

EVS-1

CHAPTER-1

My self

Exercises (Check Yourself)

B. Hobbies, Cartoon you watch.

CHAPTER-2

My family

Exercises (Check Yourself)

A. 1. Cousins

2. Siblings

3. Family members

B. Outing, Gardening

C. 1. Kitchen

2. House chores

3. Study

4. Dusting

D. S I B L I N G S

G R A N D P A R E N T S

M O T H E R

F A T H E R

CHAPTER-3

My Body

Exercises (Check Yourself)

A. 1. Eyes

2. Legs

3. Mouth

4. Hearing

5. Hands

B. 1. Taste

2. Teeth

3. Write

4. Smell

C. 1. Eyes, Ear, Nose, Tongue.

2. Children have 20 teeth.

3. Neck helps us to move our head around.

4. Nose helps us to breathe.

D. **Actions** **Body Parts**

Looked around – Eyes

Waved – Hand

Danced – Feet

Sniffed – Nose

Listened – Ears

Savoured – Tongue

Felt soft – Skin

Smiling – Lips

Olympiad Question : Skin.

CHAPTER-4

Building Habits

Exercises (Check Yourself)

A. 1. Abuse others.

2. Eating stale food.

3. Go away.

B. 1. Thank you

2. Sorry

3. Please

4. Welcome

5. Excuse me.

C. Do it yourself.

D. Do it yourself.

Olympiad Question : Fizzy drinks.

Worksheet Based on Unit – 1

Healthy habits : A, E

Unhealthy habits : B, C, D.

CHAPTER-5

Food we eat

Exercises (Check Yourself)

A. 1. Cereals

2. Energy

3. All of these

4. 2 – 3 litres

- B. 1. (iv)
 2. (iii)
 3. (i)
 4. (ii)
- C. If plant stops flowering, we will not get honey because honey is made from nectar produced by flowers.

CHAPTER-6

The clothes we wear

Exercises (Check Yourself)

- A. 1. Rainy
 2. Cotton
 3. Sheep
- B. 1. Woollen
 2. Costumes
 3. Comfortable
 4. Formal
 5. Uniform
- C. Jammu and Kashmir
- E. 1. Clothes are things which people wear to cover their body.
 2. We wear traditional clothes on wedding.
 3. We wear casual clothes while playing.
- Olympiad Question :** Weather and temperature changes.

CHAPTER-7

Our helping hands

Exercise (Check Yourself)

- A. 1. Fireman.
 2. Porter.
 3. Doctor.
- B. 1. II.
 2. III.
 3. I.
- C. 1. C A R P E N T E R
 2. E L E C T R I C I A N
 3. G A R D E N E R

D. Ambulance – 102

Fire Station – 101

Police – 112

Plumber – Not applicable

- E. 1. People who helps us are called community helpers.
 2. A barber cuts and style our hair. He shaves the beard of the adult too.
 3. Gardener helps us to go green.

Olympiad Question : Barber, Tailor and Cobbler.

CHAPTER-8

Means of transport

Exercises (Check Yourself)

- A. 1. Hot air balloon
 2. Aeroplane
 3. Train
- B. 1. True
 2. True
 3. False
 4. False
- C. 1. Rocket helps the astronauts to go into space.
 2. Car, bus, train, aeroplane.
- D. 1. We need transport to move goods or people from one place to another.
 2. Moving people or goods from one place to other is called transportation.
 3. The three means of transport are :
 (a) Land Transport
 (b) Water Transport
 (c) Air transport

Olympiad Question : Plane

CHAPTER-9

Safety Rules

Exercises (Check Yourself)

- A. 1. needle
 2. Wax colour
 3. The road

4 Answer Key 1 to 5

- B. 1.** (c) Stop
2. (d) Wait
3. (b) Go
4. Zebra crossing.
- C.** Do it yourself.
- D.** Do it yourself.
- E. 1.** Safety means to stay away from harm, danger or injuries.
2. We should follow safety rules to avoid accidents.
3. (i) Follow traffic light and road safety rules.
(ii) Wait for your turn on slides.

Olympiad Question : Pedestrian.

Worksheet Based on Unit – 1

- A. (i)** M I L K
(ii) E G G
(iii) M E A T
(iv) H O N E Y
(v) F I S H
- B. (i)** Postman.
(ii) Teacher.
(iii) Fireman.
(iv) Doctor.
(v) Grocery clerk.
(vi) Police.
- C. 1.** Knife.
2. First aid box.
3. Ambulance.
4. Green.
5. Service animal – Dog.

CHAPTER-10 My Neighbourhood

Exercises (Check Yourself)

- A. 1.** Park
2. Littering the park
3. Fire station
- B. 1.** hospital
2. education
3. Police station
4. Market

- C.** Do it yourself.
D. Do it yourself.
- E. 1.** People who live very close to our house are called neighbour.
2. School, Market.
3. Pharmacy is the place from where we can get medicines.

Olympiad Question :

- (a) Bank (b) Market
(c) School (d) Park

CHAPTER-11 Plants

Exercises (Check Yourself)

- A. 1.** Stems
2. Tulsi
3. Banana
4. Paneer
- B. 1.** B.
2. C.
3. A.
- C. 1.** Cucumber and grapevine always need support to grow because they have weak stem. They can not stand on their own.
2. Tulsi is regarded as a medicinal plant because it cures viral, bacterial and fungal infection of the respiratory system.
- D.** Do it yourself.
- E. 1.** Trees are very big, tall and strong plants. For ex–Mango tree, Banyan tree.
2. Mint, Oregano, coriander
3. Flower, fruits, vegetables, oil, grains.

Olympiad Question : Herb.

CHAPTER-12 Animal

Exercises (Check Yourself)

- A. 1.** Rabbit

2. Stray animal
3. Sheep
4. Bear

- B. 1.** c
 2. a
 3. b
 4. e
 5. d

- C. 1.** Rabbit
 2. Cow

- E. 1.** Animals that live in the jungle or forest are called wild animal.
2. We tame some animals because they can live with us and also they can be beneficial to us.
 3. Farm animals give us some things like milk, wool, eggs etc. They can also be used for riding. Pet animals live with us at our home as our friends.

Olympiad Question :

- (a) Hen (b) Fish
 (c) bear (d) dogs

CHAPTER-13
Celebrations and Festivals

Exercises (Check Yourself)

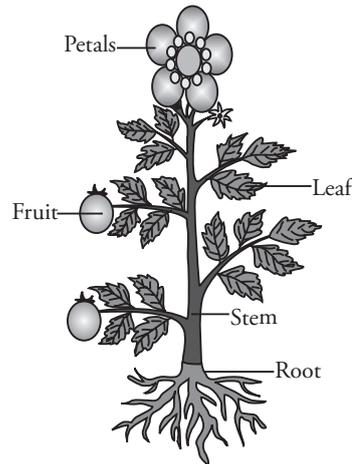
- A. 1.** Eid
 2. Birthday
 3. Gujhiya
 4. Deepawali
- B. 1.** Diwali
 2. Pongal
 3. Makar Sankranti
 4. Raksha Bandhan
 5. 25 December
- E. 1.** The special day which we celebrate with great zeal are called Festivals.
2. Religions Festival – Holi, Deepawali.
 National Festival – Republic day, Independence day.

