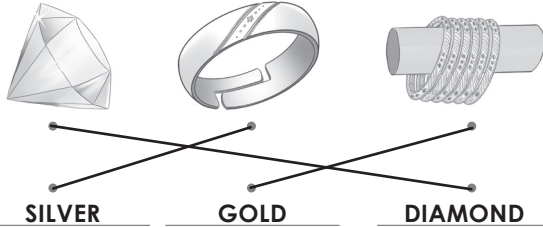


Answers

Theme 1: What Makes Our Land Chapter 1: Rocks and Minerals

Main Coursebook

I am ready



Icebreaker:

Gold

In-text Question

1. Sedimentary rocks
2. Metamorphic rocks

In-text Question

1. Gold
2. Coal

I am a learner

- A. 1. b 2. a 3. c 4. b 5. a
- B. 1. True 2. False 3. False
4. True 5. False
- C. 1. Minerals are natural non-living substances present in different quantities, qualities and arrangements within rocks.
2. Diamond
 3. The minerals from which metals can be profitably obtained are called ores.
- D. 1. The differences between igneous, sedimentary and metamorphic rocks are as follows:

Igneous rocks: These rocks are formed by the cooling and hardening of hot liquid rock material, called magma.

Example: granite

Sedimentary rocks: These rocks are formed from pebbles, sand, mud, rocks or clay, deposited in the ocean and brought to the shore by flowing water or floating ice.

Example: shale

Metamorphic rocks: These rocks are formed by transformation of already existing rocks through a process called metamorphism.

Example: marble

2. The differences between metallic and non-metallic minerals are as follows:

Metallic minerals	Non-metallic minerals
These are used to obtain metals. Examples include gold, platinum, iron and zinc.	These include fossil fuels or other valuable resources that are found underground. Examples include coal and petroleum.

I am a thinker

Accept all relevant responses.

I am an all-rounder

A. English:

1. work
2. silver fork

B. Maths: DCCXVII

C. Social Studies: Plateaus

Students' Worksheets

Worksheet 1

- A. 1. minerals 2. non-living 3. landforms
4. Igneous 5. magma
- B. 1. →b 2. →c 3. →d
4. →a 5. →e
- C. 1. False 2. False 3. True
4. True 5. True

Worksheet 2

- A. 1. Limestone 2. Sedimentary
3. Conglomerate 4. shells
5. pile up
- B. 1. GRANITE
2. IGNEOUS
3. OBSIDIAN
4. SEDIMENTARY
5. METAMORPHIC
- C. 1. True 2. True 3. False
4. True 5. True

Worksheet 3

- A. 1. Rocks are made up of minerals. These may be made up of one or more minerals.
2. Magma is a hot liquid rock material that hardens and cools to form igneous rocks.
 3. Minerals are natural non-living substances present in different

quantities, qualities and arrangements within rocks.

- Igneous rocks, sedimentary rocks and metamorphic rocks.
- Metamorphic rocks form by transformation of already existing rocks through a process called metamorphism.

- B. 1. →c 2. →a 3. →e
4. →b 5. →d
- C. 1. False 2. True 3. True
4. True 5. True

Worksheet 4

- A. 1. mines 2. black gold
3. metals 4. precious
5. Fossil fuels
- B. 1. COAL 2. METALLIC
3. PETROLEUM 4. HAEMATITE
5. NON-METALLIC
- C. 1. No 2. Yes
3. No 4. Yes
5. No

Teacher's Worksheets

Worksheet 1

- Igneous rocks are formed by the cooling and hardening of hot liquid rock material, called magma. This magma is pushed upwards by the pressure of other rocks around it.
- We should use coal, oil and petrol wisely. We can substitute them with inexhaustible natural resources, such as water, air and the Sun.
- Slate is commonly used for flooring, roofing and wall cladding.
- Sedimentary rocks are formed from pebbles, sand, mud, rocks or clay, deposited in the ocean and brought to the shore by flowing water or floating ice.
- Metamorphic rocks form by transformation of already existing rocks through a process called metamorphism.

Worksheet 2

- A. 1. →b 2. →d 3. →e
4. →c 5. →a
- B. 1. It is used for making bricks and tiles.
2. It is used for flooring, ornamental stones or gravestones.

- It is used for making cutting tools.
- It is used for filling materials in roads and construction.
- It is used for teeth polishing by dentists.

Theme 1: What Makes Our Land Chapter 2: Force and Energy

Main Coursebook

I am ready



PULL



PUSH



PUSH

Icebreaker: STATIONARY

In-text Question

- Muscular force
- Buoyant force

In-text Question

- True
- True

I am a learner

- A. 1. b 2. a 3. b 4. c 5. a
B. 1. True 2. False 3. False
4. True 5. True
- C. 1. It is a push or pull when applied on any object tends to change the state, speed, direction and shape of the object.
2. Pull
3. It is the energy that is stored in batteries.
- D. 1. **Gravitational force:** Every object in this universe attracts other objects with a force known as gravitational force. When two bodies with some mass come closer to each other, they pull and attract each other. Gravitational force is always an attractive force. We are able to stand, walk, sit and be on the Earth's surface due to the gravitational force exerted by the Earth on our body.

Buoyant force: When any object floating on water is pushed down, the water exerts an upward push on the object. This upward push is called upthrust. Human beings experience this force while entering a swimming pool.

2. **Mechanical energy:** It is the energy attained by the bodies on which work is being done.

Solar energy: It is the form of energy obtained from the Sun. It is a renewable source of energy and does not cause any pollution to the environment.

Geothermal energy: It is the energy that is derived from within the Earth.

Wind energy: It is the energy produced by moving air or wind. The kinetic energy of wind is converted into mechanical energy using wind turbines. The mechanical energy can further be transformed into electricity with the help of generators.

