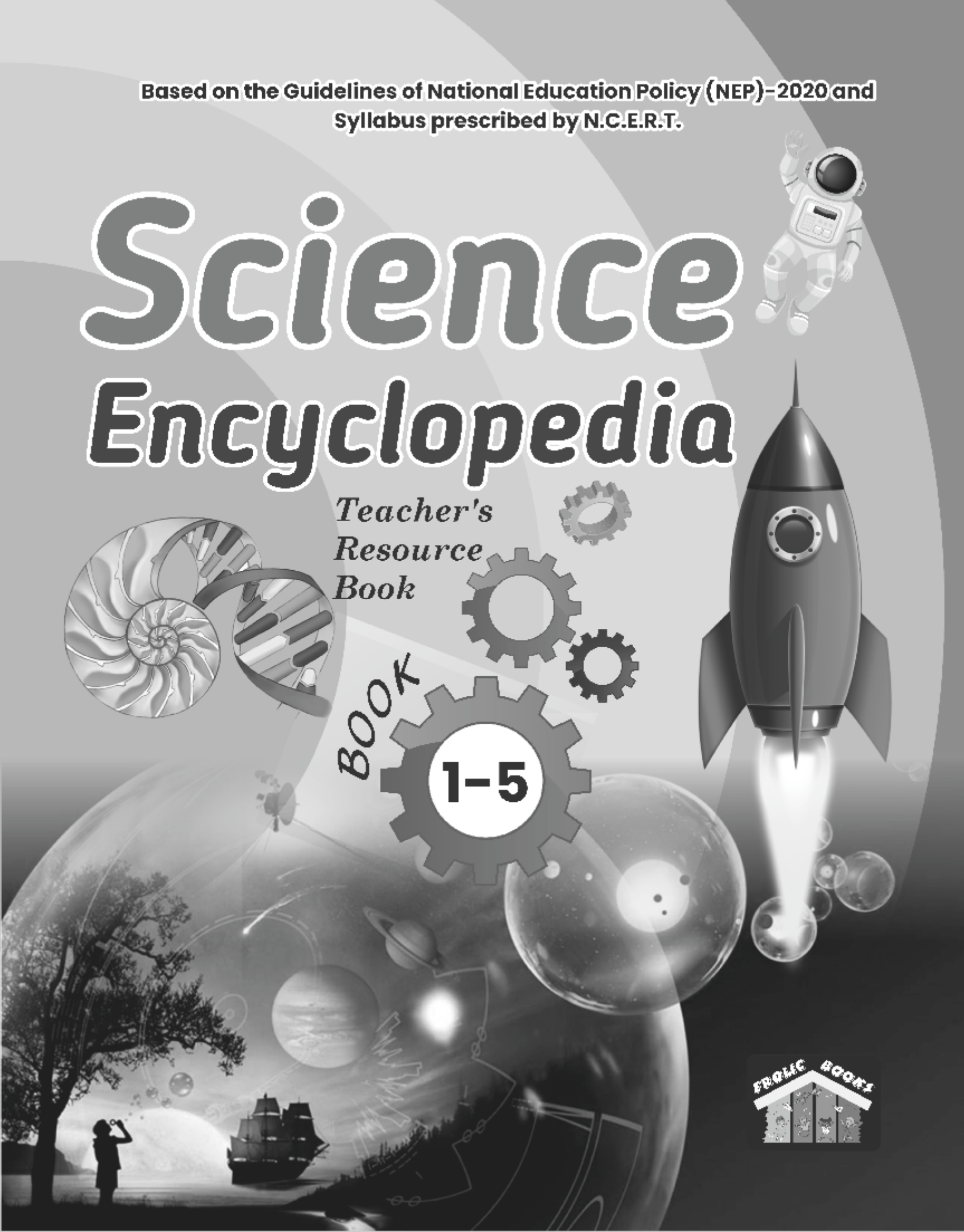
# Science Encyclopedia

*Teacher's  
Resource  
Book*

BOOK

1-5

EDUCATIONAL BOOKS





### Answer Time

#### EXERCISE

Based on NEP 2020

A. Put the following plants in the correct columns :

Trees	Herbs	Shrubs
1. Banyan	1. Sunflower	1. Tulsi
2. Mango	2. Grass	2. Rose

B. Choose the correct answer and fill in the blanks :

- Ans. 1. The wheat plant is a **herb**.  
 2. Plants that need support to grow are called **climbers**.

C. Name the following plants :

Ans. 		
Sunflower	Rose	Coconut.

D. Very short answer questions :

- Ans. 1. a. Trees                      **Banyan**                      **Mango**  
 b. Shrubs                         **Rose**                         **Tulsi**  
 c. Herbs                            **Wheat**                       **Mustard**

d. Climbers                      **Jasmine**                      **Grapevine**

E. Short answer questions :

- Ans. 1. Big and strong plants are called trees.  
 2. Plants having soft and green stems are called herbs.

F. Long answer questions :

- Ans. 1. Plants have different parts, as our body has different parts. They are roots, stem, flowers, leaves.  
 2. Some plants are weak. They cannot stand straight. So they take the help of some support. Such plants are called climbers.

G. Higher Order Thinking Skills (HOTS) :

- Ans. 1. I would put my swing on a neem tree as it is a strong tree and can support my swing.  
 2. Plants need to be planted in soil because soil provide them necessary nutrients.

#### Experimental Skill

- Ans. Do it yourself.



### Answer Time

#### EXERCISE

Based on NEP 2020

A. Choose the correct answer and fill in the blanks :

- Ans. 1. Plants are our green **friends**.  
 2. We get oil and medicines from **plants**.  
 3. Plants give us food like wheat and **rice**.  
 4. We use wood to make our houses and **furniture**.

B. Put these fruits, vegetables and cereals in their correct columns :

Fruits	Vegetables	Cereals
1. Mango	1. Cauliflower	1. Wheat
2. Grapes	2. Brinjal	2. Rice

C. Very short answer questions :

- Ans. 1. a. Fruits                      **Apple**                      **Mango**  
 b. Pulses                         **Arhar**                       **Moong**

D. Short answer questions :

- Ans. 1. We get fruits, vegetables and cereals from plants.  
 2. We eat stem and roots of plants.

E. Long answer questions :

- Ans. 1. Medicines are the substances we take to cure ourselves. Examples : Quinine and Penicillin.  
 2. Pulses are the dry seeds we eat as food. Examples : Arhar and moong.

F. Higher Order Thinking Skills (HOTS) :

- Ans. 1. No, not all vegetables need to be cooked before eating. Some of them like tomato can be eaten raw.  
 2. We eat radish, carrot, cucumber, tomato, onion, lettuce leaves as salad.

#### Experimental Skill

- Ans. Do it yourself.



### Answer Time

#### EXERCISE


Based on NEP 2020

A. Choose the correct answer and fill in the blanks :

- Ans. 1. Moth and butterfly have **wings** to fly.  
 2. **Domestic** animals live on farms.  
 3. **Insects** have six legs.  
 4. Animals that live in the forest are called **wild** animals.  
 5. Birds peck food with their **beak**.

6. A duck has **webbed** feet.

B. Look at the picture and tick (✓) the correct statements :

- Ans.  It is an insect  
 It has four legs. ✓  
 It is a cow.  
 It has two ears. ✓  
 It lives in our home.  
 It has feathers.





**C. Very short answer questions :**

- Ans. 1. a. Wild animals **Lion Tiger**  
 b. Domestic animals **Horse Cow**

**D. Short answer questions :**

- Ans. 1. Birds are animals that can fly.  
 2. Insects are very small animals that have six legs.  
 3. Kiwi, ostrich and penguin are the three flightless birds.

**E. Long answer questions :**

- Ans. 1. Animals live on almost every place on the earth. Some animals live on land whereas some others live in water.  
 2. Insects fly with the help of wings.

3. Some animals live in the forest. They are called wild animals. Some animals live with man. They are called domestic animals.

**F. Higher Order Thinking Skills (HOTS) :**

- Ans. 1. Housefly has wings which help it to fly.  
 2. Birds do not eat food with the help of teeth. They swallow their food.

**Experimental Skill**

- Ans. Do it yourself.



4

**Food and Shelter for Animals**

**Answer Time**

**EXERCISE**

Based on NEP 2020

**A. Answer these questions :**

- Ans. 1. Most birds eat insects and worms.  
 2. Most wild animals eat the flesh of other animals.  
 3. Crow and dog eat both flesh and plants.

**B. Match each animal to its home :**

- Ans. 1. Rabbit → Tree  
 2. Snake → Hive  
 3. Monkey → Hole  
 4. Lion → Burrow  
 5. Bee → Den

**C. Very short answer questions :**

- Ans. 1. Animal that eat plants **Rabbit Elephant**  
 2. Animals that eat flesh **Lion Tiger**

**D. Short answer questions :**

- Ans. 1. Shelter is a place an animal lives.  
 2. Birds eat worms and grains.

**E. Long answer questions :**

- Ans. 1. Animals need a home to remain safe from heat, cold, rain and enemies.  
 2. Birds use sticks, straw, leaves to make their homes.  
 3. A cow lives in a shed. A horse lives in a stable. A hen lives in a coop. A snake lives in a hole.

**F. Higher Order Thinking Skills (HOTS) :**

- Ans. 1. Yes, it is true. For example, a bird makes its nest on a tree. When we cut a tree, it cannot make its nest.

**Experimental Skill**



5

**Unit 5 : The Human Body. Health and Safety**

**My Body**

**Answer Time**

**EXERCISE**

Based on NEP 2020

**A. Choose the correct answer and fill in the blanks :**

- Ans. 1. I can see with my ears.  
 2. I have **teeth** inside my mouth.  
 3. I have **two** lips.  
 4. I have **one** forehead.  
 5. My **fingers** help me to write.  
 6. I can jump with my **legs**.

**B. Match the following :**

- Ans. 1. Hand → a. write  
 2. Eyes → b. taste  
 3. Mouth → c. bite  
 4. Lips → d. see  
 5. Feet → e. feel  
 6. Ears → f. jump  
 7. Nose → g. hear

**C. Very short answer questions :**

- Ans. 1. We use our eyes to read a book.  
 2. I like to hear soft sounds with my ears.

3. My nose helps me to smell different kinds of things.

**D. Short answer questions :**

- Ans. 1. I speak with my mouth. Also I eat with my mouth.  
 2. I keep my nails clean by regularly cutting them.

**E. Long answer questions :**

- Ans. 1. I taste different kinds of things with my tongue. Also I speak with the help of my tongue.  
 2. Skin is the outer covering of our body. It protects the internal organs of our body.  
 3. Our sense organs help us to know everything about our surroundings.

**F. Higher Order Thinking Skills (HOTS) :**

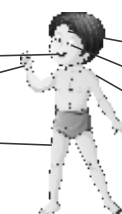
- Ans. If we do not cut our nails and keep them clean then the germs can enter our food and make us fall sick.

**Experimental Skill**

**A. In the given figure, name the body parts that are marked with an arrow :**

- Ans. Teeth ← Forehead  
 Palm ← Eyes  
 Leg ← Shoulder

**B. Do yourself.**





6

Answer Time

EXERCISE

Based on NEP 2020

A. Choose the correct answer and fill in the blanks :

- Ans. 1. We need a **house** to live in.  
 2. Food helps us to **grow**.  
 3. We should drink at least **two** glasses of milk every day.  
 4. We should always **wash** fruits before eating.  
 5. We should keep the windows open to get fresh **air**.

B. Match the following :

- Ans. 1. sleeping → a. Summer  
 2. bathing → b. Bedroom  
 3. sitting → c. Drawing room  
 4. cotton clothes → d. Bathroom

C. Short answer questions :

- Ans. 1. We need food to get energy for work and play.  
 2. If we drink water which is not safe than we may fall

- sick.  
 3. We wear woollen clothes in winter.

D. Long answer questions :

- Ans. 1. Raincoat, gumboots and umbrella protect us from rains. They keep us safe from getting wet.  
 2. We all need a house to live in and keep the things we need. Our house keeps us safe from heat, cold, wind and rain.  
 3. We spend time with our family and meet guests in the drawing room.

E. Higher Order Thinking Skills (HOTS) :

- Ans. We should not eat uncovered food it may contain germs and can make us fall sick.

Experimental Skill

- Ans. Do it yourself.



7

Answer Time

EXERCISE

Based on NEP 2020

A. Choose the correct answer and fill in the blanks :

- Ans. 1. Exercise makes you **strong**.  
 2. **Posture** is the way you hold your body.  
 3. You should get rest for about **nine** hours.  
 4. **Never** cover your face while sleeping.  
 5. Exercise makes you feel **hungry**.

B. Write true or false for the following statements :

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

C. Short answer questions :

- Ans. 1. We should exercise everyday because it keeps us healthy and strong.  
 2. Posture is the way we hold your body. It is the way we sit, stand and walk.

3. We must always walk upright. We should always stand straight.

D. Long answer questions :

- Ans. 1. We should sit straight while doing our homework.  
 2. Our body needs rest because we remain active throughout the day.  
 3. The important thing we should do before sleeping is to brush our teeth.

E. Higher Order Thinking Skills (HOTS) :

- Ans. If we do not maintain good body posture we may soon get tired and can fall ill.

Experimental Skill

- Ans. Do it yourself.



8

Answer Time

EXERCISE

Based on NEP 2020

A. Choose the correct answer and fill in the blanks :

- Ans. 1. You should not chew your **pencil**.  
 2. Safety means staying away from **danger**.  
 3. If you touch electric wires you may get a **shock**.  
 4. When the traffic light is green it means **go**.

B. Cross the unsafe one :

- Ans. 1. Pencil are used for drawing writing ~~poking~~  
 2. You should play with electric wire ball ~~doll~~  
 3. In school you should

- ~~jump on the desks~~ be quiet in the classroom walk on the sides in the corridors  
 4. ~~On a trip you should stay close to classmates strangers~~ teachers

C. Short answer questions :

- Ans. 1. We should carefully use things at home and in the school.  
 2. We should follow safety rules to remain safe and away from injury.  
 3. We should not touch electric wires, switches and plugs.

D. Long answer questions :

- Ans. 1. We should not poke anyone with our pencil because it may injure them.  
 2. We should sit quietly in the bus because if we make noise then it may disturb the bus driver. We must let

- him drive carefully to avoid accidents.
- The first thing we should do if we get hurt is to call our parents or teachers. They will attend to our injuries immediately.

**E. Higher Order Thinking Skills (HOTS) :**

**Ans.** If children do not follow safety rules in school they may get hurt or met with an accident.

**Experimental Skill**



9

**Answer Time**

**EXERCISE**

Based on NEP 2020

**A. Choose the correct answer and fill in the blanks :**

- Ans.**
- After the bath, you must wipe your body with a clean **towel**.
  - If you eat without washing your hands, the **dirt** enters your body and you fall ill.
  - You should use a clean **handkerchief** to blow your nose.
  - You should not write on a **wall**.
  - Flush** the toilet after use.

**B. Match the following :**

- Ans.**
- |                |   |            |
|----------------|---|------------|
| 1. Soap        | → | a. Bathing |
| 2. Nail cutter | → | b. Teeth   |
| 3. Tooth brush | → | c. Dustbin |
| 4. Wastepaper  | → | d. Nails   |

**C. Short answer questions :**

- Ans.**
- Everyone like a child who has good habits.
  - We use toothbrush to clean our teeth.
  - We should rinse our mouth after eating to remove food particles stuck in our teeth.

**D. Long answer questions :**

- Ans.** 1. We should always keep our nails clean. We should also



10

**Unit 4 : Homes**

**Answer Time**

**EXERCISE**

Based on NEP 2020

**A. Fill in the blanks with the help of the words given below :**

- Ans. A kuccha house is**
- made of **bamboo, mud** and **straw**
  - mostly found in **villages**
  - and is **not so strong**



- A pucca house is**
- made of **bricks, cement** and **steel**
  - mostly found in **cities** and is **very strong**



**B. Complete the following sentences :**

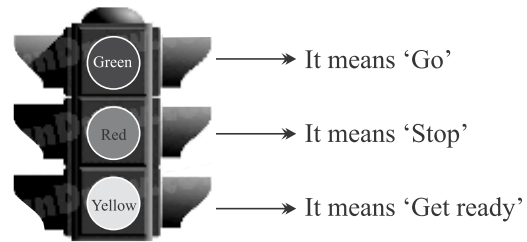
- Ans.**
- A house protects us from **the cold, the rain storms, and the heat of the sun**
  - A house has a roof to **cover the top of the house**
  - A house has windows to **let sunlight and fresh air**

**C. Write down the complete address of your house :**

**Ans.** Do it yourself.

**D. Short answer questions :**

**Ans.**



**Good Habits**

keep them short by regularly cutting them.

- We should protect our feet by wearing shoes. Also we should wash our feet after playing.
- We can keep our home and surroundings clean by following ways.
  - Do not throw bits of paper or chocolate wrappers all around. Throw them in the dustbin.
  - Keep your things in their proper place after use.
  - Do not write on the tables or walls.
  - Do not spit on the floor or on the road. Use a spittoon or the wash basin.
  - Turn off the tap after use.
  - Flush the toilet after use.

**E. Higher Order Thinking Skills (HOTS) :**

**Ans.** We can help in keeping our school clean by throwing bits of paper in wastebin.

**Experimental Skill**

Write good habit or bad habit below the picture :

**Ans.**



**We Need A House**

- Ans.**
- A house is a place we live in.
  - A house is useful for us as it protects us from heat, cold, rain, storms, thieves and wild animals.
  - A hut is a kuccha house made of clay and straw. Its roof is made of thatch a dry grass.

**E. Long answer questions :**

- Ans.**
- A kucha house is made of hay and straw. It is not so strong and a mostly found in villages. A pucca house is made of bricks, cement and steel. It is mostly found in towns and cities. It is very strong.
  - A wooden house is a house made of wood. It is commonly found in hilly areas.
  - A good house must have windows to let in sunlight and fresh air. It must have a neat and clean floor. There should also be a strong roof to cover the top of the house.

**F. Higher Order Thinking Skills (HOTS) :**

**Ans.** Houses are made of wood in hilly areas because wood is available in plenty in hilly areas. It is cheaper to make wooden houses in hilly areas.





11



Answer Time

EXERCISE

Based on NEP 2020

A. Choose the correct answer and fill in the blanks :

- Ans. 1. Moving air is called **wind**.  
 2. Air fills up **space**.  
 3. All living things need **air to breathe**.  
 4. Fish take in air through their **gills**.  
 5. Air is also needed for **burning**.