3. Gandhi Jayanti.
4. We celebrate family functions to share our culture and values.

Olympiad Question : 15 August 1947.

Worksheet based on Unit – 3

A.



- B. 1.** e 2. c
 3. d 4. b
 5. a

- C. 1.** TIRANGA
 2. CREEPER
 3. HOSPITAL
 4. VEGETABLES

CHAPTER-14
Air and Water

Exercise (Check Yourself)

- A. 1.** a 2. d.
- B. 1.** Air 2. air
 3. Parachutes 4. Planting trees
- E. 1.** A strong wind is called storm while soft wind is called breeze.
2. (i) Burning fire crackers
 (ii) Smoke from cars
 (iii) Smoke from factories
 (iv) Burning Garbage
 3. 1. Don't throw garbage in water sources.
 2. Cover drinking water.

Olympiad Question (d)

6 Answer Key 1 to 5

CHAPTER-15

The Earth

Exercises (Check Yourself)

- A. 1.** The Earth
2. Springs
3. Plain
- B. 1.** Forest
2. Aquatic animals
3. Heat and light
4. Earth
5. Hills
- C.** Because the temperature in cold areas drop below the freezing point.
- D.** Do it yourself.
- E. 1.** Water and Jungle.
2. Rivers, Lakes, Ponds
3. The land thickly covered with trees is called forest.
4. The earth is known as blue planet as its most of the surface is covered with water.
5. We get heat and light from the sun.

Olympiad Question Cow

CHAPTER-16

Weather and Seasons

Exercises (Check Yourself)

- A. 1.** Summer
2. Weather
3. Summer
4. Spring Season
- B. 1.** November to January
2. April to June
3. June to August
4. September to October
- C.** She visited in Summer season.
- D. 1.** Weather changes from time to time and place to place. When weather remain same for long time, it is called season.

2. Rainy season
3. Vasant Ritu
Grishma Ritu
Varsha Ritu
Sharad Ritu
Hemant Ritu
Sheet Ritu

Olympiad Question—C. We wear light coloured, half sleeved, cotton clothes.

Worksheet Based on Unit-4

Down Across

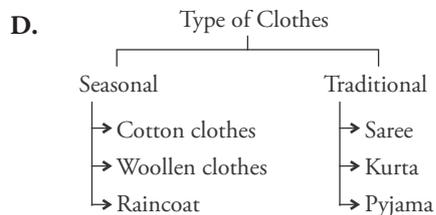
- A. 1.** Forest 3. April
2. River 5. Earth
4. Lotus 6. Sun

- B. 1.** RAINBOW
2. WATERMELON
3. SNOW
4. BUTTERFLY

C. Do it yourself

Competency based Assessment-1

- A.** Do it yourself.
- B. a.** Legs
b. Eyes
c. Skin
d. Nose
- C. a.** Animal
b. Animal
c. Plant



E. Watching a movie, Answering Questions, Tasting icecream, Reading an audio book.

F.

Safety rules at Home

- (a) Do not run up and down the stairs
- (b) Do not play with fire and safety objects
- (c) Don't touch electrical appliances
- (d) Never open the door for unknown people

Safety rules outside Home

- (a) Follow traffic lights and road safety rules
- (b) Wait for your turn on slides
- (c) Do not lean out of the window on a moving vehicle.
- (d) Wear helmet when riding a bike.

G. (a) and (b)

H.1. Skin

- 2. Cobbler
- 3. Porter

- I. 1. Because they are unhealthy food and can make us ill.
 2. Because it does not face any traffic and it functions at very high speed.
 3. Stethoscope, Thermometer, Surgical scissors, gloves.

Competency Based Assessment-2

A.

Places very close to our houses	Places not very close to our houses
Temple, School, Hospital, Park	Bus stop, Railway station, Airport, Post office

B. a. UG

b. AG

c. UG

d. AG

- C. 1. Flag hoisting
 2. Cultural Program
 3. Parades
 4. Singing National Anthem

D.a. Carry goods on its back.

b. guard our house.

c. Give us milk.

- E. 1. For bathing
 2. For cooking
 3. For watering plants
 4. For washing clothes

F. **Spring**—March to May

Summer—June to August.

Winter—December to February.

Autumn—September to November.

G. 1. True

2. False

3. True

4. False

5. True

H.1. Creeper

2. Wind mill

3. Winter season

I. 1. Weather changes from time to time and place to place. And when weather remain same for long time it is called season.

2. Plant provides shelter for animals. Animal gives carbon dioxide, which is used by the plant in respiration.



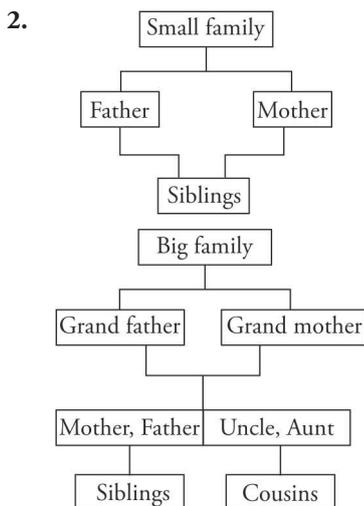
EVS-2

CHAPTER-1

Me and My family

Exercises (Check Yourself)

- A. 1. joint family
2. Paternal grandfather
3. Chacha
- B. 1. True 2. True
3. False 4. True
- C. 1. family members
2. Cousin
3. aunt
- D. 1. Family is a group of peoples who live together and they are related to each other.



3. In a joint family grandparents, uncles, parents, siblings and cousins live together.
4. The family of our parents are also related to each other by birth or by marriage. They are also our family members. The family members also called our Relatives.

Value and life skills: → Do it yourself

Olympiad Question → Paternal great grand father

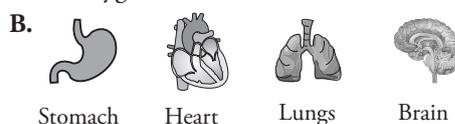
Project → Do it yourself

CHAPTER-2

My body

Exercises (Check Yourself)

- A. 1. inside the body
2. lungs
3. oxygen.



C. Heart and lungs

D. Do it yourself

- E. 1. The body parts which are inside our body, are called internal organs.
2. Ribcage is a hard structure of curved bones. Lungs are protected by ribcage.
3. The main function of stomach is digest to food.
4. 1. It helps to memorise things and maintain balance .
2. It helps us to walk, talk, think, learn, feel etc.

Value and life skill → Do it yourself

Olympiad → Breathing

Project → Do it yourself

CHAPTER-3

Health and Hygiene

Exercises (Check Yourself)

- A. 1. Healthy food
2. Sanitizers
3. All of these

B. 1, 6

C. Ranjan may be exposed to disease as his dirty hands are home to germs and also the unwashed fruits may contain so many germs.

D. Imaginative and creative hands— Do it yourself

E. 1. Germs are tiny living thing that can cause disease. It can not be seen through naked eye.

2. 1. Brush your teeth twice a day.
2. Keep your nails trimmed.
3. The position in which we hold our body while sitting, standing, walking or sleeping is called Posture.
4. We should sleep in a good posture as it helps us to stay healthy.