Chemical energy: It is produced when different substances react with each other to form new substances.

Electrochemical energy: It is the energy that is stored in batteries.

Heat is an energy that is transferred from one body to another due to difference in temperature of the two bodies.

Light is another form of energy that travels in straight lines pointed away from the source towards the viewer.

Sound is also a form of energy produced due to the vibrations of different bodies.

Electrical energy is generated due to the movement of electrical charges.

I am a doer

Accept all relevant responses.

I am an all-rounder

A. English:

1. homework 2. artwork

B. Maths: ₹1,36,103

C. Social Studies: Due to less frictional force on plains.

Students' Worksheets

Worksheet 1

- A. 1. force 2. Muscular
3. contact 4. gravitational
5. attractive
- B. 1. False 2. True 3. False
4. True 5. False
- C. 1. →b 2. →e 3. →c 4. →d 5. →a

Worksheet 2

- A. 1. Frictional 2. mechanical
3. buoyant 4. Energy
5. Work

- B. 1. MUSCULAR 2. GRAVITATIONAL
3. FRICTIONAL 4. MECHANICAL
5. UPTHURST
- C. 1. →e 2. →a 3. →b 4. →c 5. →e

Worksheet 3

- A. 1. It is the force that comes into play when we use muscles of our body to push or pull something.
2. It is the force of attraction between every two objects in the universe.
3. It is the force that opposes the motion of an object moving on a surface.
4. It is a contact force that acts between two bodies.
5. It is an upward push exerted by water on any object when it is pushed down in water.
- B. 1. gravitational force 2. muscular force
3. buoyant force 4. frictional force
5. mechanical force
- C. 1. Yes 2. No 3. Yes 4. No 5. Yes

Worksheet 4

- A. two; Kinetic; stationary position; solar; renewable
- B. 1. SOLAR 2. GEOTHERMAL
3. CHEMICAL 4. ELECTROCHEMICAL
5. ELECTRICAL
- C. 1. kinetic energy 2. potential energy
3. wind energy 4. geothermal energy
5. chemical energy

Teacher's Worksheets

Worksheet 1

A.



Pushing



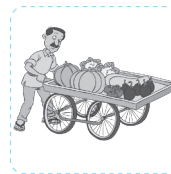
Pulling



Pushing



Pulling



Pushing



Pulling



- B. 1. movement 2. kinetic
3. stationary 4. Chemical

Worksheet 2

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

- B.
1. When any object floating on water is pushed down, the water exerts an upward push on the object. This upward push is called upthrust.
 2. Wind energy is the energy produced by moving air or wind. The kinetic energy of wind is converted into mechanical energy using wind turbines. The mechanical energy can further be transformed into electricity with the help of generators.
 3. Every object in this universe attracts other objects with a force known as gravitational force. When two bodies with some mass come closer to each other, they pull and attract each other. Gravitational force is always an attractive force.

Theme 2: What Helps Us Survive

Chapter 3: Houses Around Us

Main Coursebook

I am ready



P



K



P

Icebreaker: HOUSE

In-text Question

1. Yes
2. No

In-text Question

1. False
2. True

I am a learner

- A. 1. b 2. b 3. c 4. c 5. b
- B. 1. True 2. False 3. False
4. True 5. False
- C. 1. Houses that have flat roofs and thick walls are found here.
2. To keep the houses safe from floods and heavy rainfall.
3. Concrete, glass and iron.
- D. 1. Houses in areas with hot climates are built with bricks and stones. Houses in hilly areas are made up of bamboo and

wood. Places that are more likely to experience earthquakes have wooden houses. Huts are made up of muds, bamboo and palm leaves.

2. Before constructing a house, we should decide the money or the budget. We should consider space and needs of people. We should hire an architect to plan the house accordingly.

After constructing a house, regular cleaning and maintenance, periodic painting of the house and proper cleaning of the area surrounding the house should be done.

I am a thinker

Accept all relevant responses.

I am an all-rounder

A. English

1. love, happiness; abstract nouns
2. a troop of monkeys; collective noun

B. Maths: 1, 2

C. Social Studies: Wooden

Students' Worksheets

Worksheet 1

- A. 1. hot 2. thick 3. damp
4. stilts 5. ground
- B. 1. False 2. True 3. False
4. True 5. True
- C. 1. →b 2. →a 3. →d 4. →c 5. →e

Worksheet 2

- A. 1. stones 2. hilly
3. earthquakes 4. Kuccha
5. Huts
- B. 1. FLAT ROOFS 2. DAMP CLIMATE
3. SLOPING ROOF 4. RAINFALL
5. FIREPLACE
- C. 1. C 2. I 3. C 4. C 5. I

Worksheet 3

- A. 1. design 2. temporary
3. big 4. budget
5. architect
- B. 1. BRICKS 2. STONES 3. BAMBOO
4. WOOD 5. PALM LEAVES
- C. 1. True 2. False 3. False
4. True 5. True

Worksheet 4

- A. 1. Flat 2. Thick 3. Sloping

4. Fireplace 5. Brick
- B. needs, plan, drainage, sunlight, well-plastered
- C. 1. BUDGET 2. DRAINAGE
3. VENTILATION 4. ARCHITECT
5. MAINTENANCE

Teacher's Worksheets

Worksheet 1

- A. 1. FIREPLACE 2. SLOPING
3. EARTHQUAKE 4. TEMPORARY
5. ARCHITECT
- B. 1. Climate, building material and budget.
2. Houses in hilly areas are made up of bamboo and wood as these materials are easily available there.
3. Regular cleaning, periodic painting and maintenance.