B. Match the following :

- |                         |   |                        |
|-------------------------|---|------------------------|
| Ans. <b>Column A</b>    |   | <b>Column B</b>        |
| 1. Air                  | → | a. Gills               |
| 2. Fish breathe through | → | b. All around us       |
| 3. Moving air           | → | c. Need air to breathe |
| 4. Living things        | → | d. Wind                |

C. Very short answer questions :

- Ans. 1. a. Balloon      Tube  
 b. Kite              Sailboat

D. Short answer questions :

- Ans. 1. When air moves strongly it is called wind.



12



Answer Time




EXERCISE

Based on NEP 2020

A. Choose the correct answer and fill in the blanks :

- Ans. 1. we get correct from **rain**.  
 2. Water is needed for **drinking**.  
 3. We should drink **clean water**.  
 4. All **living things** need water to live.

B. Look at the pictures and name the sources of water :

- Ans.  1. Hand pump       2. Tube well       3. Well.

C. Very short answer questions :

- Ans. 1. a. Well                      Tubewell  
 b. Bucket                      Tank  
 c. Drinking                      Washing  
 d. Plants                        Animals

D. Short answer questions :



13



Answer Time

A. Choose the correct answer and fill in the blanks :

- Ans. 1. Cotton clothes keep our bodies **cool**.  
 2. We wear **woollen** clothes during cold days.  
 3. It snows at some places when it is very **cold**.

2. Air is needed for burning.

E. Long answer questions :

- Ans. 1. When we blow air to a balloon, the air takes up the space inside the balloon. It gives shape to balloon. This shows that air fills spaces.  
 2. A blown-up balloon is heavier than a flat one because it has air inside it. As air has weight, it increases the weight of the balloon.  
 3. A burning candle is put out when covered with an empty glass because there is no air left inside the glass to keep it burning. We all know that air is must for burning anything.

F. Higher Order Thinking Skills (HOTS) :

- Ans. I would fly kite when it is windy because wind can make my kite fly high.

Experimental Skill

Ans. Do yourself.

- Ans. 1. We get water from rain. We also get water from wells, rivers, etc.  
 2. We store water in our homes in buckets and tanks.  
 3. We should drink only clean water.  
 4. Drinking dirty water can make us fall sick.

E. Long answer questions :

- Ans. 1. We can keep the sources of water clean by not throwing wastes into wells, lakes, ponds, or rivers.  
 2. Water is needed for many things. Water is needed for cooking, washing and bathing. It is also needed for putting out a fire.

F. Higher Order Thinking Skills (HOTS) :

- Ans. Water from a tap may not be clean. It may contain germs. That is why Payal fell ill after drinking water from a tap.

Experimental Skill

B. Cross the odd one out :

- Ans. 1.   
2.   



**C. Very short answer questions :**

- Ans.** 1. a. Woollen                      b. Raincoat  
c. Monsoon                              d. Spring

**D. Short answer questions :**

- Ans.** 1. We wear light and cotton clothes to keep ourselves cool.  
2. We wear heavy and woollen clothes on cold days.  
3. To protect ourselves from the rain we wear raincoat.  
4. During autumn, trees shed all their leaves.

**E. Long answer questions :**

- Ans.** 1. We wear light-coloured cotton clothes during hot and sunny days. This is so because they keep our bodies cool.  
2. Some days of the year are very cold. We wear warm woollen clothes during cold days. These keep our bodies

warm. It snows at some places when it is very cold.

3. We wear raincoats and gumboots on rainy days. We wear them because they protect us from rain.  
4. We have five different seasons depending on the weather. These are :
- Summer—when it is very hot.
  - Monsoon—when it rains heavily for many days.
  - Autumn—when trees shed their leaves.
  - Winter—when it is very cold.
  - Spring—when it is not very hot or very cold and different flowers bloom.

**F. Higher Order Thinking Skills (HOTS) :**

- Ans.** On a sunny afternoon some people prefer to stay indoors because one may fall ill due to excessive heat by going outdoors.

**Experimental Skill**

- Ans.** Do it yourself.



14

**Up in the Sky**

**Answer Time**





**EXERCISE**

Based on NEP 2020

**A. Choose the correct answer in fill in the blanks :**

- Ans.** 1. The **Sun** gives us heat and light.  
2. The Sun sets in the **west**.  
3. The shape of the Moon looks **different** every night.  
4. When the Moon is not seen in the sky, it is **new** Moon.  
5. The **stars** twinkle at night.  
6. A person who travels in space is called an **astronaut**.

**B. Cross out the option that is not related to the picture :**

<b>Ans.</b> 1.		2.		3.		4.	
	hot		light		twinkle		spacecraft
	fire ball		night		very far		spacesuit
	water		square		colourful		flower

**C. Short answer questions :**

- Ans.** 1. If there was no Sun, there would be no life on the Earth.  
2. The Sun rises in the east and sets in the west.  
3. We can see the moon and the stars in the sky at night.  
4. When we see the full round shape of the moon, it is full moon light.

**D. Long answer questions :**







- Ans.** 1. The stars look small in size because they are very-very far away from us.  
2. A spacecraft is a special vehicle in which people travel to go to space and the moon.  
3. A person wears a special dress called spacesuit while going to space.

**E. Higher Order Thinking Skills (HOTS) :**

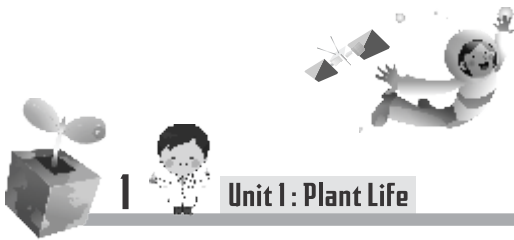
- Ans.** Sunrise is the time when the sun rises in the east and it marks the beginning of day. Sunset is the time when the sun sets in the west and it marks the beginning of night.

**Experimental Skill**

**A. Write the words that are formed by combining the two pictures.**

<b>Ans.</b>		+		=	<b>sunflower</b>
		+		=	<b>sunbird</b>
		+		=	<b>sunlight</b>

- b.** Do yourself.  
**c.** Do yourself.  
**d.** Do yourself.



### Answer Time

#### EXERCISE

Based on NEP 2020

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

- Ans. 1. The very big plants are called **trees**.  
 2. Plants that need support are called **climbers**.  
 3. The canna plant lives for a **long** time.  
 4. The **maize** plant lives for one season.

#### B. Name the following plants :

Ans.



1. Lady's finger      2. Spinach      3. Grapevine

#### C. Very short answer questions :

- Ans. a. Gulmohar      Ashok      Coconut  
 b. Lady's finger      Tulsi      Gram  
 c. Mint      Sage      Spinach

#### D. Short answer questions :

- Ans. 1. The stem of a tree is called trunk.  
 2. Branches bear leaves, flowers and fruits.  
 3. Shrubs are plants having a thin woody and hard stem.

#### E. Long answer questions :

- Ans. 1. Shrubs are different from trees in many ways. They are smaller than trees. Their branches grow close to the

ground. Whereas the branches of trees grow high above the ground. Shrubs tree for some years, and trees live for many a years.

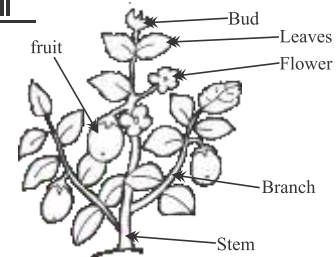
2. Climbers are plants having very weak stems. They cannot stand straight. Some examples are grapevine and money plant. Creepers are weak plants. They spread and grow along the ground. They have weak and thin stems. Some examples are watermelon and pumpkin.  
 3. Some plants live for a very short time. They live just for one season. They are called seasonal plants. Some seasonal plants are— maize, sugarcane and lady's finger.

#### F. Higher Order Thinking Skills : (HOTS)

- Ans. Climbers need support to grow straight because they have very weak stem and cannot stand straight on their own.

#### EXPERIMENTAL SKILL

Ans.



### Answer Time

#### EXERCISE

Based on NEP 2020

#### A. Fill in the blanks with the correct word :

- Ans. 1. Neem helps in killing **germs**.  
 2. **Spices** add flavour to our food.  
 3. We get pulses (dal) from **plants**.  
 4. **Mint** is used to treat stomach ache.  
 5. **Basil (Tulsi)** is used to treat cough and cold.

#### B. Write true or false for the following statements :

- Ans. 1. false      2. false      3. true      4. true

#### C. Match the following :

- | Column A   | Column B    |
|------------|-------------|
| 1. Acacia  | a. Linen    |
| 2. Poppy   | b. Gum      |
| 3. Flax    | c. Medicine |
| 4. Shisham | d. Wood     |

#### D. Very short answer questions :

- Ans. a. Paper      b. Pulses  
 c. Perfume      d. Medicine

#### E. Short answer questions :

- Ans. 1. Cereals are the foodgrains we get from plants. We use them as our food.  
 2. Plants such as cotton, jute and coconut give us fibres.  
 3. Chocolate is made from the seeds of the cocoa tree.  
 4. Neem is important to us as it is used in some toothpastes

and soaps. It also helps in killing germs.

#### F. Long answer questions :

- Ans. 1. Furniture, doors and windows are three things that are made from wood. Teak and Shisham are two plants that give us wood.  
 2. Fibres are very useful for us. Cotton fibre is used to make cotton clothes. Jute fibre is used to make bags, mats, sacks and ropes. Coconut fibre is used to make mats and ropes.  
 3. Some plants have beautiful leaves and flowers. We grow them in our houses and lawns. They make our houses and lawns beautiful and attractive. These plants are called ornamental plants.

#### G. Higher Order Thinking Skills (HOTS) :

- Ans. Do it yourself.

#### EXPERIMENTAL SKILL

Join the dots to find out what each picture is. Write the names and colour them.

Ans.



Apple



Banana



Mango



Peepal leaf





3

Answer Time

EXERCISE

Based on NEP 2020

A. Fill in the blanks with the correct option :

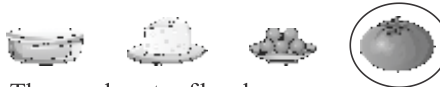
- Ans. 1. A cow is kept in a **shed**.  
 2. Milk is used to make **curd**.  
 3. Beeswax is used to make **candles**.  
 4. The skin of some dead animals is used as **leather**.

B. Circle the odd one :

- Ans. 1. They are pets.



2. They are made from milk.



3. They are beasts of burden.



4. They are made from leather.



C. Very short answer questions :

- Ans. 1. a. Cow Buffalo  
 b. Hen Duck  
 c. Crocodile Snake  
 d. Dog Cat

D. Short answer questions :



4

Answer Time

EXERCISE

Based on NEP 2020

A. Fill in the blanks with the correct word :

- Ans. 1. Animals live on **land, trees** and in **water**.  
 2. An **elephant** eat only plants.  
 3. Some animals swallow their **prey**.  
 4. Some animals help to keep the jungle **clean**.

B. Match the following :

- | Column A                    | Column B             |
|-----------------------------|----------------------|
| 1. Lion                     | a. Holes             |
| 2. Moles                    | b. Eats dead animals |
| 3. Elephant                 | c. Endangered animal |
| 4. The Great Indian Bustard | d. Plant-eating      |

C. Very short answer questions :

- Ans. 1. i. Zebra ii. Giraffe iii. Elephant  
 2. i. Lion ii. Tiger iii. Fox  
 3. i. Vulture ii. Jackal iii. Hyena

D. Short answer questions :

- Ans. 1. Wild animals live in forests.  
 2. Animals need shelters to protect themselves and their young ones.  
 3. People kill wild animals for food, their skin, hides,

- Ans. 1. Animals that live with us in our house are known as pet animals. For example, dog and cat.  
 2. We see some animals near our houses. We keep them in our houses or in farms. They are called domestic animals.  
 3. Two things we made from leather are purse and bag.  
 4. Chicken, turkey and goat are three animals whose flesh is eaten by man.

E. Long answer questions :

- Ans. 1. Milk is used to make things like butter, cheese, ghee, curd, and ice cream. These things are called milk products.  
 2. Elephants and donkeys carry heavy loads for us. They help us move from one place to another.  
 3. The skin of some animals like crocodile, buffalo, snake is use as leather. We use leather to make jackets, bags, shoes, belts, purses, and many things of daily use.  
 4. We can take care of animals in the following ways :  
 • We should be kind to animals. They are also living beings like us.  
 • We should not tease them.  
 • We should give them good food, clean water and a safe and clean shelter.  
 • We should take the sick animals to the doctor.

F. Higher Order Thinking Skills (HOTS) :

- Ans. 1. Mouse is an animal that is not a pet but likes to stay in our houses.  
 2. This animal is elephant.

Experimental Skill

- Ans. Do it yourself.

bones etc.

4. Extinct animals are those animals which are no longer found in the Earth.

E. Long answer questions :

- Ans. 1. Different wild animals live in different kinds of homes. A zebra lives on land, birds are nests on trees, monkey lives on a tree; a crocodile lives both on land and in water. Lions live in den; rabbit live in holes and snakes live in holes.  
 2. Animals have different eating habits. Some animals such as giraffe, elephants and rhinoceros eat only plants. Some animals like lion and tiger kill their prey. Some animals like snake and frog swallow their prey. Some animals such as vulture, jackal, hyena and wild dog eat the flesh of animals killed by other animals.  
 3. We must protect animals because they are an important part of our life. They provide us many important things such as flesh, milk, eggs etc.

F. Higher Order Thinking Skills (HOTS) :

- Ans. We can find wild animals in a city in a zoo.

Experimental Skill

- Ans. Do yourself.





5



Answer Time

EXERCISE

Based on NEP 2020

A. Tick (✓) the correct answer :

Ans. 1. d. 2. d.

B. Fill in the blanks with the correct option :

Ans. 1. The bones are **hard** and **tough**.  
2. There are **206** bones in our body.  
3. The **skeleton** protects the inner part of our body.  
4. Our bones are joined together at **joints**.

C. Write true or false for the following statements :

Ans. 1. true 2. false 3. false 4. false.

D. Very short answer questions :

Ans. 1. The place where two bones meet is called joint.  
2. The flesh covering the bones is called skin.  
3. Skeleton is the framework of bones.  
4. Posture is the position of our body when we stand, sit or walk.

E. Short answer questions :

Ans. 1. The skeleton gives shape, support, and size to human body.  
2. When I ride my bicycle I use the muscles of my legs.

3. Regular exercise help us to be strong and healthy by keeping our muscles in good condition.

F. Long answer questions :

Ans. 1. Joints are places where our bones are joined together. Some examples of joints are neck joint, elbow joint, wrist joint, hip joint, knee joint and ankle joint.  
2. The skeleton plays an important role in our life. It gives shape, support, and size to human body. Without the skeleton, human body cannot stand. The skeleton also protects the soft inner parts of our body like the brain, the heart, the lungs and the stomach.  
3. We need to exercise because it is very useful for us. After the exercise you feel hungry, so you eat well. You also sweat when you exercise. Sweat removes the waste matter from your body.

G. Higher Order Thinking Skills (HOTS) :

Ans. Do it yourself.

Experimental Skill



6



Answer Time

EXERCISE

Based on NEP 2020

A. Tick (✓) the correct answer :

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

B. Fill in the blanks with the correct option :

Ans. 1. Food gives us **energy** to work and play.  
2. **Rice** is an energy-giving food.  
3. A proper meal with food from very group is called a **balanced diet**.  
4. People who eat meat are called **non-vegetarians**.  
5. You must drink **two** glasses of milk every day.  
6. Eat slowly and **chew** your food well.  
7. You should not eat **junk** food.  
8. You should brush your teeth **twice** a day.

C. Very short answer questions :

Ans. 1. Food, clothes and shelter are our basic needs.  
2. A diet which contains right amount from each food group is called a balanced diet.  
3. Chips, pizzas and burgers are some junk food.  
4. Plants and animals are the two sources of food.

D. Short answer questions :

Ans. 1. We need energy to do all our work we also need energy

to play.  
2. Milk and eggs are two foods that build our bones and muscles.  
3. Protective food helpus by protecting ourselves from many diseases. They help us to fight disease.  
4. Some people eat only plant food like vegetables, pulses, rice, bread and fruits and milk products. They are known as vegetarians.

E. Long answer questions :

Ans. 1. We should wash vegetables and fruits before eating because it removes dirt and germs from them.  
2. We should not eat too little because it will make us weak and tired.  
3. We should not eat junk food because junk food are tasty but unhealthy.  
4. 1. Drink two glasses of milk everyday.  
2. Chew your food well and eat slowly.  
3. Do not talk when you have food in your mouth.  
4. You must never miss your breakfast.

F. Higher Order Thinking Skills (HOTS) :

Ans. Do it yourself.

Experimental Skill

Ans. Do it yourself.



7



Answer Time

EXERCISE

Based on NEP 2020

A. Fill in the blanks with the correct option :

Ans. 1. If your toys are lying around, you may **trip** over them.  
2. Wear **cotton** clothes while bursting crackers.  
3. Never shout in your friend's **ear**.



4. Always go with an **adult** to the swimming pool.
5. Do not touch electric switches with **wet** hands.
6. You should not hide in a **cupboard**.
7. While playing, do not **push** others.
8. You should not **shout** in the bus.

**B. Write true or false for the following :**

Ans. 1. true 2. false 3. true 4. true 5. false.

**C. Very short answer questions :**

- Ans. 1. A zebra crossing is a place from where we cross the road. It is made of black and white stripes.
2. Footpath is a path on the side of the road. It is meant for pedestrian walking.
3. Three sharp objects we should not play with are—blades, knives and scissors.
4. Safety is to remain free from injury or accidents.

**D. Short answer questions :**

- Ans. 1. We should not cover our face while sleeping because it may prevent us from breathe in fresh air.
2. If my friend is swinging on the swings than I will take care to not to go too close to him.
3. We should not tease animals as they may bite us in their defence.

**E. Long answer questions :**

- Ans. 1. Two safety rules when we are in or near a swimming pool are :
- i. We should not go alone for a swim.

- ii. We should use a swimming tube if we do not know how to swim properly.

2. Two safety rules to be followed in a moving bus are :

- i. We should not disturb the bus-driver.
- ii. We should not fight a shout.

3. If we get hurt we should immediately tell about it to our elders, teachers or parents. They can help us in this matter.