Value and life skills → Do it yourself

Olympiad Question → Eating vegetables.

Project → Do it yourself

Worksheet Based on Unit

- A.** Across Down
2. Grand father 1. Uncle
 6. Cousin 3. Relative
 7. Brother 4. father
 5. Aunt

B. LUNGS

KIDNEYS

BRAIN

STOMACH

HEART

CHAPTER-4

Food and Health

Exercises (Check Yourself)

- A. 1.** Salad
2. Wash
 3. Three
 4. Supper
 5. Protective food

- B. 1.** Vegetarian
2. Stale
 3. Cereals
 4. unhealthy
 5. Body - building

C. 1. He/she will be called vegetarian.

2. Cereals, potato

D. Do it yourself.

E. 1. The food items that provide us nutrients to keep us healthy food items. For example-fruits, vegetables, juices, etc.

2. fruits, vegetables, whole grains.

3. Food which is no longer fresh and is kept for too long is called stale food.

4. Cereals, Potato

5. (i) Wash your hands before eating.

(ii) Chew well.

Value and life skills → Do it yourself

Olympiad Question → Bread is a processed food item.

CHAPTER-5

Clothes we wear

Exercises (Check Yourself)

- A. 1.** Rayon 2. Cotton flowers
3. Sheep 4. Rayon

B. Answer

(i) → (iii)

(ii) → (i)

(iii) → (ii)

C. Sarees, shawls and turbans are cloths.

D. Do it yourself

E. 1. The unstitched material is called cloth while the stitched dresses are called clothes.

2. Thick fine hair of the animal like sheep, goat, camel, etc, which is used to make woollen clothes, is called fleece.

3. Rayon, Nylon

4. The egg of the silkworm are called cocoons.

Value and life skills → Do it yourself

Olympiad Question → Umbrella.

Project → Do it yourself

D. Do it yourself.

E. 1. Living things are those who drink, breathe air, grow, move and reproduce, for ex-plants, animals, insects, birds, human being, etc.

2. Kite is a non-living thing while bird is a living thing.

3.

	Living thing	Non-living thing
1.	Living things need food and water	Non-living things do not need food and water.
2.	They need air to breathe	They don't need air.

4. Three characteristics of a non-living things are

1. They don't need food, water and air.
2. They don't grow.
3. They don't reproduce.

5. A toy puppy does not drink water because it is a non-living thing. It can't feel thirst.

Value and life skills → Do it yourself

Olympiad Question → C- wood is a living object as it is a natural thing, is incorrect.

Project → Do it yourself

CHAPTER-9 Plants

Exercises (Check Yourself)

A. 1. Sweet Potato 2. Roots

3. perfume 4. fruit

5. Mango

B. 1. trees 2. Climber

3. Mustard 4. Herbs

5. Leaves

C. No, the plant will not survive, It will die because root is the Part of plant, which helps to absorb water and minerals from the soil for photosynthesis. It also helps the plant to stand firmly to the ground.

D. Do it yourself.

E. 1. Climber have thin and weak stem so they can not stand upright on their own.

Creepers have soft and weak stem so they creep on the ground.

2. The part of plant that is above the ground is called shoot system.

3. A fruits help to store food in the plant and protect the seeds.

4. Leaf is called the food factory or kitchen of the plant because leaves prepare food by using water, air, and energy from sunlight.

5. The four uses of plants are:

1. Plant gives us fruits, vegetable etc.
2. Plants are used to make rubber, tyre, paper etc.
3. They give us shade.
4. They also give shelter to birds and some animals

Value and life skills → No, this action is not right because the bird is not harming the tree. There are some birds who live in the hole on the tree so tree is shelter for many of the birds.

Olympiad Question → Rubber Tree

Project → Do it yourself

CHAPTER-10 Animals

Exercises (Check Yourself)

A. 1. milk 2. Sharp

3. flesh 4. Cub

5. Scavengers

B. 1. Joey 2. Pig

3. lamb 4. lamb

5. Cat 6. Calf

7. Hen.

C. Yes, She is partially right she gets confused, as some rabbits are kept as pets while wild rabbits live in jungle.

D. Do it yourself.

12 Answer Key 1 to 5

- E. 1. (a) herbivores → Cow, goat
(b) Scavengers → Fox, vulture
2. Milk producing animals are called milch animals. for examples: Cow, goat
- 3.

	Carnivores	Omnivores
1.	These animals eat flesh of other animals.	These animals eat both plants and flesh of other animals.
2.	for ex-lion, tiger etc	for ex- fox vultures etc.

4. Animals that are kept in farms for farming related activities, for ex- cow, buffaloes.
Animals that are kept at homes for entertainment are called pet animals. for ex-dog, cat, parrot etc.

Value and life skills → Do it yourself

Olympiad Question → Both are grass eaters.

Project → Do it yourself

CHAPTER-11 Know the places

Exercises (Check Yourself)

- A. 1. direction 2. All of these
3. Map 4. North-South
- B. 1. Petrol pump/Gas station
2. Medical facility
3. Airport
4. Bed
5. Restaurant.
- C. 1. NEWS → Notable Event Weather and Sports.
2. North
- D. Do it yourself.
- E. 1. The path that is followed to reach a specific place is called direction,
2. 4 main cardinal direction are : East, West, North, South.

3. (i) Map (Google map)
(ii) Magnetic compass
4. Symbols are small icons or pictures used to represent real things on the map.
5. A map is a drawing of place on a paper. We can find the direction and location of any place with help of symbols

Value and life skills → In the mall, there is a physical maps posted near entrance or in common area. I will suggest him to use that map.

Olympiad Question → Arrow - 2

Project → Do it yourself

CHAPTER-12 Means of Communication

Exercises (Check Yourself)

- A. 1. Communication
2. Television.
3. Newspaper
4. Mobile phone.
- B. 1. Messenger of old days.
2. Use to send message to the people through e-mails using internet.
3. Use to talk to anyone by dialling the right number.
4. Used to listen music, news and other programmers.
- C. He should use radio, television or newspaper as means of communication.
- D. Do it yourself
- E. 1. Sending or receiving of messages is called communication
2. When several modes of communication used to share information with many people at a time, this is called mass communication, For Ex- E-radio, TV, newspaper, radio etc.
3. Smart phone, Computer and Laptop.
4. We can get information about the world through television. We can watch live news, usual events and programmes on T. V.

Value and life skills → The reason could be

1. The deficiency of nutritional value.
2. Bad posture while studying,
3. Using smart phones at break.

Olympiad Question → NEWS PAPER

Project → Do it yourself

CHAPTER-13 My Country

Exercises (Check Yourself)

A. 1. Uttar Pradesh

2. Kiwi
3. Vande Mataram
4. Indian Rupee

B. 1. National Tree (Banyan)

2. National Currency ₹ (Rupee)
3. National flower (Lotus)
4. National Animal (Tiger)

C. 1. The Banyan Tree is declared as the national tree of India, because of its religious, mythical and cultural significance in the country.