Worksheet 2

- A. 1. hot 2. earthquake
3. palm 4. well-plastered
5. periodic
- B. 1. F 2. F 3. F 4. T 5. F

Theme 2: What Helps Us Survive

Chapter 4: Communicable and Non-communicable Diseases

Main Coursebook

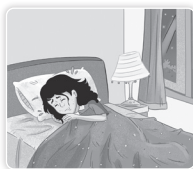
I am ready



S



H



S

Icebreaker: Fever

In-text Question

1. True 2. True

In-text Question

1. Yes 2. No

I am a learner

- A. 1. b 2. a 3. a 4. a 5. a
B. 1. False 2. True 3. False

4. False 5. True

- C. 1. It is a condition when our body is not able to function properly.
2. Communicable disease.
3. Night blindness and scurvy.
- D. 1.

Communicable diseases: These diseases are transmitted from one person to another.

These diseases are not passed from one person to another.

These diseases are also known as infectious or transmissible diseases.

Examples include cold, polio and measles.

Non-communicable diseases: These diseases are also known as chronic diseases.

Examples include cancer, goitre and rickets.

2. Communicable diseases are transmitted through the following ways:

- i. **Through direct contact:** Diseases that are caused by hand-to-hand contact with the infected person or by using the items contaminated by the infected person. Examples are scarlet fever and common cold.
- ii. **Through infected food and water:** Insects, such as cockroaches and flies, carry germs and result in the contamination of food and water, as and when they come in contact with it. Examples are cholera and typhoid.
- iii. **Through the air we breathe:** Diseases, such as whooping cough, scarlet fever and influenza, spread when germs get transmitted from the infected person to another person via air.
- iv. **Through insects:** Yellow fever, malaria, dengue and plague spread through bugs, mosquitoes and sandflies.
- v. **Through carriers:** Some diseases are spread through completely healthy individuals. In such cases, the carriers do not show any symptoms or are affected in any way by the germs present inside their bodies. One such example is AIDS caused by the HIV.

I am a doer

Accept all relevant responses.

I am an all-rounder

A. **English:**

Worksheet 3

- A. 1. It is the outermost covering of the seed.
2. It is a tissue present inside the seeds that provides nourishment to the young seedling.
3. It is the nutrition-providing part for growing embryo that is found within the seed.
4. Air, water and sunlight.
5. These are various natural factors that disperse the seeds away from the parent plant.
- B. 1. PEA
2. HIPTAGE
3. COCONUT
4. TAMARIND
5. DANDELION
- C. 1. True 2. True 3. False
4. False 5. False

Worksheet 4

- A. 1. Seed coat
2. Embryo
3. Endosperm
4. Cotyledon
5. Sunlight
- B. 1. AGENT 2. WIND
3. WATER 4. ANIMAL
5. EXPLOSION
- C. 1. No 2. Yes 3. No
4. Yes 5. No

Teacher's Worksheets

Worksheet 1

- A. 1. T 2. T 3. F 4. T
5. T 6. T 7. F 8. F
- B. 1. b 2. d 3. a 4. c

Worksheet 2

- A. 1. Seed coat
2. Endosperm
3. Cotyledon
4. Germination
5. Leaves
- B. 1. The seeds require oxygen from air, water, sunlight or warmth to germinate.
2. Plants are stationary and unable to move on their own. As a result, all the seeds produced by the plant fall near

the parent plant and cannot find sufficient space and other conditions to grow.

3. Coconut has fibrous outer covering that can float on water. Lotus has spongy parts and hence, their seeds get dispersed through water.

Theme 3: Different Yet Alike Chapter 6: Animals Around Us

Main Coursebook

I am ready



Aquatic

Terrestrial

Both

Terrestrial animals	Aquatic animals	Terrestrial as well as aquatic animals
Cow	Fish	Newts
Giraffe	Crab	Salamander

Icebreaker: Herbivore

In-text Question

1. False 2. True

In-text Question

1. Yes 2. No

I am a learner

- A. 1. c 2. c 3. c 4. a 5. c
- B. 1. False 2. True 3. False
4. True 5. False
- C. 1. These are the air holes present on the bodies on the insects and are used for breathing.
2. Forelimbs.
3. Emu, rhea and ostrich.
- D. 1. Microscopic organisms, such as *Paramecium* and *Amoeba* breathe through their body surface. Insects breathe through air holes, known as spiracles, present on their bodies. Animals, such as earthworms, breathe through their thin and moist skin. Some aquatic animals, such as fish, prawns and oysters, breathe through their gills. Amphibians, such as frogs, breathe through both their gills and lungs. A tadpole breathes through gills, whereas an adult frog breathes through lungs on land and through its moist skin in water.

2. The seasonal movement of animals from one place to another is called migration. Eels migrate from river to sea and lay eggs there. After hatching of the eggs, the parent eels die and the baby eels travel back to the rivers.

I am a doer:

Accept all relevant responses.

I am an all-rounder:

A. English:

- The forelimbs of birds are present in the form of wings that help them fly.
- Every third animal in India lives in water.

B. Maths: Fifty-two point five zero

C. Social Studies: Polar bears and musk ox.

Students' Worksheets

Worksheet 1

- A.** 1. breathing 2. water
3. *Paramecium* 4. Insects
5. gills
- B.** 1. False 2. False 3. True
4. False 5. True
- C.** 1. →e 2. →d 3. →c 4. →a 5. →b

Worksheet 2

- A.** 1. four 2. forelimbs 3. hindlimbs
4. paddle-like 5. webbed
- B.** 1. Almost all mammals have four limbs.
2. Birds have wings to fly.
3. Emu is a flightless bird.
4. Humans use their lower limbs to walk.
5. Animals migrate due to food, weather, shelter and water.
- C.** 1. I 2. I 3. C 4. I 5. C

Worksheet 3

- A.** 1. wings 2. feathers 3. hindlimbs
4. flightless 5. plates
- B.** 1. AQUATIC 2. INSECTS 3. BIRDS
4. REPTILES 5. HUMANS
- C.** 1. True 2. True 3. False
4. True 5. False

Worksheet 4

- A.** 1. Fish 2. Turtle 3. Cockroach
4. Tortoise 5. Snake
- B.** 1. LIMBS 2. FINS 3. WINGS
4. PLATES 5. SCALES
- C.** 1. Yes 2. No 3. Yes 4. Yes 5. Yes

Teacher's Worksheets

Worksheet 1

- A.** 1. Amoeba 2. gills 3. Insects
4. Amphibians 5. Fishes
- B.** 1. Microscopic organisms breathe through body surface.
2. Turtles have paddle-like limbs that help push water in the backward direction.
3. The forelimbs of birds are present in the form of wings that help them fly.
4. Earthworms breathe through their thin and moist skin.
5. Almost all mammals have four limbs.