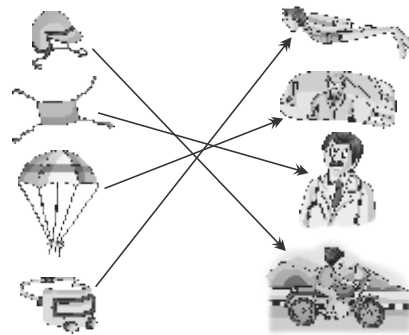
**F. Higher Order Thinking Skills (HOTS) :**

Ans. It is not safe to talk on a mobile phone while crossing the road, because it may result in an accident.

**Experimental Skill**

Here are some objects related to safety. Match it to the person who uses it.

Ans.



8

**Unit 4 : Space & Environment**

**Air Around Us**

**Answer Time**

**EXERCISE**

Based on NEP 2020

**A. Fill in the blanks with the correct word :**

- Ans. 1. All contains **dust**, smoke and water vapour.
2. We should keep our doors and **windows** open.
3. We need air to **live**.
4. **Air** is present every where.
5. Moving air is called **wind**.

**B. Tick (✓) the correct statement and cross (X) the wrong ones :**

- Ans. 1. ✓ 2. ✓ 3. X 4. ✓ 5. ✓

**C. Cross out the wrong word appeared in the following sentences :**

- Ans. 1. Dust makes the air ~~clean~~/dirty.
2. Doors and windows should be kept ~~closed~~/opened.
3. We should sleep with our faces ~~covered~~/uncovered.
4. Plants keep the air clean/~~dirty~~.
5. We should play outdoor/~~indoor~~ games to get fresh air.

**D. Very short answer questions :**

- Ans. 1. Air is a thing which is present everywhere.
2. Air contains dust, smoke and water vapour.

3. Water vapour is a gaseous form of water. On heating water is changed into water vapour.

4. Smokes comes from a vehicles and factories.

**E. Short answer questions :**

- Ans. 1. The water from wet clothes changes its from and goes into the air.
2. Dust and smoke make air impure.
3. Storm is a fast blowing wind.
4. We should always breathe in fresh air.

**F. Long answer questions :**

- Ans. 1. When water is heated, it changes into steam. Steam is the gaseous form of water. This process of changing water into gaseous from is called evaporation.
2. Air can make the balloons fly in the air. Also it can make the kite rise high. This shows that air can move things.
3. Plants help us by keeping the air-fresh and clean.

**G. Higher Order Thinking Skills (HOTS) :**

Ans. Cutting of trees can decrease the amount of fresh air in the environment. This will led to the increase in air pollution.

**Experimental Skill**

Ans. Do it yourself.



9

**Answer Time**

**EXERCISE**

Based on NEP 2020

**A. Fill in the blanks with the correct word :**

- Ans. 1. We use **hand-pumps** to draw underground water.
2. **Boiling** kills the germs present in water.
3. We dig **wells** to get underground water.
4. **Life** is not possible without water.



**Water**



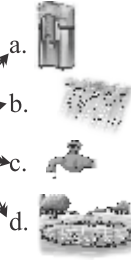
5. Plants need water to **grow**.

**B. Match the column A with column B :**

**Ans. Column A**

1. This water is not proper for drinking
2. Wastage of water
3. The source of water
4. A machine used to clean water

**Column B**



**C. Write true or false for the following :**

**Ans.** 1. True 2. False 3. False 4. True.

**D. Find these words in the word grid.**

**Ans.**

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

**E. Very short answer questions :**

- Ans.**
1. Water is needed for the following three uses :
    - i. We need water for cooking food.
    - ii. We need water for keeping ourselves clean.
    - iii. We need water for keeping our utensils clean.
  2. Rain, lake and river are important sources of water.
  3. Well is a deep hole dig in the ground to take out underground water.
  4. We should always drink clean water.

**F. Short answer questions :**

- Ans.**
1. We need water to live. All other animals and plants need water to live. We also need water to keep ourselves, our clothes and our utensils clean. We need water to cook.
  2. We can use rainwater that seeps into the ground by digging wells and building tubewells.
  3. Water should not be wasted because it is a very precious resource. It is available to us in a limited quantity.
  4. We can clean water by using water filters and water purifiers. We can also clean water by boiling it. On boiling, the germs in water are killed.

**G. Long answer questions :**

- Ans.**
1. We can save water by the following ways :
    - i. We should always keep drinking water covered.
    - ii. We should have a bath with a bucket of water rather than a shower.
    - iii. We should turn off the taps after using them.
  2. Pond water is not fit for drinking as it has germs which can cause diseases.
  3. In many places, before bathe and wash their clothes in rivers and ponds. In some places, the waste of factories also mixes in rivers and lakes. All these things make the water dirty.
  4. We should collect rainwater as it can be used for bathing, washing and watering plants.

**H. Higher Order Thinking Skills (HOTS) :**

**Ans.** We can use this water in watering the plants.

**Experimental Skill**

**Ans.** Do it yourself.



10

## Forms of Water

### Answer Time

#### EXERCISE

Based on NEP 2020

**A. Fill in the blanks with the correct word :**

- Ans.**
1. The **Sun** heats water in lakes and rivers.
  2. Ice **melts** to become water.
  3. Drops of water join together to form **clouds**.
  4. When clouds become heavy enough, water comes down as **rain**.
  5. When steam is cooled it changes into **water**.

**B. Write true or false for the following statements :**

**Ans.** 1. false 2. false 3. false 4. true 5. false.

**C. Very short answer questions :**

- Ans.**
1. Solid, liquid and gas are the three forms of water.
  2. Water vapour is the gaseous form of water.
  3. a. Water is heated **it changes into steam**.  
b. Water is cooled **it changes into ice**.

**D. Short answer questions :**

- Ans.**
1. Evaporation is the changing of water into water vapour due to heating.
  2. Condensation is the changing of water vapour into water due to cooling.
  3. If ice cubes are put in a glass, after sometime they will change into water.
  4. We can change water into ice by the process of freezing

that is putting it into a freezer.

**E. Long answer questions :**

- Ans.**
1. When water is boiled its form gets change into gas from liquid. As such the water turns into water vapour.
  2. During the day time, the Sun heats up the water in the lakes, rivers and seas. On heating, water changes into water vapour. The water vapour goes high up in the sky, where the air is cool. Here, the water-vapour cools down and changes into tiny drops of water. These drops of water join to form clouds.
  3. Water falls on earth as rain. Rain water flows back into lakes, rivers and seas. It again gets heated by the Sun and goes up to form clouds. Thus, water is always moving from lakes, rivers and seas to the sky and back. This is called water cycle.
  4. When the water drops become heavy they fall down in the form of rain.

**F. Higher Order Thinking Skills (HOTS) :**

**Ans.** Yes, we can get water from ice by boiling them in a pan.

**Experimental Skill**

**Answer Time****EXERCISE**

Based on NEP 2020

**A. Fill in the blanks with the correct word :**

- Ans.** 1. The **weather** changes from day to day.  
 2. Summer is very **hot**.  
 3. We wear woollen clothes during **winter**.  
 4. The nights are **short** during winter.

**B. Choose the correct answer :**

- Ans.** 1. In India there are four/**three** seasons.  
 2. The storm **uproot**/plant trees.  
 3. We wear cotton dress during **summer**/winter.  
 4. Rain coats are made of **canvas**/cotton.  
 5. Rain gauge/**rain harvest** helps to collect rain water.

**C. Very short answer questions :**

- Ans.** 1. Summer, winter and monsoon are the three seasons.  
 2. In Kashmir, it shows during winter.  
 3. Summer is the hottest season.  
 4. South-west and north-east monsoon winds are the two kinds that bring us rain.

**D. Short answer questions :**

- Ans.** 1. The hot season is known as summer and the cold season is known as winter.  
 2. We protect ourselves from cold by wearing woollen clothes, using heaters and lighting fires to keep

ourselves warm.

3. If there are strong winds with heavy rain we call it a storm.

**E. Long answer questions :**

- Ans.** 1. We can protect ourselves in summer by the following ways :  
 i. We should stay indoors and not play in the sun.  
 ii. We should take bath twice a day.  
 iii. We should avoid eating hot and spicy foods.  
 iv. We should drink lots of water.  
 v. We should wear light coloured, loose cotton clothes.  
 2. The precautions should be followed in winter are as follows :  
 • Apply oil or cream on the body to avoid drying of skin.  
 • Eat warm food and drink warm water.  
 • Wear woollen or silk clothes.  
 3. We can protect ourselves from rain by wearing raincoat while going out or by using umbrellas.

**F. Higher Order Thinking Skills (HOTS) :**

- Ans.** People like to have cool drinks in summer as it help them to fight with the scorching heat.

**Experimental Skill**

- Ans.** Do it yourself.

**Answer Time****EXERCISE**

Based on NEP 2020









**A. Fill in the blanks with the correct word :**

- Ans.** 1. The Sun makes the **plants** grow.  
 2. The Sun gives us **heat and light**.  
 3. The Sun looks **small** because it is very far away from us.  
 4. Shadows are short at mid-day.  
 5. Shadows are formed on the **opposite** side of light.

**B. Write true or false for the following statements :**

- Ans.** 1. false 2. false 3. false 4. true.

**C. Match the following shadows :**

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

**D. Very short answer questions :**

- Ans.** 1. It gives us **heat and light**.  
 2. It dries **wet clothes, lakes and rivers**  
 3. It helps to **ripen fruits**

4. It evaporates **water in seas and oceans**

**E. Short answer questions :**

- Ans.** 1. The heat of the Sun dries wet clothes, lakes, rivers, etc. It helps to ripen fruits.  
 2. The sun looks very small because it is very far away from us.  
 3. Our shadow is long in the morning and evening.  
 4. our shadow is the shortest at noon.

**F. Long answer questions :**

- Ans.** 1. The Sun is a big ball of fire. It is made up of gases such as hydrogen and helium.  
 2. Shadows are formed when light cannot pass through and object. A shadow is formed on the opposite side of the light. It is the dark shape seen on the floor, ground or screen.

**G. Higher Order Thinking Skills (HOTS) :**

- Ans.** The colour of my shadow will be dark as shadows are always dark in colour.

**Experimental Skill**

- Ans.** Do it yourself.



Answer Time

EXERCISE

Based on NEP 2020

A. Fill in the blanks with the correct word :

- Ans. 1. The moon looks **different** every night.  
 2. Every night, we don't see the **moon** in the sky.  
 3. There is no **water** to drink on the moon.  
 4. Some countries have sent **spaceships** to the Moon.

B. Write true or false for the following statements :

- Ans. 1. false      2. false      3. false  
 4. false      5. false      6. true.

C. Match the people in Column A with their achievements in Column B :

A (People)		B (Achievements)	
1. Kalpana Chawla	→	a. First person to land on moon	
2. Rakesh Sharma	→	b. Spent six months in space	
3. Sunita Williams	→	c. Indian cosmonaut	
4. Neil Armstrong	→	d. First Indian astronaut to go in space	

D. Very short answer questions :

- Ans. 1. Moon is the nearest neighbour of our Earth.

2. Humans first land on the moon in 1969.  
 3. Rakesh Sharma was first Indian to go into space.  
 4. Sunita Williams is an Indo-American astronaut who holds the feat of completing the longest space flight for woman.

E. Short answer questions :

- Ans. 1. The moon shines when it reflects light of the sun falling on it.  
 2. American astronaut Neil Armstrong walked on the moon for the first time.  
 3. People go to the moon in spaceships.  
 4. There are no trees, animals, or people on the moon because there is no life on the moon.

F. Long answer questions :

- Ans. 1. There is no life on moon because there is no air or water on the moon.  
 2. People who had gone to the moon had brought back photographs, pieces of rock and soil.

G. Higher Order Thinking Skills (HOTS) :

- Ans. We cannot hear the beating of drums on the moon because there is no air on the moon, and the sound waves need air to travel.

Experimental Skill

- Ans. Do it yourself.



Answer Time

EXERCISE

Based on NEP 2020

A. Fill in the blanks with the correct word :

- Ans. 1. The Taj Mahal is made of white **marble**.  
 2. **Granite** is a hard rock.  
 3. The **Earth** is made up of many rocks.  
 4. The Red Fort is made of red **sandstone**.  
 5. Rocks are of many **colours**.

B. Tick (✓) the correct answer :

- Ans. 1. i.      2. iii.      3. ii.

C. Very short answer questions :

- Ans. a. Granite      b. Sandstone      c. Shale  
 d. Slate      e. Marble

D. Short answer questions :

- Ans. 1. A rock is a hard matter the Earth is made up of.  
 2. Shale and slate are rocks found in layers.  
 3. Two uses of slate are :  
 i. It is used to make blackboards.  
 ii. It is used to make roofs of houses.  
 4. Granite is used for making statues floors and buildings.

E. Long answer questions :

- Ans. 1. Rocks are found under the soil, on the seabed, and on river beds.  
 2. Rocks are of many kinds. Some rocks are hard, like granite rocks. Some rocks are soft, like sandstone rocks. Some rocks like marble and slate are smooth. Some rocks like shale and slate are found in layers. Some rocks are sharp, like the rocks found on rocky shores.  
 3. Some rocks and their uses are as follows :

i. **Slate** : Slate is used to make blackboards and roofs of houses.

ii. **Rocksalt** : Rocksalt is used to make food tasty.

iii. **Graphite** : Graphite is used to make pencils.

iv. **Granite** : Granite is a very hard rock. It is used for statues, floors and buildings.

v. **Marble** : Marble is used to make beautiful buildings like the Taj Mahal and statues.

vi. **Sandstone** : Sandstone is used for building. The Red Fort in Delhi is built of sandstone. It is also used in making jewellery.

vii. **Chalk** : We make the chalk which we use for blackboards from chalk rocks.

F. Higher Order Thinking Skills (HOTS) :

- Ans. Chalk and graphite are soft rocks whereas marble and granite are smooth rocks.

Experimental Skill

- A. Names of six rocks are hidden in the maze below. Go up, down, left, or right. Circle each one as you find them :

Ans.

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

B.

C. Do it yourself.





## Unit 1: Food

## Food and Feeding Habits of Animals

### Answer Time

#### EXERCISE

Based on NEP 2020

#### A. Fill in the blanks with the correct words :

- Ans. 1. Animals need **food** to live.  
 2. A cow is a **plant** eating animal.  
 3. A **mosquito** sucks the blood.  
 4. A frog has a sticky **tongue** to catch the insects.

#### B. Circle the odd one :

- Ans. 1. Cow                      Monkey                      **Lion**  
 2. **Frog**                      Rabbit                      Squirrel  
 3. Goat                      Sheep                      **Snake**

#### C. Very short answer questions :

- Ans. 1. **Food chain** : Plant ⇒ rabbit ⇒ tiger  
 2. Mosquito takes liquid food.

#### D. Short answer questions :

- Ans. 1. Gnawers are animals like squirrel, rabbit and rat that gnaw their food. They have very sharp front teeth for cutting.  
 2. A frog has a long sticky tongue. When it come across an

insect it stretch its tongue out and catches the insect. It swallows it without chewing.

#### E. Long answer questions :

- Ans. 1. Carnivores such as lions, tigers and wolves have special teeth to tear and chew the flesh of other animals. Their front teeth are sharp and pointed. These teeth help them to tear the flesh. Their back teeth are flat and broad, these teeth help them to chew.  
 2. Cud-chewing animals are those animals that eat grass and chew. Animals such as cows and buffaloes cut and bite the grass, leaves, and plants with their sharp front teeth and swallow it. Later in the day, they bring it back into their mouth and chew in it for hours. This is called chewing the cud.

#### F. Higher Order Thinking Skills (HOTS) :

- Ans. A mosquito bite us with a thin tube with which it sucks our blood.

#### Experimental Skill

- Ans. Do it yourself.



## Unit 2: The World of Living

## Living and Non-Living Things

### Answer Time

#### EXERCISE

Based on NEP 2020

#### A. Fill in the blanks with the correct words :

- Ans. 1. Green plants make their **food**.  
 2. Animals lay **eggs** or produce **babies**.  
 3. Plants breathe through **pores** in their leaves.  
 4. Animals **move** in search of food.  
 5. Both plants and animals **grow** in size.  
 6. Living things include plants, animals and **human beings**.  
 7. Moulds and **mushrooms** cannot make their own food.  
 8. Plants are **fixed** but animals can move.

#### B. Write true or false for the following statements :

- Ans. 1. false    2. true    3. false    4. true    5. true

#### C. Match the following :

- Ans. **Column A**                      **Column B**
- |                                  |   |                            |
|----------------------------------|---|----------------------------|
| 1. Plants, animals, human beings | → | a. Natural things          |
| 2. Rocks, clouds, water          | → | b. Butterfly               |
| 3. Green Plants                  | → | c. Living things           |
| 4. Catterpillar                  | → | d. Cannot reproduce        |
| 5. Non-living things             | → | e. Can make their own food |

#### D. Very short answer questions :

- Ans. 1. a. A puppy will grow into a dog.  
 b. A baby boy will grow into a man.  
 2. Sunflower and mimosa are two plants which show movements.

#### E. Short answer questions :

- Ans. 1. Living things need food to be alive. They eat food to get energy for all their works.  
 2. Reproduction is a process of producing young ones of one's own kind.  
 3. Fish breathe through special organs present in their bodies called gills.

#### F. Long answer questions :

- Ans. 1. Dogs are their legs to move. Birds use their wings for movement, and fish move with the help of their fins.  
 2. A living things is different from a non-living thing in the following ways :

#### Living things

- Living things can move on their own.
- Living things need air to breathe.
- Living things need food to grow.
- Living things feel changes around them.
- Living thigns reproduce.
- Human beings, plants, and animals are examples of living things.
- Living things grow with time.

#### Non-living things

- Non-living things cannot move on their own.
  - Non-living things do not breathe.
  - Non-living things do not need food.
  - Non-living things do not feel change around them.
  - Non-living things do not reproduce.
  - Book, pencil, and bat are examples of non-living things.
  - Non-living things do not grow with time.
3. Living things need oxygen to live. This oxygen is

present in the air around us. All living things have some kind of opening through which the oxygen can enter the body. Humans and most of the animal have a nose to take in air, fish breathe through gills while plants breathe through tiny holes under the surface of the leaf called stomata.

**G. Higher Order Thinking Skills (HOTS) :**



3

**Answer Time**

**EXERCISE**

Based on NEP 2020

**A. Fill in the blanks with the correct words :**

- Ans.** 1. A tap root has **one** main root.  
 2. Plants which need support to grow are called **climbers**.  
 3. The potato plant stores food in its **underground** stem.  
 4. Leaves are green in colour because of a substance called **chlorophyll**.  
 5. The rice plant has **fibrous** root.