2. Every Country has its own national symbol to visually represent their unique identity, culture and values.

D. Do it yourself

E. 1. The symbols that represent the culture, heritage of any nation or country are called national symbol.

2. Shree Bankim chandra chatterjee.
3. The national symbols of India declared in 1950 are—
National flower - Lotus
National fruit - Mango
National Tree - Banyan tree
4. The national bird of India symbolises the joy, grace, beauty and love.
5. (i) It is adapted from lion capital of Ashoka Pillar, Sarnath.
(ii) It symbolises power, courage, confidence and pride

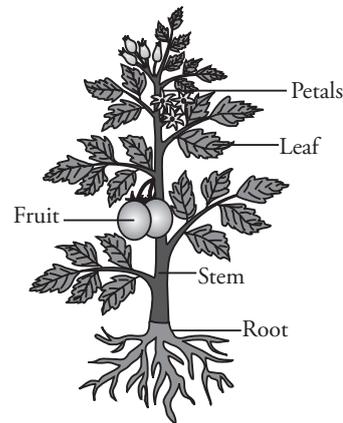
(iii) It consists of dharma chakra in the centre with the motto 'Satyameva Jayate'

Value and life skill → Raman should not throw flower in the river because the flower will get decomposed in the river and it will pollute the river.

Olympiad Question → National Anthem.

Worksheet based on Unit – 3

A.



B. 1.

Dog	frog	lion	cow	horse
Kennel	pond	Den	Cowshed	stable

C. Petrol Pump Medical Airport Bed Restaurant

CHAPTER-14 Air and water

Exercises (Check Yourself)

A. 1. Colour

2. Anemometer
3. All of these
4. River
5. All of these

B. river, turn off, leaks buckets, save water.

C. If there is no water cycle in the atmosphere all the water will be finished from the earth because of evaporation.

E. 1. Three uses of water—

- (i) Drinking and cooking.

14 Answer Key 1 to 5

- (ii) Washing clothes.
(iii) Watering the plants.
2. The three properties of air are—
(i) It has direction.
(ii) It has speed.
(iii) It has force.
3. A pleasant air is called breeze.
4. Storm are very fast moving winds while hurricane are large storm with thunder.
5. (i) Wash fruits, vegetable and dishes in tub.
(ii) Collect rainwater in bucket and use it.
(iii) Reuse the water after washing fruits and vegetables to water the plants.

Value and life skill → We will inform about this to any teacher in the school.

Olympiad Question → The clouds change into rain.

Project → Do it yourself

CHAPTER-15 The Earth

Exercises (Check Yourself)

- A. 1. flat land 2. Sea
3. Deserts 4. Amazon.
- B. Hills, Plateaus, Rivers, Valley
- C. Sea water is not fit for drinking because it contains too much salt which is toxic and harmful to human body.
- D. Do it yourself
- E. Any four land forms are -
(1) Plains (2) Hills
(3) Mountains (4) Valleys
- Any four waterbodies are—
(1) Oceans (2) Seas
(3) Rivers (4) Lakes
2. Valley: A valley is a low land between two hills or mountains.

Plateaus: A plateau is flat land that is higher than the land surrounding it. It is also known as table land.

3. Snow on mountain melts and form rivers.
- 4.

Sea	Ocean
Seas are smaller than oceans	Oceans are the largest water body on the earth

Hill	Plat eau
Hills are high land areas than plains	A plateau is flat land area higher than the land surrounding it.

Value and life skill → I will calmly remind the child about proper waste disposal, and politely ask the child to pick up the litter and put it in a dustbin.

Olympiad Question → Valley.

Project → Do it yourself.

CHAPTER-16 Solar System

Exercises (Check Yourself)

- A. 1. Pluto
2. Third
3. Constellations
4. increase in the size of moon.
- B. 1. Gibbous moon
2. Crescent moon
3. New moon
4. full moon.
- C. 1. As the moon orbits the earth, the sunlight is received to different parts of it, hence the moon appears to change the shape every night.
2. We cannot see the moon in day sky because during day time, Sun's light hides the moon.
- D. Imaginative and Creative hands → Do it yourself

- E. 1. The sun, planets, moons, asteroids, comets etc. make up solar system.
 2. Do it yourself.
 3. Sun looks smaller than the earth because it is far away from us.
 4. Mercury, Venus, Earth, Mars
 Jupiter, Saturn, Uranus, Neptune.

Olympiad Question → Pluto

Project → Do it yourself

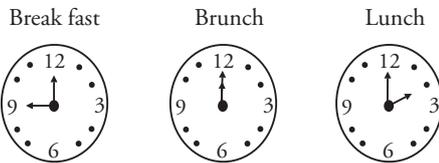
Worksheet based on Unit – 4

1. 1. Hill 2. mountain 3. island 4. river 5. Plateau 6. Pond 7. water fall 8. desert 9. Land
 2. (iii), (v), (i), (ii), (iv)
 3. a. Mountain b. River
 c. Desert d. Lakes

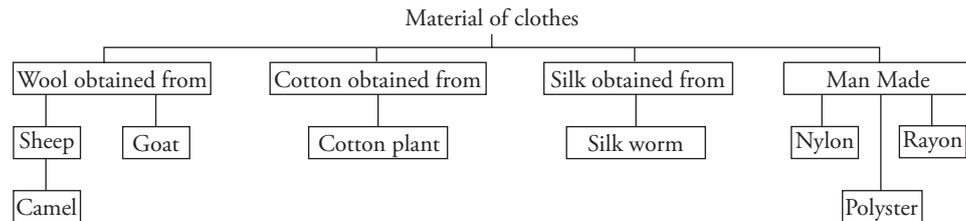
Competency Based Assessment

- A. a. Cousin
 b. Great grand mother
 c. Siblings
 d. Love, help and care

B.



F.

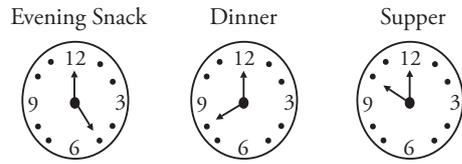


G. Safety rules in school bus—

1. Don't board a moving bus.
2. Don't lean out of window of a moving bus.
3. Wait for your turn to get down from a bus.

Safety rules in play ground —

1. Never push others on swing.
2. Don't go near manholes.



C. 1. Stilt house, flood prone area

2. Igloo, Arctic region
3. House boats, lakes
4. Bungalows, urban areas

D. **Lungs** → Running, jogging, Doing yoga, Dancing.

Heart → Running, Jogging, Doing yoga, Dancing.

Brain → Watching a movie, answering question, spotting birds on trees, playing video game, painting, reading and audio books.

Stomach → Eating fruits.

E. **Energy giving** → Chapati, Barley, potato millets,

Body Building food → Milk, Eggs, pulses.

Protection food → Vegetables, fruits

Safety rules at swinging pools —

1. Take a bath before and after swimming.
2. Use a tube while learning to swim.
3. Don't go in deep water.

H.1. We should not eat stale food because it is the food which has lost its freshness and is no longer suitable to eat.