Worksheet 2

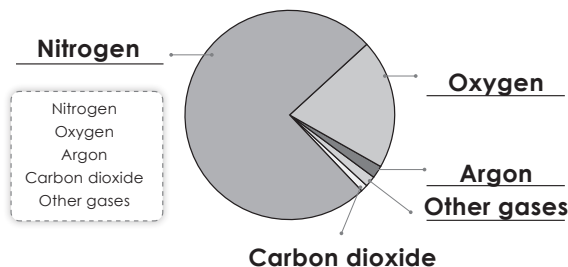
- A.** 1. Microscopic animals breathe through their body surface.
2. Aquatic animals are the animals that live in water. Fishes and turtles are examples of aquatic animals.
3. A tadpole breathes through gills and an adult frog breathes through lungs on land and through its moist skin in water.
4. The hindlimbs of birds are used for walking, hopping, perching and running.
- B.** 1. Fishes—Fishes have fins that enable them to swim.
Birds—The forelimbs of birds are present in the form of wings that help them fly. The forelimbs of birds are used for walking, hopping, perching and running.
2. An insect breathes through air holes, known as spiracles, present on their bodies. A fish breathes through their gills.
3. The seasonal movement of animals from one place to another is termed as migration. Migratory fish, such as eels, migrate from river to sea and lay eggs there. After hatching of the eggs, the parent eels die and the baby eels travel back to the rivers. Some migratory insects, such as locusts, cause severe damage to crops, sometimes resulting in famine and starvation.

Theme 4: Living With Changes

Chapter 7: Changes in Our Environment

Main Coursebook

I am ready



Icebreaker: smoke

In-text Question

1. No 2. Yes

In-text Question

1. False 2. True

I am a learner

A. 1. c 2. b 3. b 4. c 5. c

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

C. 1. These are the gases that prevent the escape of heat from our atmosphere, back into the space.

2. Global warming.

3. Carbon dioxide, methane and ozone.

D. 1. The contribution of different greenhouse gases to the greenhouse effect are as follows:

i. **Carbon dioxide:** If the amount of carbon dioxide keeps increasing at the same rate, in the coming years, the Earth's temperature will increase to such levels that it will become inhabitable.

ii. **Methane:** It is produced by the decay of organic material and released in the atmosphere. It is also given out by the animals after they digest their food.

iii. **Water vapour:** This acts as the Earth's most abundant greenhouse gas. This contributes about 35–75 per cent to the greenhouse effect.

iv. **Ozone:** In the upper regions of the stratosphere, ozone helps absorb the ultraviolet rays from the Sun. But in

the regions near the ground, it acts as a greenhouse gas and a pollutant.

v. **CFCs:** These are non-toxic chemicals, consisting of chlorine, fluorine and carbon atoms. CFCs destroy the ozone layer and trap heat in the lower parts of the atmosphere, thereby causing the warming of the Earth's surface.

2. The gradual rise in the temperature of the Earth is known as global warming. Following are some steps to control global warming:

- i. Careful use of electricity
- ii. Reducing the use of fossil fuels
- iii. Planting more and more trees
- iv. Using public transport in place of private ones

I am a thinker

Accept all relevant responses.

Holistic Box

A. English:

1. Aloe vera is good for human skin and prevent wrinkles.
2. Reshma threw the empty shoe box in the dustbin.

B. Maths: C: O, U

S: E, N, V, I, M, T

B: R

C. **Social Studies:** It results in global warming.

Students' Worksheets

Worksheet 1

- A. 1. glasshouse 2. Sun
3. greenhouse 4. warming
5. carbon dioxide

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

C. 1. →c 2. →d 3. →e 4. →b 5. →a

Worksheet 2

- A. 1. global warming 2. rising
3. reduce 4. planting
5. public

B. 1. TEMPERATURE 2. DROUGHT
3. FLOODS 4. ICE CAPS

5. ENVIRONMENT

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

blown away.

- ii. **On hill slopes:** Cutting down the hill slopes into steps or terraces prevent soil erosion. This is because steps slow down the water flow, causing soil from one step to be left on the next step.
- iii. **On fields near rivers:** During monsoon, many rivers overflow and flood the fields. To prevent this, embankments are built along the rivers. The embankment holds the water between the river banks and prevents soil erosion.

I am a doer

Accept all relevant responses.

I am an all-rounder

A. English:

1. I grew apple trees in my garden.
2. Ben watered the plants on Saturday.

B. Maths: 6

C. Social Studies: It prevents soil erosion.

Students' Worksheets

Worksheet 1

- A. 1. uppermost 2. solid 3. erosion
4. human activities; natural forces
5. fertility
- B. 1. SOIL 2. ROCK
3. EROSION 4. VEGETATION
5. NATURAL FORCES
- C. 1. False 2. True 3. False
4. True 5. True

Worksheet 2

- A. 1. erosion 2. soil 3. erosion
4. top 5. soil
- B. 1. DESERT 2. FLOOD
3. HILL SLOPES 4. CULTIVATION
5. SOIL EROSION
- C. 1. False 2. True 3. True
4. False 5. True

Worksheet 3

- A. 1. Covered land prevents soil erosion.
2. We cannot hinder the natural forces.
3. Our responsibility is to prevent the soil erosion.
4. Soil conservation is the protection of soil against erosion.