**B. Write true or false for the following statements :**

- Ans.** 1. true 2. true 3. false 4. false 5. true.

**C. Very short answer questions :**

- Ans.** 1. A tap root is a single thick root from which small roots grow.  
 2. Grass have fibrous root.  
 3. Leaf is the most important part of a green plant as it prepares food for the whole plant.  
 4. Two functions of leaf are :  
 i. It prepares food for the whole plant.  
 ii. It gives out oxygen while making food.

**D. Short answer questions :**

- Ans.** 1. Shoot is the part of the plant growing above the ground. It consists of the stem, branches, leaves, buds, flowers and fruits.  
 2. Root is the part of the plant that usually grows below the ground.  
 3. Lamina is the flat and broad part of a leaf.

**E. Long answer questions :**

- Ans.** 1. A stem performs the following functions :  
 (a) The stem supports the shoot.  
 (b) The water and the nutrients dissolved in the soil travel up the stem in system tubes.  
 (c) The stem carries the food from the leaves to all



4

**Answer Time**

**EXERCISE**

Based on NEP 2020

**A. Fill in the blanks with the correct words :**

- Ans.** 1. A ostrich has **three** toes on each foot.  
 2. Ducks have **webbed** feet to swim in water.  
 3. A bird's home is called a **nest**.  
 4. A **vulture** makes its nest on high trees.  
 5. A **woodpecker** uses its chisel-like beak to make a big hole.

**B. Circle the odd one :**

- Ans.** 1. Vulture Pigeon Crow

- Ans.** 1. Sunflowers do turn towards the sun.  
 2. Trains and aeroplanes are not living things as they cannot move on their own.

**Experimental Skill**

**Ans.** Do it yourself.

**Parts of a Plant**

parts of the plant.

- (d) Stems such as potato, ginger and sugar can store food. Such stems are called edible stems and we eat them as food.  
 2. Leaves are called food factory of a plant because they prepare food for the whole plant. The leaves have a green coloured substances called chlorophyll that helps them to prepare food. Leaves prepare food with the help of water and gas called carbon dioxide in the presence of sunlight and chlorophyll.  
 3. Photosynthesis is the process by which leaves make food for the whole plant with the help of water and carbon dioxide in the presence of sunlight and chlorophyll.  
 4. New plants grow mostly from seeds. Every seed has a baby plant inside it. When the seed gets enough water, air and sunlight, the baby plant starts growing. This process of a new plant growing from a seed is called germination.

**F. Higher Order Thinking Skills (HOTS) :**

- Ans.** 1. Trees have long branches to bear fruits in a large quantity.  
 2. Potatoes are obtained from stem, lady's finger is obtained from fruit and onions are obtained from stem.

**Experimental Skill**

**Ans.**



a. HIBISCUS



b. LILY



c. PANCY

**Birds**

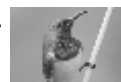
2. Duck  
 3. Kite  
 4. Parrot

- Swan  
Sparrow  
Goose

- Nest  
 Vulture  
 Woodpecker

**C. Name these birds :**

**Ans.**



Sunbird



Woodpecker



Hoopoe

**D. Very short answer questions :**

- Ans.** 1. A woodpecker makes it nest in tree trunk.  
 2. The nest of a weaver bird looks like a shallow cup.

- When the wings move down and forward, the wing movement is called the downstroke.
- The birds like eagle, vulture and kite, that eat small birds, frogs and snakes are called birds of prey. They have strong, sharp and hooked beaks for tearing flesh.

**E. Short answer questions :**

- Ans.**
- Perching is the sitting of birds on trees and wires by gripping with their feet.
  - Wading birds have long legs with spread out toes that help them walk in water.
  - When the bird has to land, it spreads out its wings and it glides down smoothly without much flapping. The downward flapping of wings is called the downstroke.
  - The tailor bird makes a shallow cup type of nest. It uses leaves, thread and wood to make its nest.

**F. Long answer questions :**

- Ans.**
- The duck has a broad and flat beak with tiny holes. When the duck takes muddy water with insects in its beak, the muddy water flows out from the tiny holes leaving behind insects inside the beak.
  - Birds build nests for a variety of reasons. They build nests to lay eggs and to protect their young ones from their enemies.
  - The body-structure of birds is well suited for flying. It is shaped like a boat. This is called a streamlined body, which makes it easy for a bird to fly. The body of a bird is light because it is made of hollow bones. This helps it

to fly easily and for a long time.

- Swallows have broad and short beaks, which are sticky inside. Swallows keep their mouth open while flying. Small flies and insects stick to the beak and the bird swallows them up.

**G. Higher Order Thinking Skills (HOTS) :**

- Ans.** If all the toes of a woodpecker pointed in one direction it could not have held on to the branches of trees.

**Experimental Skill**

Find out the names of nine birds in the given grid. The names may read forward, backward and across.

**Ans.**

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



5

**Answer Time**

**EXERCISE**

Based on NEP 2020

**A. Fill in the blanks with the correct words :**

- Ans.**
- We have **five** sense organs.
  - The eyes help us to **see** things in the environment.
  - The skin protects our body from **germs**.
  - Every function of the body is **control** by the brain.
  - We must wash our **eyes** with cold water.

**B. Write the name of the organ used in each situation.**

- Ans.**
- The bark of a dog **Ears**.
  - Watching a cricket match **Eyes**.
  - Passing by a drain full of dirty water **Nose**.
  - Thinking the correct answer of a question **Brain**.
  - Teeth used for grabbing and tearing food **Canines**.

**C. Write true or false for the following statements :**

- Ans.** 1. true 2. false 3. false 4. true 5. true.

**D. Very short answer questions :**

- Ans.**
- Each part of our body is called an organ.
  - Our body has three main parts—the head, the trunk and the limbs.
  - Brain is the most important part of our body as it controls and commands the body.
  - Our five sense organs are : eyes, tongue, nose, ears and skin.

**E. Short answer questions :**

- Ans.**
- Trunk is the middle part of the body. It includes the chest and the belly. It protects important organs of the body like lungs, heart and liver.
  - Eyelashes on the eyelids prevent dust from entering the

eyes.

- We identify different tastes with the taste buds present on the surface of the tongue are responsible for tasting different substances.
- We can take care of our skin by cleaning it by taking bath everyday with soap and clean water. We should immediately attend to any wound or rashes in the skin.

**F. Long answer questions :**

- Ans.**
- We can take care of our eyes by the following ways :
    - We must wash our eyes with cold water.
    - We must not rub our eyes.
    - While reading and writing, we must keep the materials at a proper distance from our eyes.
    - We must not read in dim light.
    - We must not look at dazzling lights.
    - We must not read in moving buses or trains.
  - The rules of taking care of our ears are as follows :
    - Clean your ears regularly but take care no water enters your eyes.
    - We should only use cotton swabs to clean our ears.
    - We must consult a doctor in case of any problem in the ear.
  - Limbs are very important for us. We have two arms which help us to catch things, pick them up, write, play, bathe or take care of ourselves. The arms have different parts like hands, fingers, nails, wrist and elbow. We also have a pair of legs which help us to walk, run, kick, dance, skip, etc. The different parts of the legs are the thighs, knees, ankles, feet and toes.
  - Take a bath every day to smell clean. Clothes get dirty







**C. Very short answer questions :**

- Ans.** 1. Soil provides these to plants **Water** **Air**  
2. Colours of soil **Light brown** **Red**  
3. Things that soil contains **Humus** **Clay**  
4. Animals that live in soil **Earthworms** **Rats**

**D. Short answer questions :**

- Ans.** 1. The dead leaves and dead insect mix with the soil.  
2. Humus is the small parts of dead plants and animals present in the soil.  
3. Humus help the soil by providing water and nutrients to the soil.  
4. Many animals like earthworms, rats, moles, snakes, rabbits, beetles, worms, and ants live in the soil.

**E. Long answer questions :**

- Ans.** 1. The soil was formed by the following process :  
Once upon a time, there were huge rocks on the Earth. Over time, these rocks started breaking because of the heat of the sun, rain, and wind.  
The breaking of rocks continued for many years, till rocks could not break further.  
Dead plants and animals got mixed with the rock pieces.  
Finally, a layer of soil was formed.  
Thus, soil is formed by the breaking down of rocks. It takes thousands of years to form a small amount of soil.
2. Soil contains humus, clay, sand and gravel. It also

contains air and water.

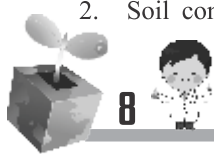
3. When some garden soil is heated in a container covered with a lid, drops of water are noticed on the inside of the lid. This shows that soil contains water.
4. By the following we can show that soil contain air. Put some dry soil. Pour water slowly. You will see air bubbles from as your pour water. As the bubbles escapes and from bubbles, it shows the presence of air.
5. Some uses of soil are as follows :
- Plants need soil to grow. They take in water and nutrients from the soil. Farmers grow crops in the soil. They make the soil fertile by adding manure. Crops grow well in fertile soil. Without soil, plants would have no place to grow. If there were no plants, we would have nothing to eat.
  - Many animals like earthworms, rats, moles, snakes, rabbits, beetles, worms, and ants live in the soil.
  - Potters use clayer soil to make clay pets.
  - Many people use mud to make kutchra houses.

**F. Higher Order Thinking Skills (HOTS) :**

**Ans.** We need to add manure to soil to make it more fertile.

**Experimental Skill**

**Ans.** Do it yourself.



8

Matter

**Answer Time**

**EXERCISE**

Based on NEP 2020

**A. Choose the correct answer from the bracket to complete the statement :**

- Ans.** 1. Everything around is **matter**.  
2. Liquids take the shape of the **container** they are kept in.  
3. Gases fill all the available **space**.  
4. Matter exists in **three** different states.  
5. Air is a mixture of many **gases**.

**B. Match the following :**

- | <b>Column A</b>               | <b>Column B</b>        |
|-------------------------------|------------------------|
| 1. Ice                        | a. Liquid              |
| 2. Pencil                     | b. Melting             |
| 3. Milk                       | c. Solid form of water |
| 4. Oxygen                     | d. Solid               |
| 5. Solid changing into liquid | e. Gas                 |

**C. Very short answer questions :**

- Ans.** 1. Substances that have fixed shape and do not flow **Solids**  
2. Substances that flow, do not have a fixed shape, and take the shape of the container **Liquids**  
3. The process by which water changes to water vapour **Evaporation**  
4. The process by which ice changes to water vapour **Melting**  
5. The process by which water vapour changes to water **Condensation**

**D. Short answer questions :**

- Ans.** 1. Water exists in the three forms of solid, liquid and gas.  
2. Solids are the substances that have a definite shape and size. Two examples of solids are wood and iron.  
3. Liquids are the substances that do not have a fixed

shape. They flow easily and take the shape of the container. Two examples of liquids are water and soil.

4. Gases are the substances that can flow and do not have a fixed shape. They take the shape of the container. Two examples of gases are oxygen and nitrogen.

**E. Long answer questions :**

**Ans.** 1. Differences between solids and liquids are as follows :  
**Solids**

1. Solid have a fixed or definite shape.
2. Solids do not flow easily.

**Liquids**

1. Liquids do not have any definite shape. They take the shape of the container.
2. Liquids flow easily.
2. On heating water changes its liquid form and converts itself into steam. Steam is also called water vapour. Thus, an heating the water changes into water vapour.
3. Evaporation is the process in which a liquid changes into gas on heating. Whereas condensation is the process in which a gas changes into liquid.
4. When we heat the solid form of liquid that is ice, it changes its form from solid to liquid becomes liquid water. On further heating the liquid it changes its form liquid to gas and gets converted into water vapour.

**F. Higher Order Thinking Skills (HOTS) :**

**Ans.** These droplets of water comes from the condensation of water vapour present in the air outside the bottle.

**Experimental Skill**

**Ans.** Do it yourself.

**Answer Time****EXERCISE**

Based on NEP 2020

**A. Fill in the blanks with the correct word :**

- Ans.** 1. A **kutch** house can be damaged in a storm.  
 2. Pucca houses are made from bricks and **cement**.  
 3. **Stilt** houses are made where it rains a lot.  
 4. A good house should have thick **walls**.  
 5. We should keep the **drains** covered to keep mosquitoes away.

**B. Write true or false for the following statements :**

- Ans.** 1. false 2. false 3. false 4. true 5. true.

**C. Tick (✓) the right answer :**

- Ans.** 1. iii. 2. i. 3. i. 4. ii.

**D. Very short answer questions :**

- Ans.** 1. Two things that help in keeping a house clean  
**Broom, Mopper**  
 2. Fibres from plants **Cotton**  
 3. Fibre from animals **Silk**  
 4. Man-made fibres **Polyster**

**E. Short answer questions :**

- Ans.** 1. A good house is a house that have all the things we need to make it safe and comfortable.  
 2. We should have a proper wire-netting in our house because it keeps flies and mosquitoes away.  
 3. We all need a house to live in. It protects us from heat, cold, rain, wild animals, and thieves.  
 4. From animals we get different kinds of fibres such as wool and silk.

**F. Long answer questions :**

- Ans.** 1. The windows and doors should have proper wire-netting they prevent flies and germs from entering the house. These flies and germs spread diseases.  
 2. Houses in the hills have sloping roofs made of tiles, to let the water and snow slide off easily.  
 3. We can keep our home clean in the following ways :  
 • Garbage should be throw into dustbins or garbage bins.  
 • Garbage bins or dustbins should always be kept covered.  
 • Washbasins and bathrooms should be washed with disinfectants that kill germs.  
 • The floor should be swept and mopped regularly.  
 • All things in the house must be dusted every day.  
 4. Clothes are very important for us. They protect us from heat, cold and rain. They also protect us from insect bites.

**G. Higher Order Thinking Skills (HOTS) :**

- Ans.** Our house should have proper drainage system to remove dirty water from our surroundings.

**Experimental Skill**

- Ans.** Do it yourself.

**Answer Time****A. Fill in the blanks with the correct words :**

- Ans.** 1. The standard unit of length is **metre**.  
 2. Weight is measured in **gram** and **kilogram**.  
 3. One kilogram is equal to **1000** grams.  
 4. One day has **24** hours.  
 5. The standard unit of time is **second**.  
 6. ong roads are measured in **kilometre**.  
 7. **Thermometre** is used for measuring body temperature.

**B. Match the following :**

- Ans.** 1. Chalk piece → a. Kilogram  
 2. Milk → b. metre  
 3. Wheat flour → c. gram  
 4. Brinjal → d. litre  
 5. Cloth → e. centimetre

**C. Very short answer questions :**

- Ans.** 1. Gram **Soap** **Vegetable**  
 2. Kilogram **Flour** **Fruits**  
 3. Centimetre **Pencil** **Scale**  
 4. Litre **Oil** **Water**

**D. Short answer questions :**

- Ans.** 1. In early days, body parts such as hand span, cubit were

used to measure length.

2. Mass is the amount of material an object contains. The standard for measuring mass is kilogram (kg).  
 3. A measuring tape is used for measuring length in metres and centimeters.  
 4. Temperature is measured with an instrument called thermometer. Temperature is expressed in degrees—Celsius (0°C) but the standard unit of temperature is kelvin.

**E. Long answer questions :**

- Ans.** 1. Volume is the space occupied by a thing. Liquids and gases are measured by volume. Volume is measured in litres and millilitres.  
 2. We need to have a fixed unit for measuring things to have uniformity in our results. It will help us in making things in equal size, length, weight, etc.

**F. Higher Order Thinking Skills (HOTS) :**

- Ans.** It is important to measure things to differentiate one thing from other.

**Experimental Skill**

- Ans.** Do it yourself.





**Answer Time**

**EXERCISE**

Based on NEP 2020

**A. Fill in the blanks with the correct options :**

- Ans. 1. We see non-luminous objects when light **falls** on them.  
 2. The **Sun** is the main source of light on Earth.  
 3. A candle is a **luminous** object.  
 4. We should speak **softly**.  
 5. We apply **force** to move an object.

**B. Circle the odd one :**

- Ans. 1. bulb                      **chair**                      sun  
 2. soft                          loud                          **puft**  
 3. **weeping**                      chirping                      clapping

**C. Tick (✓) the right answer :**

- Ans. 1. iii.                      2. i.                      3. ii.

**D. Match the following :**

Ans.

**E. Very short answer questions :**

- Ans. 1. Luminous object                      **Sun**  
 2. Non-luminous object                      **Book**  
 3. Loud sound                                      **Drum beating**  
 4. Soft sound                                        **Whispering**

5. Unpleasant sound                      **Blowing horn**  
 6. Noise    **Shouting**

**F. Short answer questions :**

- Ans. 1. A shadow is formed when an object blocks the path of light.  
 2. The Sun is the main source of heat and light on Earth.  
 3. Sound is something that produces sense of hearing.  
 4. Friction is useful to us as it slows down the movement. It slows down a thing and finally stops it.

**G. Long answer questions :**

- Ans. 1. Luminous objects are those objects that give us light. Two examples of luminous objects are bulb and candle. Non-luminous objects are those objects that do not give us light. Two examples of non-luminous objects are book and pencil.  
 2. We hear different kinds of sounds around us. They can be soft, loud, pleasant or unpleasant.  
 3. Force is very useful as it helps us to do many things.
  - We apply force to move an object.
  - We apply force to stop or slow down a moving object.
  - We apply force to change the shape or size of an object.

**H. Higher Order Thinking Skills (HOTS) :**

- Ans. She should keep the lamp before her. This is so because it will allow the light to fall directly on the book and the shadow will form away from the book.

**Experimental Skill**

- Ans. Do it yourself.



**Answer Time**

**EXERCISE**

Based on NEP 2020

**A. Write true or false for the following statements :**

- Ans. 1. false    2. true    3. true    4. false    5. true    6. false.

**B. The sentences given below are false. Change the words in colour to make each sentences true :**

- Ans. 1. **Afternoons** are warmer than **mornings**.  
 2. Moving air is called **wind**.  
 3. A **storm** can uproot trees.  
 4. It is very cold during the **winter** season.  
 5. Flowers bloom during the **spring** season.