16 Answer Key 1 to 5

2. Cotton clothes are more comfortable in summer because they absorb the sweat and does not absorb heat.
3. 1. Take a bath
2. Keep your nails trimmed .
4. (i) Vegetables (ii) Fruits
5. (i) 'Stilt house'

Competency based Assessment

A. Tree

B. Koala Bear

C. Telephone

D. Ans is picture no (3)

E. Mountains Hills, Desert, Plateau

F.

Leaves	Flower	Root	Fruits
Spinach	Cauliflower	Radish	Cucumber
Mint	Broccoli	Carrot	Chillies

G.

Work on Internet	Work without internet
E-mail	Letter (Postal mail), Newspapers
Video calling	Verbal talk (Face to face conversation)
Video Conferencing	Land line phone calls

H.

Natural water resources	Artificial water resources
River, Water fall, Rain, lake, sea well, pond	Hand pump, pond, tube well

I. National symbol declared in 1950—

Mango (National Fruit)

Banyan tree (National Tree)

Lotus (National flower)

Lion Capital of Ashoka (National Emblem.)

National Symbol declared after 1950—

Tiger (National Animal)

Peacock (National Bird)

J. 1. Aloe vera

2. Because of it rotates around the earth and part of it which is getting sunlight cause the moon changes its shape.

3. National symbols are important because they represent the unique identity, Cultures and values of a country.

4. It is wrong because it disrupts the natural reproductive cycle of a plant because flower helps in production of seeds.

5. All of these.



EVS-3

CHAPTER-1 My family and I

- A. 1.** (c) single parent
 2. (c) Great grandparents
 3. (b) Identical twins
 4. (a) family
- B. 1.** F 2. T
 3. T 4. T

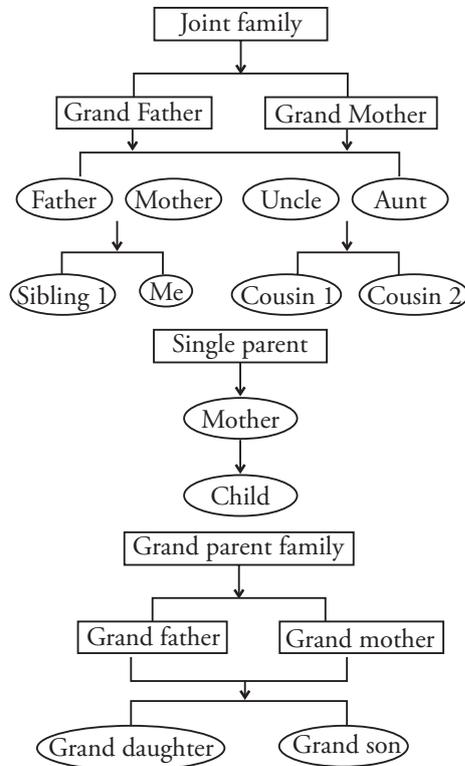
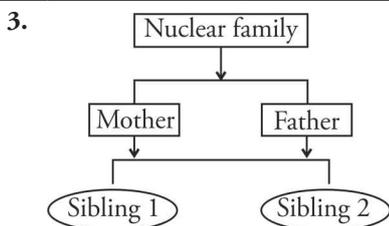
C. Short Answer

1. A group of individuals living together in the same house is a family.
2. A family is important because it gives us care, love, respect and help when needed.
3. Twins are the siblings born at the same time.
4. Nuclear family has both parents living with the child whereas single-parent family has one of the parent living with the child.

D. Long Answer

1. Family tree is important because it shows all the relatives from various generations in a family.

2.	Identical Twins	Fraternal Twins
	Twins that are born at the same time and looks alike are identical twins.	Twins that are born at the same time but does not look alike are fraternal twins.



E. Think and Answer:

Great grand parents are called roots of the family as the family starts from them and make the family strong.

Value and Life Skill

He should give care and love to his friend's great grand parents. Also, help them in their basic life activities as they are old and weak.

Olympiad Question

(d) 1

Project

Do it yourself.

CHAPTER-2 My Body

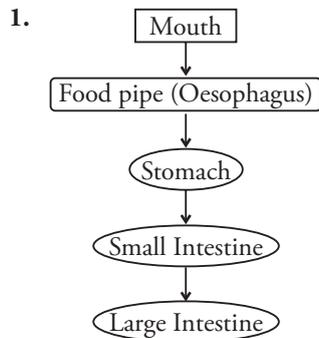
- A. 1.** (c) Trachea
 2. (d) 11
 3. (a) 206, over 650
 4. (b) Nerves

18 Answer Key 1 to 5

B. Answer in one word:

1. Skeletal System
2. Blood
3. Skull
4. Arteries

C. Short Answer



2. Blood vessels are very thin tubes that carry bloods throughout the body.
3. Nerves help brain by sending messages to it through spinal cord and then the brain coordinates all our actions and reactions.
4. The main function of ribcage is to protect stomach, heart and lungs.

D. Long Answer

1. Two organ systems that works together are
(a) Respiratory system
(b) Circulatory system
Respiratory system brings oxygen in the body through nose while circulatory system takes the oxygen to all body cells.
2. Kidneys are bean shaped organs. They are 2 in numbers. Its function is to filter and remove excess salt and water in the form of sweat and urine.
3. The process of breathing involves inhaling and exhaling. When we breathe in the oxygen through nose, it reaches our lungs through wind pipe. It is called inhalation. When we expel out the carbon-dioxide from lungs and then through the nose out of the body it is called exhalation.
4. Arteries function is to carry blood from heart to the other body parts whereas

veins function is to bring blood back to heart from various body parts.

Think and Answer

1. The muscles are the one that works together with the hard bones hence helps in moving the body parts in multiple directions.
2. Because they do more physical activities than the normal person hence they need more food to eat.
3. If saliva production is stopped it can cause various oral health issues like tooth decay, ulcers and also we may face difficulty while chewing, swallowing and speaking.

Value and Life Skill

They should go to him and tries to gather people around them to help. Also call the Ambulance using someone's phone. Heart is the organ that might not be working.

Olympiad Question

(c) Heart, Stomach and Lungs

Project

Do it yourself.

CHAPTER-3 Games we play

- A. 1. (b) outdoor game
2. (a) Table Tennis
3. (b) Chess
4. (c) modern games

B. Answer in one word:

1. Recreational activities
2. Vishwanathan
3. Outdoor games
4. Indoor games
5. PubG.

C. Short Answer

1. **Indoor games :** Ludo, Carrom
Outdoor games : Hockey, Cricket
2. Games are played to get pleasure while sports are played to compete and need special skills.
3. Because the government of India has not officially announced.

4. (a) Leadership Quality
- (b) Teamwork.

D. 1.

Indoor Games	Outdoor Games
<ul style="list-style-type: none"> • It is played inside a room or a building. 	<ul style="list-style-type: none"> • It is played outside the building.
<ul style="list-style-type: none"> • It requires less physical movement. Ex- ludo, Carrom 	<ul style="list-style-type: none"> • It requires more physical movement Ex- Hockey, Cricket

2. Any sport that has cultural significance and deeply embedded in the nation is a national sport.
Nepal's national sport → Volleyball
England's national sport → Cricket
3. Rules while playing games are:
 - (a) Follow the rules of the game.
 - (b) Shake hands with your opposite team.
 - (c) Never cheat or fight.
 - (d) Be a sport if you lose the game.