5. Growing trees and afforestation are effective methods of soil conservation.

- B. 1. CREEPERS 2. PRESERVE
3. TERRACE 4. HARVESTING
5. AFFORESTATION
- C. 1. steps slow down the water flow
2. during monsoon many rivers overflow
3. embankments are built along the rivers
4. the winds blow off soil easily from the bare land
5. the farmers grow some cover crops such as creepers and grasses

Worksheet 4

- A. 1. afforestation 2. slopes
3. erosion 4. control
5. rivers
- B. 1. GRASSES 2. PLOUGHING
3. DEFORESTATION 4. OVERGRAZING
5. HUMAN ACTIVITIES
- C. 1. False 2. True 3. False
4. False 5. True

Teacher's Worksheets

Worksheet 1

- A. 1. soil 2. flood
3. Bihar 4. deforestation
- B. 1. formation 2. Flood
3. Chambal Valley 4. arid
5. Protection 6. afforestation
7. creepers 8. embankments

Worksheet 2

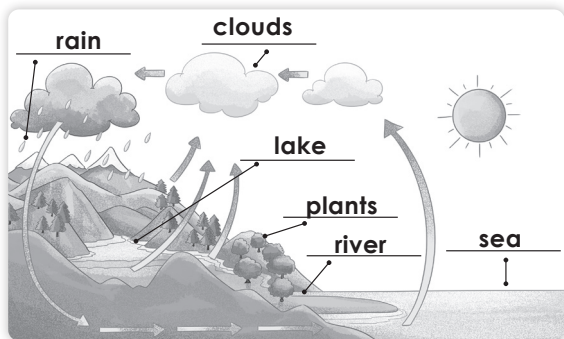
- A. 1. Natural 2. hold
3. erosion 4. embankments
- B. 1. To hold the soil and prevent it from being blown away.
2. The steps slow down the water flow, causing soil from one step to be left on the next step.
3. To hold the water between the river banks and to prevent soil erosion.

Theme 5: Living Across Ages

Chapter 9: Our Life Supports

Main Coursebook

I am ready



Icebreaker: car; bike

In-text Question

1. No
2. Yes

In-text Question

1. False
2. True

In-text Question

1. Yes
2. No

I am a learner

- A. 1. a 2. a 3. a 4. b 5. b
- B. 1. True 2. False 3. True
4. False 5. True
- C. 1. Troposphere, stratosphere, mesosphere, thermosphere and exosphere.
2. Nitrogen
3. In sedimentation, we allow the impurities to settle down at the bottom of container.
D. 1. The four properties of air are as follows:
i. Air has weight
Air has some weight, although this weight is comparatively less than that of liquids and solids.
ii. Air takes up space
Air occupies space. An inflated balloon appears bigger in size in comparison to a deflated balloon.
iii. Air exerts pressure
Since air has weight, it, therefore, exerts pressure. The air pressure at the mountains is comparatively less than the air pressure at sea level.
iv. Air exerts pressure in all directions.

2. Insoluble impurities are the impurities that do not dissolve in water and can be seen. These impurities can be removed by the methods of sedimentation, and decantation and filtration.

Soluble impurities are impurities that dissolve in water and cannot be seen. These impurities can be removed by methods of evaporation and distillation.

I am a thinker

Accept all relevant responses.

I am an all-rounder

A. English:

1. Rihan will get up early every day and drink a glass of lukewarm water.
2. Rohan will go to a toy shop to fill air in his basketball.

B. Maths:

A: 2

W: 2

C. Social Studies: Hardeep Singh Puri

Students' Worksheets

Worksheet 1

- A. 1. different 2. oxygen
3. outermost 4. troposphere
5. ultraviolet (UV)
- B. 1. False 2. True 3. True
4. False 5. False
- C. 1. →e 2. →c 3. →a
4. →b 5. →d

Worksheet 2

- A. 1. pressure 2. inflated 3. 78 per cent
4. oxygen 5. Humidity
- B. 1. EXOSPHERE 2. MESOSPHERE
3. TROPOSPHERE 4. STRATOSPHERE
5. THERMOSPHERE
- C. 1. True 2. False 3. False
4. False 5. True

Worksheet 3

- A. 1. In filtration, we separate impurities from water by using filter paper. In this, the insoluble impurities collect on the filter paper while the water collects in beaker or container kept below the filter, as filtrate.
2. In decantation, we first allow the impurities to settle down at the bottom of container. Then, without disturbing the sediment that is present at the bottom of

the beaker, we drain the clean water on the top into another beaker.

3. In sedimentation, we allow the impurities to settle down at the bottom of container.
4. Soluble impurities are impurities that dissolve in water and cannot be seen.
5. Insoluble impurities are the impurities that do not dissolve in water and can be seen.