**C. Very short answer questions :**

- Ans. 1. Monsoon                      **Raincoats**                      **Umbrellas**  
 2. Spring                          **Flowers**                          **Swings**  
 3. Winter                          **Warm jackets**                      **Sweaters**  
 4. Summer                        **Cold drinks**                      **T-shirts**  
 5. Autumn                          **Falling leaves**                      **Yellow trees**

**D. Short answer questions :**

- Ans. 1. Condensation is the changing of steam or water vapour into water on cooling.  
 2. Atmosphere is the layer of surrounding the Earth.  
 3. Water has several uses for us. We use it for various

- purposes like drinking, bathing, cleaning, etc.  
 4. According to the weather conditions there are five types of days. They are :  
 Sunny day, rainy day, windy day, stormy day and breezy day.  
 5. The sun shines brightly and heats the ground. The air above the ground also gets heated. Hot air is light so it rises. Cold air rushes to take its place. This causes breeze to blow.

**E. Long answer questions :**

- Ans. 1. Oxygen is the gas we use while breathing. All animals and plants breathe in air and use oxygen. It is called life giving gas. Carbon dioxide is the gas we give out when we breathe out.  
 2. Water keeps changing its form in nature. When the sun shines, the water from the water bodies change to vapours and rises high in the sky. After coming in contact with cold air, vapours cool down to form tiny droplets of water which join to form clouds. When the clouds become too heavy, they fall down as rain. This is called water cycle.  
 3. Four uses of air are as follows :

- i. Air helps us in breathing.
  - ii. Air makes a hot air balloon rise in the sky.
  - iii. Air moves things. Sailboats sail in the direction of the moving air.
  - iv. Sound travels through air.
4. The condition of wind, rain, sunshine and clouds in a place at a particular time is called weather. The weather can be cold, hot or mild. The conditions of weather change everyday.

A season is the period during which the weather remains almost the same for many days. Seasons are five in number—summer, winter, monsoon, autumn and spring.



13

### Answer Time

#### EXERCISE

Based on NEP 2020

##### A. Name the following :

- |   |                       |
|---|-----------------------|
| Ans. 1. The centre of the solar system.   | <b>Sun</b>            |
| 2. Earth's satellite.                     | <b>Moon</b>           |
| 3. Holes on the moon.                     | <b>Craters</b>        |
| 4. The whole moon as seen from the Earth. | <b>Full Moon</b>      |
| 5. Groups of stars that form shapes.      | <b>Constellations</b> |
| 6. Huge, organised collections of stars.  | <b>Galaxies</b>       |

##### B. Fill in the blanks with the correct word :

- Ans. 1. **Stars** are very far away from our Earth.  
 2. The Sun is made of hot **gases**.  
 3. The fixed path on which the planets move on is called **orbit**.  
 4. The **Moon** is called the the natural satellite of the Earth.  
 5. Groups of stars that form shapes are called **constellations**.

##### C. Very short answer questions :

- Ans. 1. A round object that moves around the Sun in a fixed path **Planet**  
 2. An object that moves around a planet **Satellite**  
 3. Huge holes found on the moon. **Craters**  
 4. A group of stars that form a pattern in the sky **Constellation**

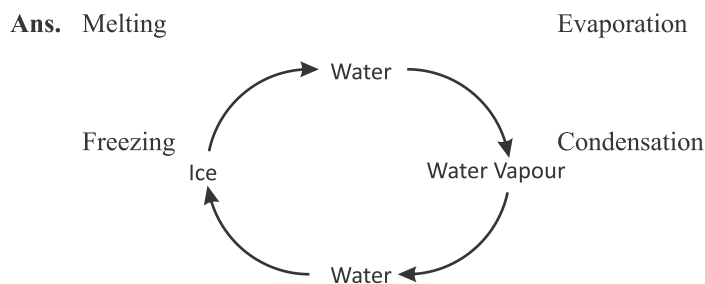
##### D. Short answer questions :

- Ans. 1. A constellation is a group of stars forming a definite shape.  
 2. Two features of the Sun are :  
 i. It is a huge, very hot ball of fire that gives us light and heat.  
 ii. The Sun is the centre of the solar system.  
 3. A planet is a heavenly body which revolves around a star (sun).

##### F. Higher Order Thinking Skills (HOTS) :

- Ans. 1. Melt ice-cream can be compared to water.  
 2. During sea breeze, the air above the land is cool.

#### Experimental Skill



## The Sun, Moon and Stars

4. The moon takes about 28 days to complete one circle around the Earth.

##### E. Long answer questions :

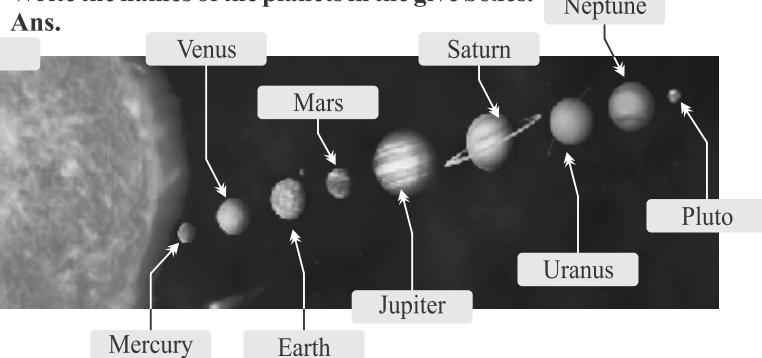
- Ans. 1. The solar system is the family of the sun which contains eight planets, their satellites, comets, meteors and asteroids.  
 2. The moon is called the Earth's satellite as it revolves around the Earth. It has no light of its own. It gets light from the Sun. The moon takes about 28 days to go around the Earth. It appears to change shape during that time. The different shapes of the moon are called the phases of the moon. The moon has rocky mountains and sand covered plains. There are huge holes on the moon called craters and there is no air or water on it.  
 3. Three features of stars are :  
 i. Stars twinkle in the night sky.  
 ii. Stars are countless.  
 iii. Stars are hot balls of gases and have their own light.  
 4. A galaxy is a huge, organised collection of stars. Our solar system is located in the milky way galaxy.

##### F. Higher Order Thinking Skills (HOTS) :

- Ans. 1. The bright light of the sun makes the moon and stars disappear from our vision.  
 2. There is no life on the moon because there is no air or water on the moon.  
 3. Sun, Earth, Moon.

#### Experimental Skill

Write the names of the planets in the give boxes.







### Answer Time

#### EXERCISE

Based on NEP 2020

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

- Ans. 1. Foods that can rich in **proteins** are called body-building foods.
2. Fats help to keep the body **warm**.
3. **Vitamins** and **minerals** are needed in small amount by your body.
4. **Roughage** helps to remove waste materials from our body.
5. Our body needs **rest** for proper functioning.

##### B. Write true or false for the following statements :

- Ans. 1. true 2. false 3. true 4. false 5. true.

##### C. Tick (✓) the right answer :

- Ans. 1. i. 2. iv. 3. ii.

##### D. Very short answer questions :

- Ans. 1. Carbohydrate-rich food items **Potato Milk**
2. Protein-rich food items **Eggs Fish**
3. Calcium-rich food items **Milk Curd**
4. Iron-rich food items **Beetrood Spinach**
5. Food items that give us roughage **Wheat Rice**

##### E. Short answer questions :

- Ans. 1. Food contains different substances which are useful to your body. These substances are called nutrients.
2. Nutrients help us by aiding in our growth.
3. Proteins are needed by our body because they help us to grow.
4. Calcium and iron are the two minerals which are needed by our body.
5. Our body, needs calcium for strong bones and teeth. Almond is a calcium rich food item.
6. Our body needs iron because it helps in the formation of blood. An example of iron-rich food item is apple.
7. We should drink water because our body needs water for all its functions.
8. A diet that has all the nutrients in the right amount, roughage, and water is called a balanced diet.

##### F. Long answer questions :

- Ans. 1. Food can be divided into groups of carbohydrates, proteins, fats, vitamins and minerals :  
**Carbohydrates** : Food items like fruits, vegetables, cereals, and bread give us a lot of energy. They contain carbohydrates. Food items rich in carbohydrates are called energy-giving foods.  
 People, who do a lot of physical work, like rickshaw puller, labourer, farmer, and sportsperson, need a lot of

carbohydrate to give them more energy.

**Protein** : Proteins help us to grow. This is why children need more protein. Eggs, fish, meat, cheese, peas and pulses contain proteins. Foods that are rich in proteins are called body-building foods.

2. Food items like cereals, fresh vegetables, fruits, and salads cannot be digested by the body. The part of the plant food that cannot be digested is called roughage. It helps to remove waste materials from our body. Hence, roughage is very important.
3. We need to preserve food so as to consume it for a long time. The five ways in which food can be preserved are as follows :

**Drying** : Removing the water content of the food. For example, drying grapes to get raisins.

**Pickling** : Mixing fruits and vegetables with salt and oil. For example, mixing mango, lime and other vegetables with oil and salt.

**Refrigerating** : Keeping food in the fridge to preserve it for a short time. For example, keeping cooked food and fresh vegetables in the fridge.

**Deep freezing** : Keeping food in the freezer to preserve it for a longer time. For example, keeping meat and fish in the freezer.

**Canning and bottling** : Storing food in cans and bottles. For example, bottling of sauces and jams.

4. Our body needs proper rest and regular exercise because rest helps us to regain our energy lost in doing various works. Exercise is also important for us to stay healthy and fit.
5. Posture refers to body position. It is important for us keep our backs straight while standing or sitting. Incorrect posture, over a long period of time, can lead to pain in joints and muscles.

##### G. Higher Order Thinking Skills (HOTS) :

- Ans. A labourer should eat more carbohydrate rich food items as he required more energy to do his work. He will get this energy from this carbohydrate rich food..

#### EXERCISE

- Do yourself.
- Unscramble the names of these dishes prepared on festivals and match them to the festivals.**

- Ans. 1. AKEC **CAKE** → HOLI
2. HIJYUGA **GUJIYA** → EID
3. NIWASE **SEWAIN** → PONGAL
4. CIRE **RICE** → CHRISTMAS



### Answer Time

#### EXERCISE

Based on NEP 2020

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

- Ans. 1. The nutrients give us **energy** to do work.

2. Teeth help us to **speak** properly.
3. **Premolars** help to crush food and chew it.
4. **Calcium** is very important for strong teeth.
5. Fungi cause disease like **ringworm** and **athlete's foot**.

**B. Match the following :**

- |             |   |                             |
|-------------|---|-----------------------------|
| 1. Canines  | → | a. Blood vessels and nerves |
| 2. Pulp     | → | b. Malaria                  |
| 3. Virus    | → | c. Cholera                  |
| 4. Protozoa | → | d. Tearing food             |
| 5. Bacteria | → | e. Polio                    |

**C. Very short answer questions :**

- Ans.** 1. Teeth for cutting and biting **Incisors**  
 2. Hard, white part on the outside of a tooth **Enamel**  
 3. The soft part of the tooth that contains nerves and blood vessels **Pulp**  
 4. A process by which food is broken down into simpler form **Digestion**  
 5. Harmful microbes that cause diseases **Germs**

**D. Short answer questions :**

- Ans.** 1. The first set of twenty teeth and appears in a child are called temporary teeth.  
 2. There are thirty-two teeth in a permanent set.  
 3. Plant-eating animals have well-developed premolars and molars, because they need to chew and grind their food a lot.  
 4. Plaque is a sticky yellow layer of germs that forms on the teeth.  
 5. Food needs to be broken down so as to convert it into simpler forms. The simpler forms of food give energy that can be used by our body.

**E. Long answer questions :**

- Ans.** 1. Four kinds of teeth are : incisors, canines, premolars and molars.  
**Incisors :** There are eight incisors in all, four in each jaw. They are used for cutting and biting the food. They are also called the cutting teeth.  
**Canines :** There are two canines in each jaw. They are present on either side of the incisors in each jaw. They are help to tear the food. For this reason, they are called tearing teeth.  
 2. Our teeth are covered over by a hard material called enamel. Enamel is the hardest substance in the human body. It protects the inside portion of a tooth. Below the enamel lies dentine. It is hard too. Inside dentine is the pulp. It is soft and has blood vessels and nerves in it. Blood vessels are hollow tubes through which blood flows. Nerves are like threads that help you sense pain, touch, heat or cold. Gum surrounds the teeth providing a seal.  
 3. The process by which food is broken down into a simpler form so that it can be easily taken in or absorbed by the body is called digestion. The process of digestion begins in our mouth where a digestive liquid, saliva,

mixes with the food. From the mouth, the food goes into the stomach through food pipe. The food is churned in the stomach. It also mixes with several digestive juices produced by the wall of the stomach. These juices break down the proteins in the food. From these the food is pushed into a long coiled tube called the small intestine. More digestive juices are added to the food in the small intestine. These juices mix with the food and change it into simple liquid form. The walls of the small intestine absorb the food, which then passes into the blood.

4. Three healthy eating by eating habits are :
- Eat a balanced diet.
  - Eat your food at fixed times.
  - Chew your food well. Do not be in a hurry.
5. Microbes are of four main types : virus, bacteria, fungi, and protozoa.  
 Some of the diseases caused by microbes are given below :
- Viruses causes diseases like common cold, etc.
  - Bacteria cause diseases like typhoid.
  - Fungi cause diseases like ringworm.
  - Protozoa cause diseases like food poisoning.
- Two uses of microbes are given below :
- Some microbes are used in making bread and bun.
  - Some microbes change milk into curd.

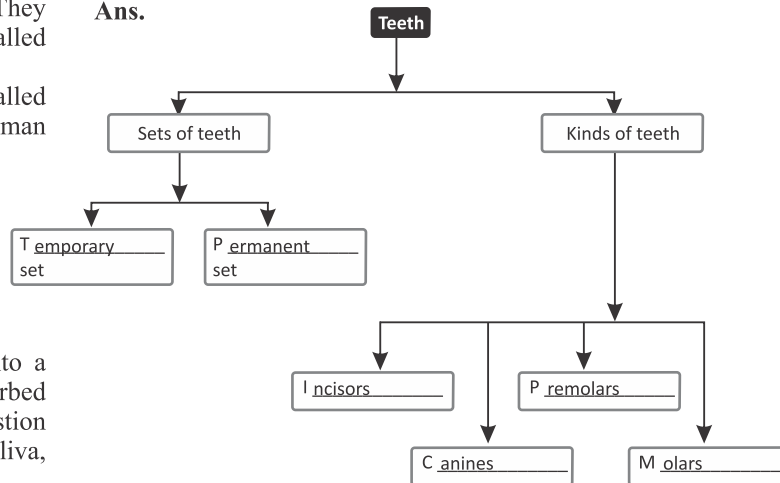
**F. Higher Order Thinking Skills (HOTS) :**

- Ans.** We should wash our hands before meals to remove any type of germs present in our hands. Washing hands before meals will help us to remain healthy.

**Experimental Skill**

- Do it yourself.
- Recall and complete the concept map given below.

**Ans.**



**Answer Time**

**EXERCISE**

Based on NEP 2020

**A. Select the correct word/words from the boxes :**

- Ans.** 1. The important raw materials for building sugar are : **carbon-dioxide and water**  
 2. Photosynthesis or the process of food making in plants carries on : **during the day only**

3. We eat roots of some plants like : **carrot**  
 4. We get sugar from the : **stem**

**B. Fill in the blanks :**

- Ans.** 1. Iodine solution turns **litmus** blue.  
 2. Plants get water from **soil**.  
 3. The excess food in a plant is stored in the **roots and stems**.





for certain period. The egg of the frog is called spawn. A young frog, which looks like a small fish, is disappears gradually, when the back and front legs are formed. Finally the lungs form in the young frog, and it begins to breath. The young frog develops into a full grown frog.

3. The life cycle of butterfly shows metamorphosis. The female butterfly lay eggs in clusters on the upper part of a leaf. Each egg hatches into larva that looks like worm. The larva of a butterfly is called the caterpillar. It eats leaves and grows rapidly.

After sometime, the caterpillar stops eating and forms a covering called cocoon around its body. This stage is called pupa. This is the resting stage in the life cycle of a butterfly. Inside the pupa, the caterpillar slowly changes its shape. Finally, the pupa bursts and an adult butterfly comes out.

4. Animals that give birth to fully formed young ones are



5

### Answer Time

#### EXERCISE

Based on NEP 2020

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

- Ans. 1. The natural home of an animal is called its **habitat**.  
 2. Elephant is a **herbivorous** animal.  
 3. Animals that live in water are called **aquatic** animals.  
 4. Birds, butterflies are **aerial** animals.  
 5. **Herbivores** eat only plants.

##### B. Circle the odd one :

- Ans. 1. Cow **Tiger** Buffalo  
 2. Mosquito Lice **Crow**  
 3. Whale **Tiger** Dolphin

##### C. Very short answer questions :

- Ans. 1. Animals that camouflage **Chameleon Stick insect**  
 2. Animals that hibernate **Bear Frog**  
 3. Omnivores **Crow Human beings**  
 4. Parasites **Lice Bed bugs**  
 5. Amphibians **Crocodile Toad**

##### D. Short answer questions :

- Ans. 1. The natural home of an animal is called its habitat.  
 2. According to the environment they live in animals are grouped into following :  
 i. Terrestrial animals — Animals that live on land  
 ii. Aquatic animals — Animals that live in water  
 iii. Amphibians — Animals that can live both on land and in water  
 iv. Arboreal animals — Animals that spend most of their time on trees  
 v. Aerial animals — Animals that can fly in the air  
 3. A monkey have claws and broad hip girdles to support its body while climbing.  
 4. A frog has some special features that help it in living both on land and in water. It has moist skin to breathe in water. It also has lungs to breathe on land. It has webbed feet to swim. Its back legs are stronger than its front legs what help it to move on land.  
 5. Most aquatic animals breathe through gills, and have fins or paddles that help them to swim.

##### E. Long answer questions :

- Ans. 1. Camouflaging is a special way of protection present in

called mammals. Dolphin, horse, deer, whale, hippopotamus, and bear are some mammals.

The three important features of reproduction in mammals. These are as follows :

- Most of the mammals give birth to fully formed young ones.
- They feed their young ones with their own milk.
- They look after their young ones until they are old enough to look after themselves.

##### D. Higher Order Thinking Skills (HOTS) :

- Ans. While inside the egg, the growing embryo get its nutrients from yolk.

#### Experimental Skill

- Ans. Do yourself.

## Animals : Living and Surviving

some animals.

Some animals like chameleon, zebra, arctic fox, polar bear, and frog can trick their enemies because their body colour easily blends with their surroundings, thus confusing their enemies. This is known as camouflaging. A chameleon can also change its body colour according to the surroundings. Grasshopper and the stick insect are other examples of animals that show perfect camouflage.