E. Think and Answer

Because these sports need more space to play and we do not have enough space inside the house.

Value and Life Skill

I will be shocked to know and will try to find if it is true or not. If it is true, I will tell them to practise honesty and fairness.

Olympiad Question

- (a) Cricket

Project

Do it yourself.

**CHAPTER-4
Our food**

- A. 1. (c) Dairy
2. (d) Lettuce leaves
3. (d) Fats
4. (c) shallow frying

B. Answer in one word:

1. Cloves
2. Stem

3. Baking
4. Fruits and vegetables
5. Flat pan

- C. 1. Milch animals are the ones that gives us milk, eggs and honey.
2. Balanced diet is a diet where all the essential food components are available in correct proportion.
3. Food items that we get from animals and can be consumed raw are:
 - (a) Raw eggs → They are sometimes eaten by mixing it with mixing it with milk.
 - (b) Raw fish → It is eaten in the form of 'sushi'.
4. Honeybees collect nectar from flowers and make honey.
- 5.

Baking	Roasting
A process where we make food items like biscuits, cookies by baking them in the oven.	A process where we make food items like Paneer Tikka, Chaap by roasting them on a flame or in microwave.

- D.1. Eating cooked food is advisable because:
 - (a) Cooking kills the germs.
 - (b) Cooking make food softer so it helps in easy digestion.
2. Food items that can be cooked in pressure cooker are - Dal, Vegetables.
Advantages of using pressure cooker are:
 - (a) It takes less time to cook food.
 - (b) It uses less gas or heat to cook food.
3. Three types of pans are:
 - (a) Flat pan
 - (b) Shallow frying pan
 - (c) Deep frying pan

Flat pan → Chapati and Dosa.
Shallow frying pan → Frying vegetables and Cutlets

20 Answer Key 1 to 5

Deep frying pan → Samosas, pakoras etc.

4. Importance of eating food are:
 (a) Makes our muscles, bones and teeth strong.
 (b) Gives us energy and warmth to the body.
 (c) Heals our injuries.
 (d) Boosts our immune system.

E. List to make vegetable pulao

1. Rice
2. Carrots
3. Peas
4. Potatoes
5. Beans
6. Onions
7. Cloves
8. Bay leaf
9. Cumin seeds
10. Salt
11. Chillies
12. Water
13. Coriander
14. Pressure cooker
15. Oil

Olympiad Question

(d) Both b and c

Project

Do it yourself.

Worksheet Based on Unit-1

A. Do it yourself.

B. Colour the pictures given in column 'A' and match them with the correct terms given in column 'B'.

Column A

Column B



Outdoor games

Deep frying

Heart

Small family

**CHAPTER-5
Occupations around us**

- A. 1. (d) all of these
 2. (b) Potter
 3. (d) Wrench

B. Answer in one word:

1. Tailor
2. Plier, Wrench
3. Grocer

C. 1. People doing any job to serve the society and earn money in return is an Occupation.

2.

Occupation	Tools
Tailor	Sewing machine, measuring tape and needles.
Carpenter	Hand saw, claw hammers.

3. Carpenter makes furniture such as tables, chairs, almirah, doors etc.
4. Occupation is needed so as to earn money to meet our basic needs like food, clothes and shelter.

D.1. Profession is a paid occupation that requires proper education and special skills or training. Two professionals that are often interacted by us are teachers and doctors.

2. Child labour is the one where a child below the age of 14 years are forced to work and earn his livelihood due to poverty at home or being an orphanage. Child labour affects the mental and physical growth of the child. It also hinder him from being an educated person. We can see the child labour often at Restaurants, Grocer's shop, supermarkets etc.

F. Think and Answer :

Do it yourself.

Value and life skill

I treat my domestic help with respect and care. I call her Aunty. Also, we treat her as our own family member. We give them food, clothe and also help them by giving some extra money to meet their unseen situations.

Olympiad Question

(c) Vet

Project

Do it yourself.

**CHAPTER-6
Travel**

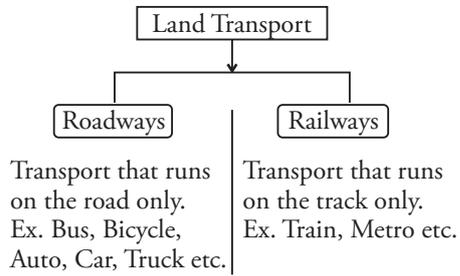
- A. 1.** (b) Nuclear operated ferry
2. (d) Both b and c
3. (b) Monorails
4. (d) All of these

B. Unscramble the given words and write their means of transport:

Ibusramne	Liraoonm	Ttshelu
Submarine	Monorail	Shuttle
Water	land	Air

- C. 1.** Transport means movements of people, goods from one place to another.
2. All means of transport are:
 (a) Land transport
 (b) Air Transport
 (c) Water Transport
3. Space travel is a mean of transport which is used by space organisations.
 Ex- Space shuttle.
4. Trains stop for boarding and de-boarding at Railway stations.
 Planes stop for boarding and de-boarding at Airports.
5. Domestic airports are the one that are used for travel within the country.

D.1.

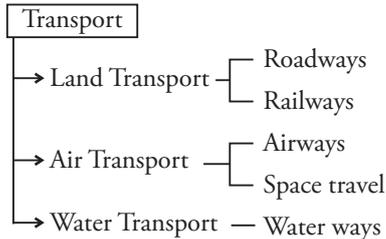


2.

Roadways	Railways
<ul style="list-style-type: none"> Used for short and long distance, door to door. 	<ul style="list-style-type: none"> Long distance, no door to door.
<ul style="list-style-type: none"> Can go almost anywhere, even to Villages 	<ul style="list-style-type: none"> Limited to areas with railway lines.

3. International airports are the one that used for travel outside the country.

4.



E. It is necessary to purchase transport ticket so as to confirm our travel. It helps us to get designated seat to manage crowd etc.

Value and life skill

Do it yourself.

Olympiad Question

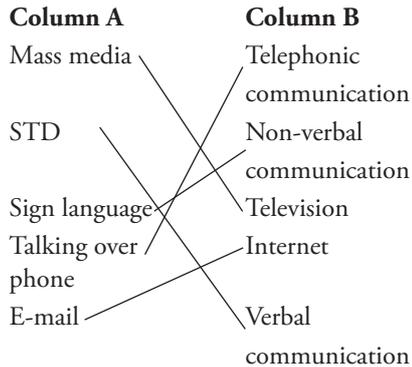


22 Answer Key 1 to 5

**CHAPTER-7
Communication**

- A. 1. (b) postal stamp
2. (c) postman
3. (d) telephone

B.



- C. 1. The process of exchanging ideas, thoughts, knowledge etc is called communication.
2. E-mail or Telephonic conversation
3. E-mails, Instant messaging, video calls.
4. Three Examples of mass media are:
(a) Television
(b) Radio
(c) Newspaper

Uses:

- Television → Used to provide news, knowledge, advertisement.
- Radio → Used to listen talk shows, speeches and music.
- News paper → Used to provide news around the globe, job searches and bollywood news.