B. water; clean; rainwater; impure; purified

C. 1. No 2. Yes 3. Yes 4. Yes 5. Yes

Worksheet 4

A. Impure; clean; filtered; purified; three

- B. 1. FILTERATION 2. DISTILLATION
3. CHLORINATION 4. DECANTATION
5. SEDIMENTATION

C. 1. Yes 2. Yes 3. No 4. Yes 5. No

Teacher's Worksheets

Worksheet 1

1. a 2. b 3. d
4. b 5. b 6. d

Worksheet 2

1. Substances, such as dirt, impurities, certain living and dead things, dissolve in water and make it impure.
2. We need water for drinking, cooking, bathing, washing and various other activities. Plants also need water for survival.
3. In distillation, water (or any other liquid), mixed with impurities, is heated till it starts boiling. On boiling, the water evaporates and water vapours enter a condenser. In the condenser, water vapour changes into liquid again and collect in a flask (receiving flask) as distillate.
4. Air is a mixture of different gases. Clean air consists of nearly 78 per cent nitrogen, 21 per cent oxygen and less than 1 per cent of argon, carbon dioxide and other gases. Air also contains dust, smoke and water vapour.
5. i. Nitrogen: Plants get nitrogen from the soil with the help of bacteria.
ii. Oxygen: It is used for breathing and burning.
iii. Carbon dioxide: Plants use this gas to make their own food.
iv. Water vapour: It forms clouds and then condenses to fall as snow.

Revision Worksheet

A. 1. c 2. c 3. a 4. a 5. c

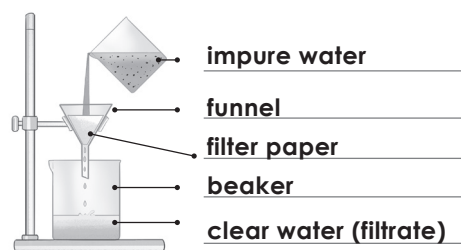
- B. 1. metals
2. public
3. vegetative propagation
4. ultraviolet
5. Soil conservation

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

D. 1. Igneous rocks 2. Metallic minerals
3. Rickets 4. Soil erosion
5. Exhaled air

- E. 1. Electrical energy is generated due to the movement of electrical charges.
2. An architect plans the house according to the space and needs of people.
3. The process of transfer of seeds away from the parent plant is called seed dispersal.
4. Reptiles, such as tortoise and lizards crawl, though they do have limbs. But some reptiles such as snakes have plates that are attached to their ribs. While moving, these plates or scales act as feet and the ribs act as legs.
5. Greenhouse gases prevent the escape of heat from our atmosphere, back into the space, thereby making the surface of the Earth warmer.

F.



- B. 4, 5
 C. 1. should 2. should not
 3. should 4. should
 5. should not

Teacher's Worksheets

Worksheet 1

- A. 1. c 2. c 3. b
 B. 1. F 2. F 3. T
 4. F 5. T

Worksheet 2

- A. 1. Minor burns are painful, yet can be treated at home. One should keep the burned area under running and cold water till pain subsides. Apply an antiseptic lotion or cream to avoid infection. One can also apply baking soda and water instead of antiseptic lotion.
 2. A fracture is a crack or break in a bone. For this, one can use a splint and avoid unnecessary movement at the affected region.

We can make splints from newspaper folds, cardboard or pillows to support the fractured region. A sling, made from a piece of cloth, can also be used.

3. Avoid using water if the petrol caught fire, as petrol will float on water which will increase the flare.
 4. Remove clothing from the affected area. Use plenty of water to rinse off the chemical. Cover the area with sterile cotton or cloth and consult the doctor.
 5. A fracture is a crack or break in a bone. For this, one can use a splint and avoid unnecessary movement at the affected region.

We can make splints from newspaper folds, cardboard or pillows to support the fractured region. A sling, made from a piece of cloth, can also be used.

6. Snake bite injects poison into the body of the victim. This causes a lot of pain and swelling. One should treat the victim immediately otherwise the poison can kill the victim. Apply a tourniquet just above the bite to stop the blood flow to the heart and slow down the spreading of poison. Immediately take the victim to the nearby hospital or a doctor.

Theme 6: Living Together

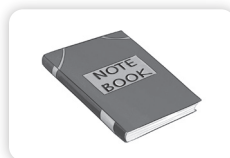
Chapter 11: All About Matter

Main Coursebook

I am ready



Juice



Marbles



Air in balloon

Water

Eraser

Steam from boiling water

Icebreaker: GAS

In-text Question

1. No 2. Yes

In-text Question

1. No 2. Yes

I am a learner

- A. 1. a 2. a 3. c 4. b 5. a
 B. 1. True 2. True 3. True
 4. False 5. True
 C. 1. Molecules are small units of matter, which can be broken down into smaller units called atoms.
 2. Chemical change
 3. A solution is formed when two or more substances mixed together.
 D. 1. **Miscible liquids:** Liquids that can dissolve in each other are called miscible liquids, such as milk and water.
Immiscible liquids: Liquids that cannot dissolve in each other are called immiscible liquids, such as kerosene and water.
 2. **Physical changes:** A physical change indicates a change in the state of matter. These changes are reversible and temporary. For example, the melting of the ice cube.
Chemical changes: A chemical change indicates the formation of a completely new substance. This change is irreversible and permanent. For example, the burning of wood.

4. SOCKET 5. GLIDING

- C. 1. movable joints can move
 2. a joint is the meeting point of two bones
 3. joint provide stability and flexibility to the body
 4. hinge joint is present at the knee and elbow
 5. the ball and socket joints are present at the hip and shoulder

Worksheet 4

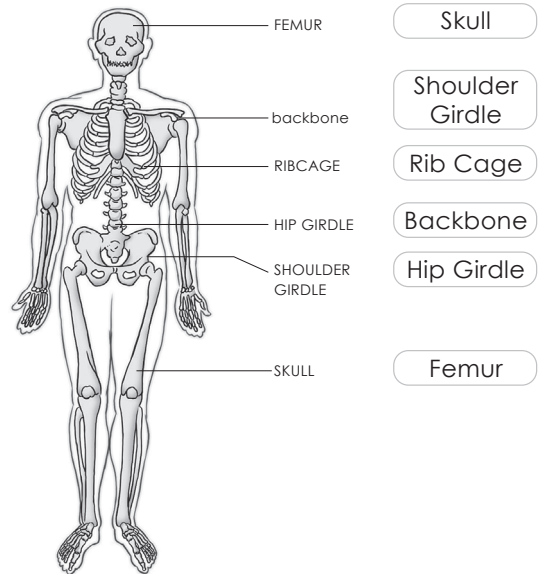
- A. 1. Muscles work by contraction and relaxation.
 2. The muscular system is a system that is made up of voluntary and involuntary muscles.
 3. Voluntary movements are movements that occur when we decide to move them.
 4. Involuntary movements are movements that occur without our decision.
 5. Skeletal, smooth and cardiac muscles.
- B. 1. voluntary 2. muscle
 3. voluntary 4. involuntary
 5. muscular
- C. 1. False 2. True 3. True
 4. False 5. False