2. On the basis of their food habits animals can be classified into following five groups :

**Herbivores** : Animals that eat only plants are called herbivores. Deer, zebra, camel, elephant, cow, buffalo, etc. are all herbivores. They eat grass or graze. They also eat leaves, bushes, and bark of trees.

**Carnivores** : Lions and tigers are carnivorous animals. These animals eat other animals. They have sharp tearing teeth for hunting and tearing out flesh of their prey.

**Omnivores** : Crows, bear and human beings are omnivorous animals. These animals eat both plants animals.

**Parasites** : Lice and bed bugs live on the body of animals and suck their blood, while tapeworms live inside the body and get their food. These types of animals are called parasites.

**Scavengers** : Some animals are scavengers and will get only dead matter. The vulture, hyena and crow are scavenger animals.

3. Some birds migrate in winters because they cannot survive in the cold winter. They leave their homes in winter and fly thousand of kilometres to warmer places in search of food and shelter. They go back to their native places when winter ends there.

4. Animals protect themselves through various methods.  
**Camouflage** : Some animals can easily blend with their surroundings and confuse their enemies. This is called camouflaging. Chameleon, zebra, arctic fox show camouflaging.

**Poison** : Animals such as bees and wasps have stings. They use their stings to inject poison into bodies of their



enemies.

**Shells and spines :** Tortoise and snails have hard shells that cover and protect their soft bodies.

A porcupine puff out the quills. The quills easily come loose if touched and stick to the enemy's skin. They can cause painful wounds or infection.

**Strong legs :** Some animals like deer, giraffe, ostrich etc. have strong legs. They can run very fast whenever



## 6 Unit 3 : Materials

## Safety First

### Answer Time

#### EXERCISE

Based on NEP 2020

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

- Ans.** 1. You must offer **warm** drink to a person who has got an electric shock.
2. We can touch electric points with **dry** hands.
3. Always swim in the **shallow** end of the pool.
4. If a person faints, keep his head **lower** than the body.
5. First aid is given **before** the arrival of a doctor.

##### B. Match the following :

- Ans.** 1. Burn → a. Give something warm to drink
2. Snake bite → b. Rub ice on the affected area
3. Insect bite → c. Wash with clean water and apply antiseptic lotion
4. Cut → d. Tie a tight bandage above and below the wound
5. Electric shock → e. Wash under running water or apply ice

##### C. Very short answer questions :

- Ans.** 1. We should follow safety rules to avoid accidents or injury and remain safe.
2. Burnol
3. Dettol

##### D. Short answer questions :

- Ans.** 1. We can avoid accidents by following safety rules at every place—at home, school, playground, road and swimming pool.
2. First aid is the medical help give to an injured or a sick person before proper medical aid arrives. Immediate first aid can save a persons life or prevent permanent injury. You must learnb to give first aid. While giving firstaid, be calm and make the injured or sick person



## 7

### Answer Time

#### EXERCISE

Based on NEP 2020

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

- Ans.** 1. A matter is something which has **weight** and occupies **space**.
2. Matter is made of very tiny particles called **molecules**.
3. **Gases** have neither a definite shape nor a definite volume.
4. A **sugar solution** is uniform sweet throughout.
5. No new substance is formed in a **physical** change.

##### B. Match the parts of sentences given in column 'A' with

they sense any danger.

##### F. Higher Order Thinking Skills (HOTS) :

- Ans.** There are no dinosaurs because probably they failed to adapt to their surroundings.

#### Experimental Skill

- Ans.** Do it yourself.

comfortable.

3. Five things we should keep in a first aid box are :
- a small cotton roll some band-aid a crepe bandage a pair of scissors
  - a small roll of sterilized gauge and cotton pads

##### E. Long answer questions :

- Ans.** 1. To avoid getting an electric shock, we should take following these safety rules :
- Never touch an electrical gadget or switch with wet hands or bare footed.
  - Do not go to close to heaters or table fans when they are ON.
  - Never touch a damaged wire.
  - When some one gets an electric shock, turn off the main switch immediately.
2. While crossing a road, one should follow these safety rules :
- Always cross the road at a zebra crossing. When there is no zebra crossing, look first to your right then left and then to your right again. When no vehicle is coming then cross the road.
  - Never cross a road behind a parked vehicle.
3. For an insect bite one should offer following relief :
- Wash the affected spot with lime water or apply ammonia solution over it.
  - Place ice over the affected spot.

##### F. Higher Order Thinking Skills (HOTS) :

- Ans.** Driving a two wheeler without a helmet can be very dangerous. In case of an injury one's head can suffer grave injuries than can prove fatal.

#### Experimental Skill

- Ans.** Do it yourself.

## Matter and Materials

those in column 'B' and complete the statement :

- | Ans. Column 'A'                       | Column 'B'                                 |
|---------------------------------------|--|
| 1. Soda-water has                     | a. it becomes a liquid.                    |
| 2. When wax melts                     | b. they break up into tiny particles.      |
| 3. When solids are dissolved in water | c. carbon dioxide dissolved in it.         |
| 4. Fish breathe oxygen                | d. produce important changes in materials. |
| 5. Heating and cooling                | e. which is dissolved in water.            |



**C. Very short answer questions :**

- Ans.** 1. Liquid is a state of matter whose volume is fixed but shape is not fixed.  
2. Ice is the solid form of water.  
3. Oxygen is a gas dissolved in water.

**D. Short answer questions :**

- Ans.** 1. Matter is a substance which has weight and occupies space.  
2. Solid, liquid and gas are the three states of matter.  
3. In solids, the molecules are very tightly packed. In liquids the molecules are packed. Due to this, solids have a definite shape and volume. Liquids have a definite volume but not definite shape gases have neither a definite shape nor a definite volume.  
4. The substances that dissolve in a liquid are said to be soluble in that liquid and are called solutes. For example, sugar and salt.  
5. The liquid in which a substance (solute) dissolves is called a solvent. For example, water and milk.

**E. Long answer questions :**

- Ans.** 1. The volume of water does not increase when sugar is added to it because of the following reason. Water is a liquid. Therefore the molecules are loosely packed and there is space between the molecules. The sugar takes up that space. Hence, the volume of the solution does not increase when the sugar dissolves completely in the water.

2. A physical change is the change in which no new substance is formed. This type of change is reversible, that is, a substance can be changed into its original form. For example paraffin wax can be changed into liquid and then liquid can again be changed into wax. Similarly, ice can be formed by freezing water and by heating it we can again get water.  
3. Hold a piece of magnesium ribbon over the flame of a burner. What happens to it? It becomes white ash. It changes into a new substance and cannot be changed back to its original form. Such a change is called a chemical change. Cool the ashes obtained in the above experiment. They do not change back to their original form. Most chemical changes cannot be reversed by cooling. All chemical changes result in the formation of a new substance.  
4. We can get back the solute from a solution by heating it to a suitable temperature so as to evaporate the solution. After the evaporation, solute will remain with us.

**F. Higher Order Thinking Skills (HOTS) :**

- Ans.** In our daily life we change one state of matter into another. We freeze water to make ice. We make our food by changing one form of matter into another.

**Experimental Skill**

- Ans.** Do it yourself.



8

Soils

**Answer Time**

**EXERCISE**

Based on NEP 2020

**A. Tick (✓) the right answer :**

- Ans.** 1. ii.      2. iii.      3. ii.      4. ii.

**B. Fill in the blanks :**

- Ans.** 1. **Soil** is very formation for life on Earth.  
2. Below the topsoil is the **subsoil**.  
3. The soil deposited by rivers is called **silt**.  
4. The removal of fertile top soil by various causes is called **soil erosion**.  
5. The protection of the soil from erosion is called **conservation**.

**C. Circle the odd one :**

- Ans.** 1. Loam                      Humus                      **Sand**  
2. **Lions**                      Rats                      Centipedes  
3. Afforestation      **Deforestation**      Contour farming

**D. Very short answer questions :**

- Ans.** 1. Sand, humus and minerals are three things present in the soil.  
2. Presence of humus makes the soil fertile.  
3. The removal of topsoil is called soil erosion.

**E. Short answer questions :**

- Ans.** 1. Soil is formed by the process of weathering. In this process big pieces of rocks are broken down by wind and water into smaller pieces till we get fine powder called sand. When this sand mixes with the remains of dead plants and animals (called humus), and mineral, soil is formed.  
2. The top layer of soil, known as topsoil is important for plants.  
3. Soil erosion is the removal of fertile topsoil by the

action of wind, rain and river water.

4. Erosion is brought by natural agents such as wind and water.

**F. Long answer questions :**

- Ans.** 1. Plants get most of their nutrients from the topsoil. To provide them nutrients we must protect the top soil from eroding away. This protection of soil from erosion is known as soil conservation. It helps us in maintaining the fertility of soil and get proper growth.

2. We can protect soil by following three ways :

**Planting trees :** More number of trees should be planted to replace the ones that are cut down. Trees and bushes should be planted in open lands. This practice does not allow the wind to blow at full force and take away the topsoil.

**Making bunds and embankments :** You must have heard of the great damages caused by floods. Floods eat away the soil along the banks. So at places where the river strikes against the bank, strong and firm embankments are constructed, so as to contain the flow of the river water and thus avoid damage to crops and to the soil.

**Making terrace or furrows :** If water comes down a slope with great force, it causes a great deal of damage to the soil by bringing down large amounts of soil with it. If the flow of water can be made slower, the damage can be reduced. This is done by making terraces or furrows along the hill slopes. These terraces weaken the force of running water. You must have seen terrace farming in the hills. This method of farming prevents soil erosion and is called contour farming.

**G. Higher Order Thinking Skills (HOTS) :**





vapour on heating. Condensation is the process of water vapour changing into water blue to cooling.

- In nature, the processes of evaporation and condensation take place continuously. Water evaporates from lakes, rivers, oceans, and other water bodies. It then condenses and falls as rain and snow. This forms the water cycle.
- Chlorination is a process in which Chlorine is added to kill germs in dirty water.

### E. Long answer questions :

**Ans.** 1. When the sun's heat is more that is the day is hotter, evaporation takes place at faster rate. Similarly the larger the surface area of water, the faster is the evaporation.

- The difference between the land breezes and sea breezes are as follows :

At night, the land cools down faster than the sea. So the sea is warmer than the land. The hot air above the sea rises. The cooler air from the land blows towards the sea to take its place. This is called land breeze.

During the day, land gets heated quickly but the sea does not. When the air above the hot land gets heated, it rises as hot air is lighter. Cool air over the sea rushes in to take its place. Thus, a cool breeze blows towards the land during the day. This is called sea breeze.

- Water can be cleaned and made safe or drinking by the following purification methods.

- Sedimentation
- Filtration
- Chlorination
- Decantation
- Boiling

**Sedimentation :** In this method impure water is allowed to stand undisturbed for some time. Insoluble impurities like sand being heavier settle at the bottom.

**Decantation :** The clear water above the sediment is

carefully poured into another container without disturbing the sediment. This process is known as decantation.

**Filtration :** The decanted water may still have some impurities. By filtration can remove these impurities. In this process, decanted water is passed through a filter paper. The impurities are left behind in the filter paper and clean water is collected below.

**Boiling :** This filtered water is not safe for drinking as it many contain harmful bacteria and germs which cause diseases. By boiling water, harmful disease causing germs and bacteria are killed.

**Chlorination :** Germs and bacteria present in water can also be killed by chlorination. Chlorination is the process of adding chlorine tablets to the water.

- The following factors affect evaporation :

**i. Sun' heat :** Evaporation is greatly affected by the sun's heat. When the heat is more, water evaporates at a faster rate.

**ii. Air :** When the wind blows fast, water evaporates more quickly whereas when the wind blows gently, water evaporates at a slow rate.

**iii. Surface area :** The larger the surface area of water, the faster is the evaporation. Water evaporates faster from shallow lakes with large surface area of water than smaller, deeper lakes with small surface area similarly, water in open ponds will evaporate faster than water in cool, deep wells.

### F. Higher Order Thinking Skills (HOTS) :

**Ans.** Both Rohan and Sohan are right. Rain falls down because of both evaporation and condensation.

### Experimental Skill

**Ans.** Do it yourself.



### Answer Time

#### EXERCISE

Based on NEP 2020

#### A. Fill in the blanks :

- Ans.** 1. A group of stars is called a **Constellation**.  
 2. The **Moon** reflect the light of the sun.  
 3. Earth completes one **revolution** in 365 1/4 days.  
 4. Moon is also called a **satellite**.  
 5. The fixed path taken by a planet to revolve around the sun is called **orbit**.

#### B. Match the following :

- Ans.** 1. Equator → a. North direction  
 2. Satellite → b. Solar system  
 3. North star → c. Hemispheres  
 4. Rotation → d. Moon  
 5. Axis → e. Day and night  
 6. Sun and eight planets → f. Imaginary line on which the Earth rotates.

#### C. Very short answer questions :

- Ans.** 1. The red planet **Mars**  
 2. Glowing balls of gases that spread out heat and light in space **Stars**  
 3. An imaginary line running from the North pole to the south pole **Axis**

- An imaginary line that divides the Earth into two equal halves **Equator**

#### D. Short answer questions :

- Ans.** 1. The solar system is the family of the sun and its eight planets.  
 2. The movement of the Earth on its own axis is called its rotation.  
 3. The planets of the solar system in the order of their distance from the Sun are—Mercury, Venus, Earth, Mars, Jupiters, Saturn, Uranus and Neptune.  
 4. Stars are heavenly bodies having their own heat and light.

#### E. Long answer questions :

- Ans.** 1. The moon is the Earth's natural satellite. It revolves around the Earth in a fix manner. The moon is made up of hard rocks. It has no light of its own. It reflects the light of the sea. Also it has no air.  
 2. Rotation is the movement of Earth on its own axis. The Earth takes 24 hours to rotate once on its axis. The rotation results in the formation of day and night. Revolution is the movement of the Earth around the sun in a fixed path called orbit. The Earth takes 365¼ days go round the Sun. The revolution of the Earth causes seasons.  
 3. There would be no seasons if the Earth was not tilted on

## The Universe



its axis. The axis always points in one direction. Depending on the position of the Earth as it moves round the sun, the tilt of the Earth causes the Sun's rays to fall directly either on the northern hemisphere or on the southern hemisphere. The half that receive more sunshine has summer and the other half has winter.

4. The planets of our solar system can be divided into two groups.

**The inner planets**

- The inner four planets are Mercury, Venus, Earth, and Mars.
- They are made of rocks.

**The outer planets**

- The outer four planets are Jupiter, Saturn, Uranus, and Neptune.
- They are made of gases. They have no solid surface.

**F. Higher Order Thinking Skills (HOTS) :**

**Ans.** If the Earth stops moving all the life would perished from the Earth. The part of the Earth facing the sun would be very

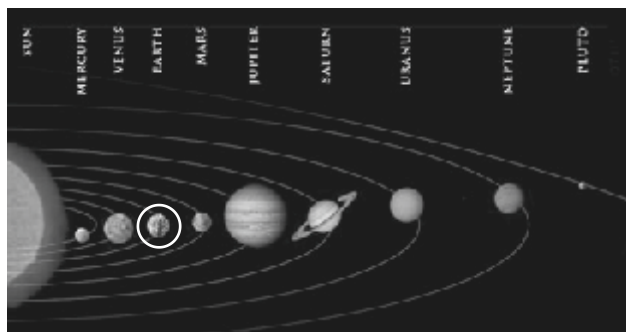
hot and the part away from it would be too cold to let any life survive on it.

**Experimental Skill**

- Do it yourself.

**Draw a picture of the solar system in the space given below. Mark our planet in it.**

**Ans.**



12

**The Environment**

**Answer Time**

**EXERCISE**

Based on NEP 2020

**A. Fill in the blanks :**

- Ans.** 1. The living things in nature are **plants** and **animals**.  
 2. We have polluted **air, water** and **land**.  
 3. **Most** of our Earth is water.  
 4. Harmful wastes mixed with soil cause **soil pollution**.  
 5. Plastic, metal, and glass are **non-biodegradable** wastes.

**B. Write true or false for the following statements :**

- Ans.** 1. false 2. true 3. false 4. true 5. true.

**C. Very short answer questions :**

- Ans.** 1. Air pollution, water pollution and soil pollution.  
 2. Sulphur dioxide.  
 3. Untreated sewage and industrial waste are the two things that make the water dirty.

**D. Short answer questions :**

- Ans.** 1. Pollution is the contamination of environment through various activities.  
 2. Water pollution can be harmful in following two ways :  
 i. Lead and mercury often enter the bodies of fish living in polluted water. If these fish are eaten by man, they may result in lead or mercury poisoning.  
 ii. Arsenic cause black patches on the skin and is very dangerous.  
 3. Biodegradable wastes are wastes from natural

substances that breaks down as decays easily.

4. Non-biodegradable wastes are those wastes that do not decay quickly.

**E. Long answer questions :**

- Ans.** 1. Following methods can be used to keep air clean.  
 • Walk short distance, do not use a car.  
 • Switch off car engines at the red light.  
 • Use a public transport.  
 • Use a car pool to go to school.  
 • Use a cycle to travel short distances.  
 • Plant more trees.  
 2. We can reuse items in the following ways :  
 • We can reuse empty glass or plastic jars to store things such as pickles and *dals*.  
 • We can use biscuit and cheese tins for keeping things such as clips, buttons and needles.  
 • We can give the clothes and the toys that we do not use, to the needy.

**F. Higher Order Thinking Skills (HOTS) :**

**Ans.** Reena's mother said so to because paper is made from trees. By not wasting paper we will save trees which in turn will keep our environment pollution free.

**Experimental Skill**

- Ans.** Do it yourself.



Answer Time

EXERCISE

Based on NEP 2020

A. Cross out the wrong ones :

- Ans. 1. A bat is a ~~bird~~/mammal that can fly in the air.  
 2. ~~Fish/Mammals~~/Insects breathe through spiracles.  
 3. Penguins ~~fly~~/swim with their forelimbs.  
 4. A grasshopper uses its pair of long hind legs for ~~running~~/hopping.  
 5. Kangaroo moves by ~~running~~/hopping.  
 6. Whales and dolphins ~~gills~~/lungs to breathe.

B. Fill in the blanks :

- Ans. 1. Animals can be divided into two groups **vertebrates** and **invertebrates**.  
 2. Insects breathe through **air holes** on their bodies.  
 3. **Herbivores** have small and sharp front teeth.  
 4. A grasshopper uses its long **legs** for hopping.  
 5. Monarch butterflies fly from **Canada** to **Mexico** and then back.