- D.1. A letter reaches its destination in following steps:
(a) The stamped letters are dropped in the post box by the senders.
(b) Postman collects the letters and take them to post office for stamping.
(c) The letters are stamped and then sorted according to the delivery address.
(d) The letters are then sent to the destination through different

means of transportation according to the distance of the receiver's location.

2. Non-verbal communication is the one which is done without speaking.
Ex- Sign language, facial expression etc.
3. Deaf and Dumb people communicate through sign language.
4. • Fax machine can work only when it is connected to the telephone.
• The message is scanned and encoded by sending fax machine.
• Transmission happens across telephone network.
• Message is decoded and printed by receiving fax machine.

E. Do it yourself.

Value and life skill

Do it yourself.

Olympiad Question

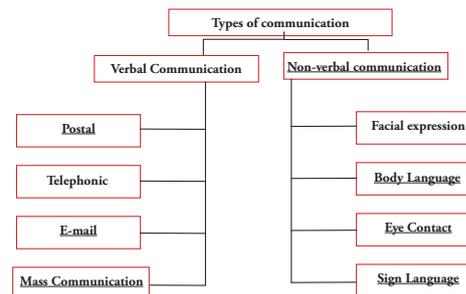
- (a) International Subscriber Dialling

Worksheet Based on Unit-2

A.

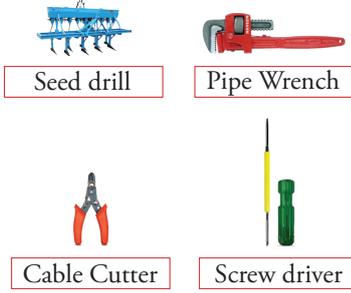
Mode of transport	Bus	Taxi	Auto rickshaw
Fare	Rs. 15	Rs. 50	Rs. 20

B.



- C. 1. To teach
2. To teach patients
3. To design buildings, homes and offices.
4. To provide legal help.

D. Name the given tools:



CHAPTER-8

Living and Non-living things

A. 1. (d) Teddy

2. (d) all of these

3. (a) Paper

B. Answer in one word:

1. Plants 2. Wings

3. Carbondioxide 4. Hen

C. 1. Plant uses carbondioxide to produce food and release oxygen whereas animal uses oxygen to breathe and releases carbondioxide.

2. Carbondioxide, Water and sunlight are needed by plants to make their food.

3. Producing a new one of its own kind is called Reproduction.

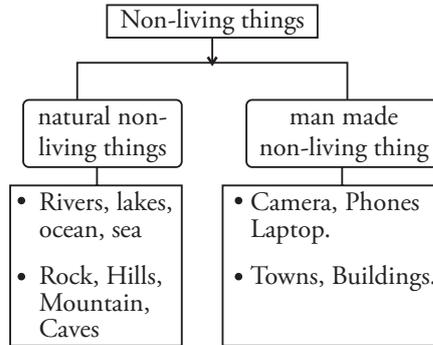
4. (a) Hen, snakes
(b) Human, Dog

D.1.

Trees	Wooden log
(a) It is living thing.	(a) It is non-living thing.
(b) It is a natural habitat to many animal.	(b) It is used as raw material to make furniture.
(c) It is grown from the seeds.	(c) It is a cut down piece of the tree.

(d) It plays an important role in ecosystem.	(d) It is not at all plays important role in ecosystem.
--	---

2.



3. Yes, Siya statement is correct that a flying kite and bird are similar.

Similarities between flying kite and bird are:

- (a) Both are light weight.
- (b) Both are carried by wind.
- (c) Both make the sky looks visually beautiful.

4. A Hatchling is a baby bird that has just emerges from an egg.

E. The cockroach will die in the jar even after keeping the food and water for it because the jar will lack in oxygen for breathing.

Value and life skill

Things that can be done for birds on the roof in summer apart from keeping water are:

- (a) Keeping bird feeders.
- (b) Keeping nesting boxes
- (c) Creating shaded area.

Olympiad Question

Picture A **Picture B**
(b) Living (b) Once alive

Project

Do it yourself.

CHAPTER-9

Plants and Animals

A. 1. (b) Stem

2. (c) Midrib

3. (c) omnivores

4. (b) Amphibian

24 Answer Key 1 to 5

B.

Column A	Column B
1. Pomegranate	a. Flat surface of a leaf
2. Hummingbird	b. Arboreal animal
3. Octopus	c. Terrestrial animal
4. Yak	d. Lives in water body
5. Leaf blade	e. Contains many edible seeds
6. Koala	f. Feed on nectar

C. Answer in one word:

1. Chlorophyll 2. Aerial animals
3. Silkworm 4. Flower

D.1. The process where plants use sunlight, water, and carbon dioxide to create food is called photosynthesis.

2. The process of growing new baby plant from a seed in presence of water, sunlight, nutrients is called seed germination.

3.

Breathing Roots	Aerial Roots
Roots that grow above the ground to fulfill their oxygen need due to lack of oxygen below the soil are breathing roots.	Roots that grow above the ground to support the large and heavy tree to stand are aerial roots.

4. Forest reserves are the areas where government ban the cutting of trees and killing animals.

Two forest reserves of India are:

- (a) Corbett Tiger Reserve
(b) Sundarbans Tiger Reserve

E. 1.

Taproot system	Fibrous Root System
<ul style="list-style-type: none"> It has one thick main root. 	<ul style="list-style-type: none"> It does not have any main thick root.

<ul style="list-style-type: none"> It has thin roots like thread that grows from main root. 	<ul style="list-style-type: none"> It has many thin fibre like bushy roots.
--	--

2. Functions of stem are:

- (a) It transports water, mineral, salt and food to various parts of plant.
(b) It holds the plant straight.
(c) It holds leaves in such a way that helps to reach sunlight.

3. Amphibians are the animals that live on both land and water.

Two characteristics that help them to survive are:

- (a) Their webbed feet help them to swim as well as walk.
(b) Have gills to breathe in water.

4.

Herbivores	Carnivores
<ul style="list-style-type: none"> They are the animals that eat only plants. 	<ul style="list-style-type: none"> They are the animals that eat only meat.
<ul style="list-style-type: none"> They have flat teeth to chew and grind food. 	<ul style="list-style-type: none"> They have sharp pointed teeth to tear their food.

F. Think and Answer:

Reeta is correct. Peas are seeds and pea pods are fruits.

Value and life skill

Two things which are obtained by harming animals are :

- (a) Skin to make leather
(b) Teeth to make necklaces, cutlery handles.

No, it is not a good practise as it takes away life of the innocent animals.

Olympiad Question

- (a) By photosynthesis

Project

Do it yourself.