Teacher's Worksheets

Worksheet 1

- A. 1. an organ system
 2. 22
 3. vertebrae
 4. 12
- B. 1. Skull 2. Backbone
 3. Rib Cage 4. Rib Cage
- C. 1. It is always advised to wear a helmet while driving a motorcycle. In case of accident, the helmet will protect the brain, as brain is the most important organ of the body.
 2. In that case, we will not be able to touch our knees as the backbone is made up of one single bone.

Worksheet 2



Theme 7: Keeping Us Strong Chapter 13: Our Nervous System

Main Coursebook

I am ready: NOSE; EYES; SKIN; EARS

Icebreaker: NOSE

In-text Question

1. True 2. False

In-text Question

1. No 2. No

I am a learner

- A. 1. a 2. a 3. b 4. b 5. c
- B. 1. Cerebrum 2. Medulla
 3. spinal cord 4. optic nerves
 5. skin
- C. 1. Nerves are thread-like structures that act as a messenger between the brain and the body.
 2. Cerebrum is responsible for the working of the nose, eyes, tongue and ears. The cerebrum also helps us think, learn, remember, recall, speak and emote. In the absence of cerebrum thinking, learning, remembering, recalling and speaking will be affected.
 3. Reflex action is the quick response of the body.
- D. 1. The brain consists of three parts namely, the cerebrum, cerebellum and

medulla oblongata. The cerebrum is responsible for the working of the nose, eyes, tongue and ears. The cerebellum helps in coordinating muscle actions and balancing the body in proper posture. The medulla oblongata forms a connection between the brain and the spinal cord and regulates the involuntary activities of the body.

2. Accept all relevant responses.

I am a thinker

If a person lacks reflex action, then the body would be unable to respond timely to injury or shock.

I am an all-rounder

A. English:

1. smells
2. smoke

B. Maths: 33.5 degrees Celsius; 36.88 degrees Celsius

C. Social Studies: Sunderlal Bahuguna

Students' Worksheets

Worksheet 1

- A. 1. control 2. information
3. three 4. largest
5. 80%
- B. 1. True 2. True 3. False
4. False 5. False
- C. 1 →c 2. →d 3. →b 4. →a 5. →e

Worksheet 2

- A. 1. skull 2. Cerebrum
3. jerky 4. Medulla oblongata
5. Spinal cord
- B. 1. INFORMATION 2. SKULL
3. CEREBRUM 4. CEREBELLUM
5. MEDULLA
- C. 1. C 2. I 3. C 4. C 5. C

Worksheet 3

- A. 1. medulla 2. thread-like
3. Nerves 4. three
5. sensory
- B. 1. MESSENGER 2. NETWORK
3. SENSORY 4. MOTOR
5. MIXED
- C. 1. True 2. True 3. False
4. False 5. False

Worksheet 4

- A. 1. Brain 2. Skull 3. Cerebrum
4. Cerebellum 5. Medulla
- B. spinal cord, medulla, thread-like, Sensory, Motor
- C. 1. CORNEA 2. IRIS 3. PUPIL
4. RETINA 5. OPTIC NERVES

Teacher's Worksheets

Worksheet 1

- A. 1. F 2. F 3. F 4. T 5. F
- B. 1. cerebrum 2. motor nerves
3. sounds 4. thread-like
5. Reflex action
- C. 1. signal 2. heart 3. think

Worksheet 2

- A. 1. To protect ourselves from shocks and injuries, the body needs to respond rapidly. Such types of quick responses are processed by the spinal cord. These actions are called reflex actions. The brain is not usually involved in reflex actions.
2. A clear fluid is present within the space between the brain and the skull and also within the inside of the brain. This fluid acts as a cushion against various injuries and jerks.
3. The nervous system consists of:
 - a. Brain
 - b. Spinal cord
 - c. Nerves and
 - d. Sense organs
4. Nerves are thread-like structures that act as a messenger between the brain and the body. They form a wide network that extends throughout the body. Some of them are directly connected to the brain and others are connected to the spinal cord.
5. The three types of nerves are sensory nerves, motor nerves and mixed nerves.
6. The brain is made up of three parts — the cerebrum, the cerebellum and the medulla oblongata.

Cerebrum: It is the largest part of our brain and constitutes around 80 percent of the weight of the brain. It is responsible for the working of our nose, eyes, tongue and ears. The cerebrum also helps us think, learn, remember, recall, speak and emote.

- B. 1. NEW MOON 2. FULL MOON
 3. WAXING GIBBOUS 4. WANING GIBBOUS
 5. WAXING CRESCENT
- C. 1. True 2. True 3. False
 4. True 5. True

Worksheet 3

- A. 1. The surface of the Moon is rough due to huge mountains, and some round and hollow structures called craters.
 2. When the sunlight falls on the surface of the Earth and the Moon, their shadows form. These shadows are called eclipses.
 3. Artificial satellites are man-made satellites.
 4. 4,500 million years old
 5. 3,84,400 km
- B. one-sixth; heavy; atmosphere; Sun; sound
- C. 1. yes 2. no 3. yes
 4. yes 5. no

Worksheet 4

- A. Rakesh Sharma; in space; spacecrafts; spacesuit; atmosphere
- B. 1. LUNAR 2. SOLAR 3. ECLIPSE
 4. APOLLO 5. CRATERS
- C. 1. no 2. yes 3. yes
 4. no 5. yes

Teacher's Worksheets

Worksheet 1

- A. 1. F 2. F 3. T
 4. F 5. F
- B. 1. Sputnik
 2. communication
 3. 1975
 4. Major Yuri Gagarin
- C. Accept all relevant answers.