C. Very short answer questions :

- Ans. 1. **Cow** Buffalo  
 2. **Human beings** Elephant  
 3. **Frog** Earthworm  
 4. **Rat** Squirrel  
 5. **Siberian Crane** Mallard ducks

D. Short answer questions :

- Ans. 1. Animals take in oxygen to live their life.  
 2. Whales and dolphins.  
 3. Animals need to move in search of food and shelter.  
 4. A frog is an amphibian. A baby frog or a tadpole breathes through its gills. An adult frog breathes through its lungs on land and through its moist skin under water.

E. Long answer questions :

- Ans. 1. An insect breathes through spiracles present on its body. The spiracles lead to air tubes which form a fine network that reaches every tissue. The body tissues take in oxygen and give out carbon dioxide which is pumped out of the body. A fish lives in water. It takes water in its mouth. As this water passes over the gills, the fish takes in oxygen and releases carbon dioxide which flows out with the water. The oxygen gets absorbed into the blood of the fish.  
 2. Aquatic animals use their limbs to swim. Fish have fins to move in water. Insects usually use their legs for movement. Swimming insects like water boatmen use their legs as oars while swimming. The forelimbs of birds are in the form of wings which help them to fly. The terrestrial animals use their limbs in a variety of works. They use them for getting their food, to search for shelter and to protect themselves from their enemies.  
 3. Man's hands are adapted to hold objects. The arrangement of the thumb opposite the fingers enables him to hold tools and do many kinds of work.  
 4. The mass movement of animals from one place to another at certain times of the year is called migration. Birds and animals find their direction while migrating in the following two ways.  
 Some animals use sea and air currents to guide them. Birds stick to the coastline while flying.

F. Higher Order Thinking Skills (MCQs) :

- Ans. I will give it a way to move on. This is so because a snake does not attack on others until it is forced to do so.

Experimental Skill

- Ans. Do yourself



Answer Time

EXERCISE

Based on NEP 2020

A. Write true or false for the following statements :

- Ans. 1. false 2. true 3. true 4. false 5. false.

B. Underline the correct answer :

- Ans. 1. water air temperature pressure  
 2. wood cotton tea glass tobacco  
 3. rose pea cauliflower carrot brinjal  
 4. pests bacteria animals fungi manure  
 5. apple peanut lotus poppy balsam

C. Very short answer questions :

- Ans. 1. Seed leaves Cotyledons  
 2. Baby plant Seedling  
 3. The process by which a seed grows into a seedling Germination  
 4. The process of seed dispersal when a ripe fruit bursts

open

Explosion

D. Short answer questions :

- Ans. 1. Potato, sugarcane, rose and ginger are some plants which do not reproduce by seeds.  
 2. Germination of seeds need air, water and warmth.  
 3. All the seeds produced by a plant are not able to grow into new plants because not all of them get all the necessary conditions for growth.  
 4. Plant diseases, weeds or insects like caterpillars, locusts and grasshoppers are the enemies of crops.

E. Long answer questions :

- Ans. 1. Plants reproduce in a number of ways :  
 1. **Most plants reproduce by seeds** : Most plants grow from seeds. The seeds grow into seedling and seedling grow into new plants.  
 2. **Some plants multiply with the help of their roots,**



**stems and leaves :** Such plants can grow without producing seeds. New plants can grow from pieces of the stem. These pieces are known as stem cutting and have buds on them. Each bud grows into a new plant.

**Examples :** Potato, sugarcane, rose and ginger.

- Onion and groundnut need a well-aerated sandy soil. For growing them the soil is made loose by digging and arranged into ridges and furrows. The seeds are planted on the ridges and the soil is turned over often in order to keep it fluffy and well-aerated. Both onions and groundnuts grow underground and do not grow big unless the soil is loose.
- Rice and jute grow well in clayey soils which hold plenty of water. When seedlings are transplanted the



3

### Answer Time

#### EXERCISE

Based on NEP 2020

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

- Ans.** 1. All parts of the ecosystem **depend** on each other for food.  
 2. The **leaf** is food factory of a plant.  
 3. Secondary consumers are **carnivorous** animals.  
 4. Man is **dependent** on plants and animals.

##### B. Write true or false for the following statements :

- Ans.** 1. true 2. false 3. true 4. false.

##### C. Very short answer questions :

- Ans.** 1. Rice, wheat, tea, sugarcane are some plants that are useful for us.  
 2. Dog, horse, donkey, cow, goat, sheep are some plants that are useful for us.

##### D. Short answer questions :

- Ans.** 1. Rubber, wood and medicines are three things that are useful to us.  
 2. The leaves prepare food by using sunlight, water and air. This process of preparing food is called photosynthesis.  
 3. Decomposers play an important role in an ecosystem. Decomposers like bacteria and fungi feed on dead and decaying matter. They break down or decompose the dead parts of animals and plants to produce nutrients which are used by plants for growth.

##### E. Long answer questions :

- Ans.** 1. A food chain is a sequence of living things found in a region, in which each living thing is food for the next member in the sequence. The primary sources of energy in any food chain is the sun because it helps plants to produce food.  
 A food chain always belongs to a certain habitat. It

fields have to be flooded with water.

##### F. Higher Order Thinking Skills (HOTS) :

- Ans.** Cotyledons store food and nourishment to the germinating seedlings. As the first leaves appear after the germination of embryo, the cotyledons are no longer needed. That is why they fell off.

#### Experimental Skill

Following are the stages of germination of a pea seed. Write A, B, C, D below each show their correct order :

**Ans.**



## Interdependence Between Living Beings

clearly indicates the dependence of living things on one another. It always begins with the producers followed by a herbivorous consumers and then by a carnivorous consumer.

- There is interdependence between living beings. This can be explained by the following :

##### Dependence of Animals on Plants

- Many animals, birds and insects make their homes in trees.
- Plants give out oxygen through tiny pores called stomata present on their leaves. The oxygen produced by the plants mixes with the air. Animals and plants use this oxygen to live. Energy animals depends on plants for a constant supply of oxygen.

##### Dependence of Plants on Animals

- Animals release carbon dioxide which are used by plants for making food.
- Many kinds of flowering plants depend on bees and butterflies to carry pollen and produce seeds. These insects help plants produce fruit with healthy seeds that can give rise to new plants.
- Many animals eat the fruits and throw the seeds at a far away place. Some seeds have hooks and thorns. These stick to the hair in the body of animals and are dropped at far away places.

##### F. Higher Order Thinking Skills (HOTS) :

- Ans.** Plants and animals depend on each other for different reasons. Both get their breathing gas-oxygen and carbon dioxide from each other. In the absence of the other will automatically perish.

#### Experimental Skill

- Ans.** Do yourself.



4

## Unit 3 : The Human Body

## The Skeletal System and the Muscular System

### Answer Time

#### EXERCISE

Based on NEP 2020

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

- Ans.** 1. The **respiratory system** is responsible for the

exchange of gases.

- Special joints called **Sutures** connect the bones of the skull.
- The spine of a human beings is **curved**.



- A **ball and socket** joint allows twisting and turning movements.
- The cardiac muscles are the muscles of the **heart**.

**B. Name the following :**

- Ans.**
- Name only bone in our head that we can move  
**Lower jaw**
  - The last two pairs of ribs  
**Floating ribs**
  - The longest bone  
**Femur**
  - Strong fibrous tissue that holds bones together  
**Ligaments**
  - The muscles which we can control ourselves  
**Voluntary muscles**

**C. Match the words in column A with the words in column B and column C.**

- Ans.**
- | A                  | B            | C             |
|--------------------|--------------|---------------|
| 1. Skeletal system | → Diaphragm  | → Ankle       |
| 2. Skull           | → Bones      | → Chest       |
| 3. Ribs            | → Heart      | → Involuntary |
| 4. Cardiac         | → Flat bones | → Respiration |
| 5. Muscles         | → 12 pairs   | → Sutures     |
| 6. Gliding joint   | → Brain      | → 206         |

**E. Very short answer questions :**

- Ans.**
- The skull protects our brain.
  - Brain, spinal cord, nerves are the three main parts of the nervous system.
  - The three different types of muscles are skeletal muscles, cardiac muscles and smooth muscles.

**B. Short answer questions :**

- Ans.**
- The digestive system provide the organ systems the energy to work.
  - The eight major organ system of the body are—nervous system, skeletal system, muscular system, circulatory system, respiratory system, digestive system, excretory system and reproductive system.
  - The ribcage protects our heart and lungs.
  - Ulna, radius and humerus are the three bones of the arms.

**F. Long answer questions :**

- Ans.**
- The skeletal system provides support, shape and strength to the body, protects the internal organs and also helps in the movement of body parts.
  - The spine is called the 'central support' for the body

because it protects the spinal cord, a large bundle of nerves that sends information from our brain to the rest of our body.

- The three types of joints are as follows :

**1. Hinge joint :** A hinge joint allows movement in a certain spot to take place. This joint is similar to the opening and closing of a door. Some examples of hinge joints are the elbow, knee and joints between the fingers. Hinge joints allow the body parts to bend and straighten.

**2. Ball and Socket joint :** A ball and socket joint allows twisting and turning movements. In a ball and socket joint, one of the bones has a rounded head which is the ball. The other bone has a cup-like area that is known as the socket. Some of these joints are the shoulder and the hip.

**3. Pivot joint :** A pivot joint is a joint that moves by rotating. In humans, the pivot joint is found at the base of the skull between the first two vertebrae of the backbone. It allows the neck to move from side to side and upwards and downwards.

- The voluntary muscles are the muscles which we can control ourselves. The muscles of hands and legs are examples of voluntary muscles. The involuntary muscles are the muscles which we cannot ourselves. The heart or the cardiac muscle is an example of involuntary muscle.

**G. Higher Order Thinking Skills (HOTS) :**

- Ans.** If the backbone was made up of only one long bone, than it would be impossible for us to bend.

**Experimental Skill**

**Below given is a test paper. Check the paper. Put a tick (✓) if the answers are correct. Correct them if they are wrong.**

- Ans.**
- |                           |                              |
|---------------------------|------------------------------|
| 2. Answer : The high bone | <b>Femur</b>                 |
| 3. Answer : 206           | ✓                            |
| 4. Answer : In the heart  | <b>Bone marrow</b>           |
| 5. Answer : False         | <b>True</b>                  |
| 6. Answer : Gliding joint | <b>Hinge joint</b>           |
| 7. Answer : Pivot Joint   | <b>Ball and Socket joint</b> |



5

**Answer Time**

**EXERCISE**

Based on NEP 2020

**A. Fill in the blanks :**

- Ans.**
- The **nerves** connects the brain to the spinal cord.
  - Dendrites** bring information to the cell body of the neuron.
  - The **pupil** is the black spot in the iris.
  - There are 3 tiny bones called **ossicles** in the middle ear.
  - Papillae are sensitive to **taste**.

**B. Write true or false for the following statements :**

- Ans.** 1. false 2. true 3. true 4. true 5. false.

**C. Very short answer questions :**

- Ans.**
- Bundles of fibre that link all parts of the body to the brain  
**Nerves**
  - This part of the brain has two parts— left and right.

**Cerebrum**

- This controls the action of the muscles. **Spinal cord**
- Watering of the mouth is this action. **Reflex action**

**D. Short answer questions :**

- Ans.**
- The nervous system consists of the brain, the spinal cord and a network of nerves that extends to every part of the body.
  - The medulla or the brain stem regulates involuntary movements such as breathing, digestion and blood circulation. It is the part of the brain that works 24 hours.
  - The cerebrum is responsible for our thinking, reasoning, memory etc.
  - Sensory nerves carry messages from the sense organs (eyes, nose, tongue, ears and skin) to the brain. Motor nerves, on the other hand, carry, messages from the



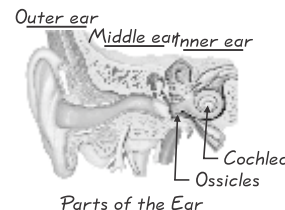
brain to different body parts.

**E. Long answer questions :**

- Ans.** 1. Reflex actions are used to protect the body automatically. They take us away from objects that might hurt us, before any harm. Let us understand this with an example. If you put your hand on hot stove, you immediately remove your hand before the message, "My hand is on a hot burning stove," gets to your brain. This is because a signal is passed directly from a sensory nerve via a connecting nerve to a motor nerve to remove your hand. This is a reflex action.
2. We can see an object when light bounces off the object and enters the eye through a clear, transparent area called the cornea. Behind the cornea is the iris. It is the coloured part of the eye and determines eye colour. In the centre of the iris is the pupil. The pupil, which looks like a black spot, is actually an opening in the iris that lets light into the eye. Muscles in the iris make the pupil bigger or smaller to let in light depending on the brightness outside. When it is dark outside, the pupil become larger to let in more light. When there is bright sunlight, the pupils become smaller to let in less light. Behind the pupil is a clear lens. The lens focuses the picture on the retina. There are tiny nerves on the retina. These nerves send the messages to a big nerve called the optic nerve. Then the optic nerve carries message to the brain. The brain understands and tells what you

have seen.

There are three parts to our ears. Outer ear is the ear canal that acts like a funnel to catch sound waves and direct them to the ear drum. The middle ear is a small air-filled space inside the ear drum. There are 3 tiny bones called ossicles in the middle ear that move to transmit sound to the cochlea in the inner ear. The cochlea creates an electrical signal which is sent along the auditory nerve to the brain. The ears also help you keep your balance when you move.



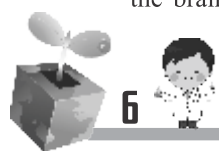
**F. Higher Order Thinking Skills (HOTS) :**

**Ans.** These happen because of the reflex actions. The spinal cord orders the muscles of our body parts to protect our body from and injury.

**Experimental Skill**

**Take some cold water. Put a few drops on the following parts of your body :**

**Ans.** Nose **sensitive**      Cheek **very sensitive**  
 Elbow **not sensitive**      Sole of your foot **sensitive**



**6 Unit 4 : Materials**

**Answer Time**

**EXERCISE**

Based on NEP 2020

**A. Fill in the blanks :**

- Ans.** 1. **Traffic signs** help to regulate traffic and reduce road accidents.  
 2. We should put out **match stick** before we throw.  
 3. First aid is the **first** and **immediate** help given to injured people.  
 4. One should not try to prick any **blister**, if formed.  
 5. **Poisoning** can cause blisters and ulcers in the mouth.

**B. Write true or false for the following statements :**

**Ans.** 1. false    2. false    3. true    4. true    5. false.

**C. Rewrite the following correctly by changing the underlined words :**

- Ans.** 1. Traffic signs help to **decrease** road accidents.  
 2. We should not go near the fire wearing **synthetic** clothes.  
 3. Poisoning can cause blisters and **ulcers** in the mouth.  
 4. A broken or cracked bone is called a **fracture**.  
 5. A **compound** fracture is one in which the bone completely breaks apart.

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

- Ans.** 1. It can be helpful to put out a small fire. **Fire extinguisher**  
 2. The technique to adopt if our clothes catch fire. **Rolling**  
 3. Minor burns caused by the hot drinks. **Scold**  
 4. A fracture where the bone completely breaks apart. **Compound fracture**  
 5. A deadly disease causes by the bite of animal. **Rabies**

**E. Short answer questions :**

- Ans.** 1. Fire can be caused by boiling water, matchsticks and fire crackers.  
 2. Four household substances that can cause poisoning are medicines, cosmetics, creams and lotions.  
 3. Traffic signs are road signs that help to regulate traffic and reduce road accidents.  
 4. First aid is the first and immediate help given to injured people before they are given medical treatment by doctor.

**F. Long answer questions :**

- Ans.** 1. Two rules of fire safety are :  
 i. We should not play with a burning matchstick. It may fall on our clothes and catch fire.  
 ii. We should always maintain a safe distance from the place where food is being cooked. Cooking can may overturn and will give us bad burns.
2. In case of minor burns, cold water or ice may be applied on the burnt area. The burnt area should be held under running water for some time. An antiseptic cream or a paste of baking soda and water should be applied on the burn.
3. We should follow these steps for first aid in case of a hair line fracture are as follows :  
 • We should keep the patient calm and comfortable and then call the doctor immediately.  
 • We should take a magazine, piece of cardboard or wood, or a pillow. We should tie it around the fractured part. This acts as a splint and prevents movement of the broken bone.
4. Animal bites can be dangerous. In the case of an animal bite, wash the wound and apply an antiseptic. Take the injured person to the doctor immediately.

**G. Higher Order Thinking Skills (HOTS) :**

**Ans.** A thick blanket is used to put out fire on clothes because a thick blanket cuts off the supply of air what extinguishes the fire.

**Ans.** Do yourself.

### Experimental Skill



7

#### Answer Time

### EXERCISE

Based on NEP 2020

#### A. Fill in the blanks :

- Ans.** 1. Particles are more tightly packed in **solids** than in liquids.  
 2. Solids are **very tightly packed**.  
 3. When we **freezes** water, it changes into ice.  
 4. The effect of cooling is **contraction**.  
 5. The arrangement of **molecules** decides the three states of matter.

#### B. Write true or false for the following statements :

- Ans.** 1. false 2. true 3. true 4. false 5. true.

#### C. Very short answer questions :

- Ans.** 1. Matter is anything that has mass and occupies space.  
 2. Molecule is the smallest particle of matter.  
 3. Solids, liquids and gases are the three states of matter.

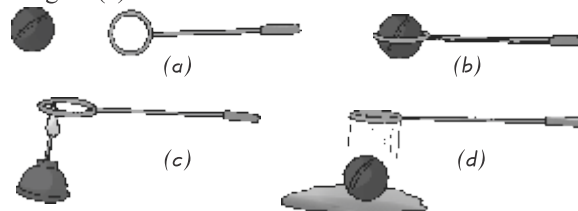
#### D. Short answer questions :

- Ans.** 1. Two properties of solids are as follows :  
 i. Solids have fixed shape and volume and they cannot flow.  
 ii. In solids, molecules are very tightly packed in rigid form with each other with a strong force of attraction between them.  
 2. Two properties of gases are as follows :  
 i. There is very little force of attraction between the molecules of a gas.  
 ii. Gases neither have a definite shape, nor do they have a definite volume.  
 3. A solid is different from a liquid in the sense that a solid has a fixed shape and volume and it does not flow. A liquid does not have a fixed shape. It takes the shape of the container it has poured into. A liquid flows in a definite direction.

## Solids, Liquids and Gases

#### E. Long answer questions :

- Ans.** 1. The expansion of matter can be described with the help of the following activity :  
 Take a rubber ball and an iron ring as shown in figure (a). The size of the ball should be slightly more than the ring so that it could not pass through the ring. See figure (b). Now heat the ring without ball for few minutes. See figure (c).



Now, try to pass out the ball from the ring again. What do you notice? The ball which was initially tight in the ring now passes easily through the ring. See figure (d).

**Conclusion :** Matter expands on heating.

2. There is very little force of attraction between the molecules of a gas. So, the molecules in a gas are far apart. They can freely move about in any direction. When kept in a closed container, they take up all the space around. The space between the molecules also keeps changing. Hence, they neither have a definite shape, nor do they have a definite volume.

#### F. Higher Order Thinking Skills (HOTS) :

- Ans.** Gases have a tendency to fill up the entire space. That is why the scent quickly spreads to the other room.

### Experimental Skill

**Ans.** Do yourself.



8

#### Answer Time

### EXERCISE

Based on NEP 2020

#### A. Tick (✓) the correct answer :

- Ans.** 1. i. 2. iii. 3. iii.

#### B. Fill in the blanks :

- Ans.** 1. When limestone undergoes several changes it forms **marble**.  
 2. Iron is extracted from **iron** ore.  
 3. The uppermost layer of the earth is called **soil**.  
 4. The breaking down of rocks into soil is called **weathering**.

#### C. Write true or false for the following statements :

- Ans.** 1. true 2. false 3. true 4. true.

Summative Assessment

## Rocks, Minerals and Soil

#### D. Very short answer questions :

- Ans.** 1. Molten rock inside the Earth. **Magma**  
 2. Molten rock that flows out the earth's surface **Lava**  
 3. Rocks formed by deposition. **Sedimentary rocks**  
 4. A metamorphic rock rich in quartz **Quartzite**

#### E. Short answer questions :

- Ans.** 1. Igneous rocks are formed from magma, the hot molten material found deep inside the Earth. The intense pressure inside the Earth pushes the magma towards the surface of the Earth. This magma cools just below the Earth's surface. It then hardens to form igneous rocks.  
 2. Pumice is full of holes caused by volcanic gases which expand. It has small pockets of air. It makes it float on water.  
 3. Sedimentary rocks are formed by the deposition of rock

- particles carried by river water and wind into the sea.
- Topsoil is very important for us. It contains most of the nutrients and water. It is dark in colour and rich in humus. Seeds germinate and roots of small plants grow in this layer.

**F. Long answer questions :**

- Ans.**
- Metamorphic rocks are rocks that have changed their form (to metamorphose, to change form). They may be formed due to physical and changes in igneous, sedimentary, or older metamorphic rocks themselves. These changes happen due to heat and pressure.
  - Many minerals are very hard and found in the form of crystals. They are cut and polished into beautiful stones called gemstones. Diamonds, rubies, emeralds and sapphires are some gemstones used in making jewellery.
  - Soil is nothing but tiny bits of rock that have been broken down many times in size. This is called

weathering. Rocks have cracks in them. When water gets into these cracks and remains there, it may freeze in cold weather and form ice. Ice is solid and exerts pressure thus breaking the rock. Over thousands of years, repeated weathering breaks the rock into small grains of sand.

Soil is made up of gravel, sand, clay, moisture (water) and humus. Soil also contains air, minerals, bacteria and fungi.

**G. Higher Order Thinking Skills (HOTS) :**

- Ans.** Soil is considered to be precious natural resources because it fulfills almost all of our resources such as food, clothes, etc.

**Experimental Skill**

- Ans.** Do yourself.



**Answer Time**

**EXERCISE**

Based on NEP 2020

**A. Tick (✓) the correct answer :**

- Ans.** 1. i. 2. iii.

**B. Fill in the blanks :**

- Ans.**
- Earth's **gravity** keep us and other object on the ground.
  - Friction makes it **difficult** to slide heavy objects across the floor.
  - Scissors is an example of **first** class lever.
  - A **wedge** is used to split or cut wood.
  - Energy of an object due to its position is called **potential** energy.

**C. Match the following :**

- | <b>Column A</b>    | <b>Column B</b>   |
|--------------------|-------------------|
| 1. Class two lever | → A sloping plane |
| 2. Wheel and axle  | → Screw jack      |
| 3. Inclined plane  | → A nut cutter    |
| 4. Screw           | → Car steering    |

**D. Very short answer questions :**

- Ans.**
- The energy possessed by running steam engine. **Heat energy**
  - The force used while playing cricket **Muscular force**
  - The energy possessed by the sun. **Solar energy**
  - The energy possessed by body due to its motion **Kinetic energy**

**E. Short answer questions :**

- Ans.**
- Force is an ability to push or pull.
  - Energy is an ability to do work.
  - In science, work is said to be done only if force applied on a body moves it in the direction of the force.
  - All the six simple machines are : Lever, wheel and axle, pulley, inclined plane, screw and wedge.
  - A screw is a nail with grooves cut into it.

**F. Long answer questions :**

- Ans.**
- The effects of force besides changing the state of motion are as follows :
    - A force can change the direction :** A moving car changes its direction when a force is applied on it's steering wheel, so as to turn it.

- A force can stop a moving object :** When a force is applied on an object in opposite direction, it can slow down or stop a moving object. For example, force applied by a player on moving football stops the ball.

- A force can change the direction :** A moving car changes its direction when a force is applied on it's steering wheel, so as to turn it.

- A force can change the shape of an object :** A force can also change the shape of an object. For example, when we press a balloon full of air, it changes its shape. When we bake bread, the force of our hands changes the shape of dough.

- Magnetic force :** Magnets have special properties by which they possess a force that can move certain objects. It is called magnetic force.

- Electrostatic force :** When things are rubbed with each other, they become charged and a force of attraction is produced. This force is called electrostatic force.

- Potential energy :** The energy stored in a body due to its position is called potential energy.

- Lever :** A simple machines that turns around a fixed point is called a lever. A lever helps us to do more work by applying less force. This makes our work easier. It consists of three parts—load, effort and fulcrum.

- Screw :** A screw looks like a nail with grooves cut into it. It has a winding edge called a thread.

- In science, work is said to be done only if force applied on a body moves it in the direction of the force. Some examples of work are moving a cart, kicking a football, picking up a book from the table and keeping it on the shelf, hitting a ball with a bat, etc.

- A pulley is a wheel with a groove around its outer edge. This groove is for a rope of a chain to move around the pulley. Pulling on the rope from one side lifts the object attached to the other side. The wheel rotating around a stationary axle makes it easier to lift things to some height.





### G. Higher Order Thinking Skills (HOTS) :

**Ans.** A wedge is a simple machine with sharp edges on one side and blunt on the other. It is actually two inclined planes used together.



10

Unit 6 : Natural Phenomena

### Answer Time

#### EXERCISE

Based on NEP 2020

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

- Ans.**
1. Air has **weight** and occupies **space**.
  2. Air exerts a pressure of **1 kg** per square centimetre at sea level.
  3. Green plants take in **carbon dioxide** from the air and **water** from the soil to prepare for their food.
  4. Drinking water must be **clean**.
  5. Germs in water can be destroyed by **boiling**.

##### B. In the following sentences cross out the wrong word :

- Ans.**
1. Water can be purified by (boiling/cooking).
  2. Oxygen is a (harmful/useful) gas.
  3. Air exerts a pressure of (~~2~~/1) kg per square centimetre.
  4. (~~Soluble~~/Insoluble) substances are removed by filtration.
  5. (Chlorine/~~Iodine~~) is used for purifying water.

##### C. Very short answer questions :

- Ans.**
1. Nitrogen.
  2. Soluble impurities and insoluble impurities.
  3. 21%
  4. Sedimentation and filtration.

##### D. Short answer questions :

- Ans.**
1. Atmosphere is the blanket of air around the Earth.
  2. The air we breathe in is called inspired air and is rich in oxygen. The air we breathe out is called expired air and contains more of carbon dioxide.
  3. Evaporation and distillation are the two ways of separating impurities from water.
  4. Filtration is a method of separating soluble impurities from water. In this method, soluble impurities are removed by passing the impure water through a filter



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### Answer Time

#### EXERCISE

Based on NEP 2020

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

- Ans.**
1. Natural events that cause to the life and property, are called **natural disasters** or **natural calamities**.
  2. An **earthquake** is a sudden movement or disturbance in the Earth's surface.
  3. **Deforestation** is a major cause of landslides in hilly areas.
  4. **Floods** cause damage to life and property on a large scale.
  5. People who survive the disasters are left **homeless**.

##### B. Write true or false for the following statements :

- Ans.** 1. false 2. true 3. true 4. true 5. true.

#### Experimental Skill

**Ans.** Do yourself.

paper.

##### E. Long answer questions :

- Ans.**
1. We should not be able to live on the earth without atmosphere due to following reasons :
    - The atmosphere helps in maintaining the right temperature for the survival of living things on Earth.
    - Ozone, which forms a layer in the atmosphere, protects us from the harmful rays (ultraviolet rays) of the sun.
    - The atmosphere provides us oxygen which is necessary for survival.
  2. We can prove that air has weight by the following activity :  
Tie three balloons at each end of a stick. Tie a thread in the middle of the stick and hold the stick up. The stick should balance. Remove the balloons from one end. Fill then with air and tie their ends. Re-hang them on the stick. You will find that one end is heavier than the other one.
  3. Sedimentation is a method of purifying water by allowing insoluble particles to settle at the bottom as sediment and pouring off the top liquid. This pouring off the clean liquid into a separate container without disturbing the sediments is called decantation.

##### F. Higher Order Thinking Skills (HOTS) :

- Ans.** If there was no carbon dioxide in the air plants would not be able to make their food.

#### Experimental Skill

**Ans.** Do yourself.

## Air and Water

## Natural Calamities

##### C. Very short answer questions :

- Ans.**
1. A natural calamity which occurs when the ground shakes. **Earthquakes**
  2. The intensity of an earthquake is measured in this. **Richter scale**
  3. A long period of dryness with little or no rain. **Drought**
  4. The study of earthquakes. **Seismology**

##### D. Short answer questions :

- Ans.**
1. Natural events that cause damage to the life and property are called natural disasters or natural calamities.
  2. During a flood an area is flooded by river water.
  3. Lava are the molten rocks containing smoke and ash that are forced out of cracks from the crust of the earth.
  4. Tidal waves are caused by undersea earthquakes, volcanic eruptions, landslides, etc.





### E. Long answer questions :

- Ans.** 1. An earthquake is a sudden movement or disturbance in the earth's surface. It is caused by the movements or vibrations within the earth. Earthquakes may be mild or massive, resulting in destruction on a large scale. As discussed in earlier classes, the outermost layer of the earth, known as the crust is made of rocks. These rocks are in the form of large plates which keep on moving continuously and slowly past each other. Sometimes these plates move apart, bump (overlap) into each other, or slide under each other with a lot of force. The crust then breaks and releases energy in the form of vibrations. These vibrations are felt as an earthquake or tremors by us.
2. A drought is a period of very hot and dry weather resulting in lack of rainfall in a particular region for a long period of time. Lack of rain and high temperatures affect rural agricultural areas. Wells, lakes and streams by dry up. There is shortage of drinking water. Plants and crops wither and finally die. Animals too suffer. Forest fires occur and spread rapidly.
3. Landslides occur in hilly areas. Sometimes big rocks and stones along with mud slide down the mountain slopes towards the valley causing death of people.

Landslides occur more frequently during the rainy season. They are common sights in the Hiamalayas and the north-eastern hilly areas. Deforestation is a major cause of landslides in hilly areas. When trees are cut down, the soil becomes loose and gets easily washed away in rain.

4. Natural disasters have many consequences. Natural disasters cause damage and destruction of crops, houses, roads, dams, monuments and many other things. Because of earthquakes, floods or tsunamis, thousands of people and animals are killed in natural disasters every year. In a natural disaster, the people who survive are often the ones who suffer most. They have either lost their properties, or are badly injured. Because of a natural calamity, transport, electricity, water supply and other facilities of the affected area are destroyed.

### F. Higher Order Thinking Skills :

- Ans.** Earthquakes can destroy power lines or power stations. That can lead to fires.

### Experimental Skill

- Ans.** Do yourself.



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Unit 7 : Our Universe

### Answer Time

#### EXERCISE

Based on NEP 2020

#### A. Fill in the blanks :

- Ans.** 1. The moon is about **one-fourth** the size of the earth.  
2. The moon is a **satellite** of the earth.  
3. The surface of the moon is dotted with **craters**.  
4. The **shadow** of the earth produces a lunar eclipse.  
5. There is no **air** or water on the moon, so no **living** things can exist there.

#### B. Write true or false for the following statements :

- Ans.** 1. false 2. true 3. true 4. true 5. false.

#### C. Very short answer questions :

- Ans.** 1. Yuri Gagarin was the first man to go into space.  
2. Rakesh Sharma was the first Indian to go into space.  
3. The craters are big, deep holes which, according to the scientists, were formed when rocks from outer space known as meteorites collided (hit against) with the moon.  
4. Eclipses are shadows formed when three heavenly bodies come in a straight line.

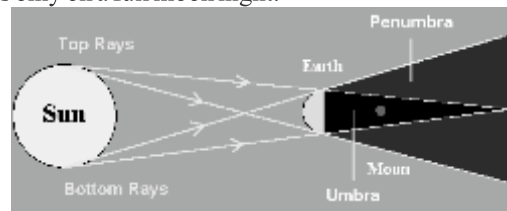
#### D. Short answer questions :

- Ans.** 1. We can see the moon only at night because during the day the light of the sun prevents us from seeing it.  
2. There is no life on the moon because it has no air or water to sustain life.  
3. The moon shines because it reflects the light of the sun.  
4. During full and new moons the gravitational forces of the Sun and moon combine to produce the highest tides. These are called high tides.  
5. We have a solar eclipse when the moon comes between the Sun and Earth. When this happens, the moon obstructs, the light of the Sun and casts its shadow on the Earth.

#### E. Long answer questions :

### Our Neighbours in the Sky

- Ans.** 1. The surface of the moon is covered with a layer of dust and it has mountains, lava plains, valleys and craters. The craters are big, deep holes which, according to the scientists, were formed when rocks from outer space known as meteorites collided (hit against) with the moon. The hitting of the meteorites broke up the surface of the moon. This caused lava present in the core to flow out from these craters. When this lava cooled down it formed plains, rocks, etc. These craters were formed about 3.5 to 4.5 billion years ago.
2. Sometimes the moon comes between the sun and the earth. When this happens, the moon obstructs the light of the sun and casts its shadow on the earth. The people living in this part of the earth can see only a part of the sun or not see it at all. This is solar eclipse. Once the moon moves out of this position, the sun can be seen again. If the complete disc of the sun is covered by the shadow of the moon, it is called a total solar eclipse. If a part of the sun is hidden, it is called a partial solar eclipse.
3. When the earth's shadow covers the complete disc of the moon, we cannot see the moon at all and it is called a total lunar eclipse. When it only partially covers the disc of the moon there is a partial lunar eclipse. An eclipse of the moon is called a lunar eclipse. It occurs only on a full moon night.



4. The moon is the only heavenly body that human beings



have travelled so far. The first people to land on the moon were three American astronauts—Neil Armstrong, Edwin Aldrin and Michael Collins. The spacecraft that carried them was Apollo 11 and it landed on the moon on 20th July 1969. Neil Armstrong was the first person to set foot on the moon and was followed by Edwin Aldrin. Michael Collins stayed back in the spacecraft. Since then many manned (carrying astronauts in them) Spacecrafts have visited the moon and gathered a lot of information about it.

5. Tides are very useful for us. We can generate electricity with the help of tides. During a high tide, a ship can easily reach the port.

**F. Higher Order Thinking Skills (HOTS):**

**Ans.** The moon seems as large as the sun in size though it is not so because it is near to the earth as compared to the sun.

**Experimental Skill**

**Ans.** Do yourself.



**Answer Time**

**EXERCISE**

Based on NEP 2020

**A. Fill in the blanks :**

- Ans.** 1. **Harmful** changes made in the environment due to activities are called pollution.  
 2. DDT and fertilizers many cause **soil** pollution.  
 3. **Compost** is the natural of decomposition of organic waste.  
 4. **Plant matter** and **animal matter** can also be recycled.

**B. Write true or false for the following statements :**

- Ans.** 1. true 2. false 3. true 4. true 5. false.

**C. Match the following:**

- |                   |   |                                       |
|-------------------|---|---------------------------------------|
| 1. Atmosphere     | → | a. Dumping of solid poisonous waste   |
| 2. Land pollution | → | b. Wise and careful use of resources. |
| 3. Biogas         | → | c. Our surroundings                   |
| 4. Conservation   | → | d. Used for cooking                   |

**D. Very short answer questions :**

- Ans.** 1. Environment can be natural or man-made.  
 2. Environmental pollution, air pollution, water pollution and land pollution.  
 3. Recycling, composting and sanitary landfill are some effective methods of waste disposal.

**E. Short answer questions :**

- Ans.** 1. Environment is everything that surrounds us.  
 2. Rainwater harvesting is a simple and economical way of preserving every drop of water that falls as rain on the ground.  
 3. Recycling is a method of conservation. In it, new things are made from waste materials.

**F. Long answer questions :**

- Ans.** 1. Air pollution is the accumulation of hazardous

substances into the atmosphere that endangers human life and harms plants and animals.

Some of the main contributors to air pollution are : automobile emissions, tobacco smoke, combustion of coal, acid rain, power plants, manufacturing buildings, paint fumes, aerosol sprays, wildfires, and nuclear weapons.

Water is polluted mainly by sewage and toxic waste released from factories into the rivers and seas. Chemicals such as DDT and fertilizers which flow into rivers and lakes also cause water pollution.

2. Sanitary landfill is new concept of managing solid waste. Low-lying areas are chosen or deep ditches are dug in the ground to make landfill site. The garbage is sorted out, compressed and spread in layers inside it. When full, the landfill is covered by soil to prevent bad smell and insects. Some points are kept in mind while designing a landfill.
- A landfill is constructed far away from residential and agricultural areas.
  - While choosing the site for a landfill, riverside areas and wetlands are avoided.
  - Mostly the area of landfill is used a park or storehouse.
  - The groundwater around the landfill should be protected from contamination.

**G. Higher Order Thinking Skills (HOTS):**

**Ans.** Mr. Rao told Ramu to do so because by burning day leaves Ramu was polluting the air.

**Experimental Skill**

**Ans.** Do yourself.