Worksheet 2

- A. 1. b 2. b 3. c 4. c
- B. Accept all relevant answers.

Theme 9: From/Signs to Signals

Chapter 15: Artificial Intelligence

Main Coursebook

I am ready



Cannot eat
 Cannot feel



Can eat
 Can feel

Icebreaker

Accept all relevant responses.

In-text Question

1. No 2. Yes

I am a learner

- A. 1. c 2. a 3. c 4. c 5. c
- B. 1. True 2. True 3. True
 4. False 5. True
- C. 1. Self-driving cars are the vehicles that uses AI to sense their surroundings and move safely with little or no human input.
 2. Humanoids are robots that look and act like humans. However, these robots cannot feel, eat, move on its own and grow like the human beings.
 3. Smart-speaker is a voice-activated speaker that uses AI to do everyday tasks.
- D. 1. When machines think, learn and act as humans, it is called Artificial intelligence. With the help of this some fascinating technologies are possible these are namely, humanoids, futuristic space travel, self-driving cars and smart speakers.
 2. Some of the technologies that uses AI are as follows:
- **Humanoids:** Humanoids are robots that look and act like humans. They are the most exciting innovation of AI. Some of the popular humanoids are Atlas, Asimo, Rashmi and Pepper.
 - **Futuristic space travel:** Futuristic space travel involves physical exploration of the space by human spaceflights or by robotic spacecrafts.

- **Self-driving cars:** A self-driving car is a vehicle that uses AI to sense its surroundings and move safely with little or no human input.
- **Smart speakers:** A smart speaker is a voice-activated speaker that uses AI to perform everyday tasks. For example, Alexa (a virtual-assistant system developed by an e-commerce company).

I am a thinker

Accept all relevant responses.

I am an all-rounder

A. English

1. future 2. feature

B. **Maths:** AI analyse the data which makes data handling easier.

C. Social Studies

AI analyse the data and change the way to make the speeches, content and various our modes of communication easier.

Students' Worksheets

Worksheet 1

- A. 1. Artificial intelligence
2. robots
3. space
4. humanoids
5. cheaper
- B. 1. False 2. True 3. False
4. True 5. True
- C. 1. →d 2. →a 3. →e 4. →c 5. →b

Worksheet 2

- A. 1. humanoid
2. Futuristic space travel
3. self-driving car
4. voice-activated
5. Alexa
- B. 1. DATA
2. SCIENTIFIC RESEARCH
3. SPACE EXPLORATION
4. GAMING
5. TECHNOLOGY
- C. 1. C 2. I 3. I 4. C 5. I

Worksheet 3

- A. understand, repetitive, rest, doctors, gaming
- B. 1. ROBOT 2. ATLAS 3. ASIMO
4. RASHMI 5. PEPPER

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

Teacher's Worksheets

Worksheet 1

A. Humanoids

They don't have family
They look and act like humans
They don't have muscles and nervous system
They cannot reproduce
They are made in laboratories
They cannot feel

Humans

They have family
Humans do not act like humanoids.
They have muscles and nervous system
They can reproduce
A human child grows in a mother's womb
They feel through their sense organs

- B. 1. v 2. iii 3. iv 4. ii 5. i
- C. Artificial intelligence is used in our day to day life. It is used in giving on-line shopping recommendations, playing music and also giving the routes having less traffic.

Worksheet 1

- A. 1. The ability to think and learn is called intelligence. When machines think, learn and act as humans, it is called Artificial Intelligence (AI).
2. Humanoids are robots that look and act like humans. They are the most exciting innovation of AI. Countries from all over the world have come up with different humanoid models. Some of the popular humanoids are Atlas, Asimo, Rashmi and Pepper.
3. The arrival of the concept of space tourism has made big companies use AI and work towards making space travel cheaper and safer even for common people.
Futuristic space travel involves physical exploration of the space by human spaceflights or by robotic spacecrafts. There are also attempts to find new planets which can be used for human settlement.
4. A self-driving car is a vehicle that uses AI to sense its surroundings and move safely with little or no human input
5. A smart speaker is a voice-activated

speaker that uses AI to perform everyday tasks. For example, Alexa (a virtual-assistant system developed by an e-commerce company) and Siri (a voice-assistant powered by a multinational corporation that specialises in gadgets).

Revision Worksheet

- A. 1. c 2. a 3. b 4. a 5. a
- B. 1. Moon
2. Pinna or outer ear
3. cartilage
4. blisters
5. Aerated
- C. 1. False 2. True 3. False
4. True 5. False
- D. 1. Major Yuri Gagarin
2. Optic nerves
3. Skeletal muscles
4. Sprain
5. Physical change
- E. 1. A solute is a substance that dissolves whereas a solvent is a substance in which the solute dissolves.
2. Keep the patient upright in such a case with their head held back. Press

the bleeding side firmly and keep an ice pack or wet cloth on the nose and head of the patient. In case of heavy bleeding, consult the doctor.

3. Our backbone is made up of 33 small vertebrae. These 33 vertebrae together form our backbone.
4. The light that enters in our eyes travels from the pupil to the retina.
5. The different phases of the Moon are – full moon, waxing gibbous, first quarter, waxing crescent, new moon, waning crescent, third quarter and waning gibbous.

F.