CHAPTER-10 Insect and Birds

- A. 1. (b) Thorax
 2. (c) Spider
 3. (d) feather
 4. (b) Six

B. Answer in one word:

1. Abdomen
2. Ground
3. Cuckoo
4. (a) Head, (b) Thorax, (c) Abdomen

C. Short Answer

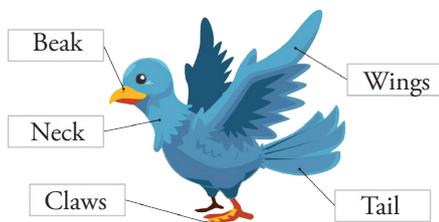
1. Insects are small organisms that have 6 legs.
2. Parts present on an insect's head are eyes, mouth and antenna.
3. Birds make nests to lay and hatch eggs, feed young ones, protect their eggs and hatchling from heat, rain and enemies.
4. Feathers are light weight and soft wings that the birds have on their bodies. 3 Types of feathers are :
 (a) Down feathers (b) Body feathers
 (c) Flight feathers.

- D.1. The birds fly with their flight feathers present on the wings.

The two wings movement of the birds are:

- (a) **Downward stroke:** The bird when flap their wings in downward movement is downward stroke.
- (b) **Upward stroke:** The bird when flap their wings in upward movement is upward stroke.

2.



Functions of the following:

- (a) Beak : To catch and eat food.
- (b) Feet : To walk and grip.
- (c) Claws: Perch on trees and hold the prey.

3. Two useful insects are:

- (a) Honeybees
- (b) Silkworm

Two harmful insects are:

- (a) Mosquitoes
- (b) Yellow wasps

- E. 1. Spiders are not considered as insects because insects have six legs but a spider has eight legs.

Value and life skill

Do it yourself.

Olympiad Question

- (b) Hummingbird

Project

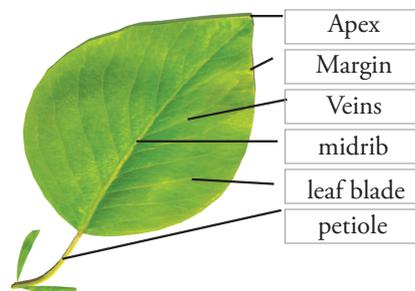
Do it yourself.

Worksheet Based on Unit-3

A.

Parts	Functions
Apex	Tip of the blade
Margin	Edge of the leaf
Veins	Transport water and nutrients
Leaf Blade	Absorbs sunlight for photosynthesis
Petiole	Provide support to the leaf
Midrib	thick, large single vein along the midline of the leaf

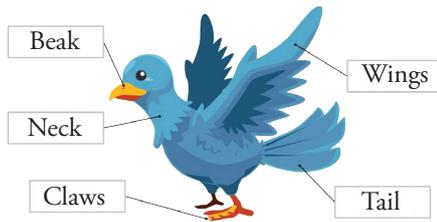
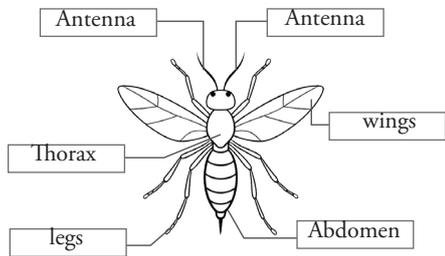
Parts of a leaf



Because they grow, produce food and breathe.

26 Answer Key 1 to 5

B. Write one similarity and one difference between these two.



Similarities between Insect and Bird	Differences	
	Bird	Insect
Wings : It helps them to fly	Legs : It has 6 legs	Claws: It has 2 claws

**CHAPTER-11
Water and Air**

- A. 1.** (c) 3%
 2. (a) water
 3. (a) Nitrogen
 4. (c) Carbon dioxide
 5. (d) Water doesn't have weight

B. Column A Column B

- | | |
|-------------------------|--------------------------------------|
| 1. Rainwater harvesting | a. 21% |
| 2. Groundwater | b. Reduce, reuse, recycle |
| 3. Nitrogen | c. Collecting and storing rainwater |
| 4. Oxygen | d. 78% |
| 5. Carbon dioxide | e. Water beneath the Earth's surface |
| 6. 3R's | f. Photosynthesis |

C. Short Answer

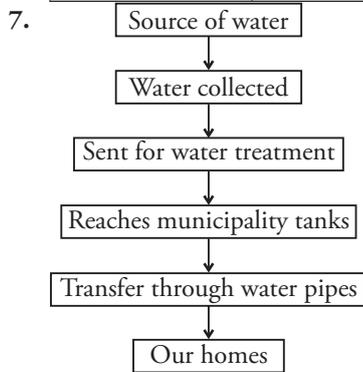
- Sea, River, Lake, Ocean
- Indian, Arctic, Atlantic, Pacific and Southern
- Similarity between ocean & sea : The water is salty.
 Difference between ocean & sea : Ocean is bigger than sea.
- The collection and storage of rainwater is rainwater harvesting.
- Two uses of oxygen gas are : (a) for breathing (b) for burning process.

Carbondioxide and other gases	1%
Oxygen	21%
Nitrogen	78%

- D.1.** The man-made source of water are dams, tube-wells, handpumps, wells. These structures are designed to either capture and store water or to provide water for daily use.
- Four properties of air are:
 - Air contains water vapour.
 - Air has weight.
 - Air occupies space.
 - Air moves.
 - Nitrogen gas helps the plants to grow. This gas is released in the atmosphere when plants and animals die and decay. It also controls burning process.
 - Recycling of water means to purify the used water to make it fit again for use. The water used is sent to water treatment plants for recycling and purifying it.
 - The picture depicts that blue balloon is not blown whereas the yellow one is blown with air. The yellow balloon is heavier and tilted down because it has weight.

6. Air and water are important in following ways:

Air	Water
<ul style="list-style-type: none"> It helps use to breathe. 	<ul style="list-style-type: none"> It is needed to survive.
<ul style="list-style-type: none"> It helps to grow and produce food. 	<ul style="list-style-type: none"> It is needed to meet our daily task like bathing, drinking.
<ul style="list-style-type: none"> It helps to control fire. 	<ul style="list-style-type: none"> It is needed to produce electricity.



- E. 1. The aroma of biryani reached to Raman even being in study room which is at some distance from kitchen because of the spices and vegetables used, that lingers its fragrance in the surroundings while cooking.
2. It is easy to put mark on a foggy front car panel because the air contains water droplets or vapours that creates fog.

Value and life skill

Do it yourself

Olympiad Question

(c) All the rivers discharge their water in the Bay of Bengal.

Project

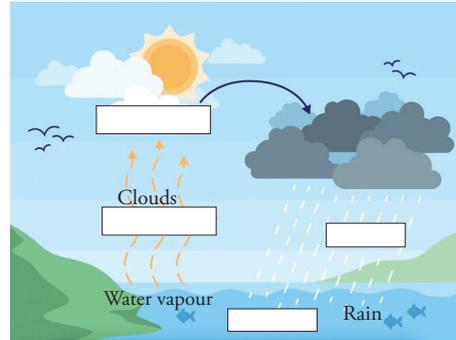
Do it yourself.

**CHAPTER-12
Matter**

A. 1. (a) Air

- (c) water vapour
- (c) rain
- (a) Plastic ball filled with air
- (b) Liquids

B.



C. Short Answer

- Anything that occupies space and has mass is called matter.
- Two properties of a matter are (a) It has capacity (b) It has mass.
- Mass is the amount of matter or substance that makes up an object.
- Container with milk.
- The process by which water changes into water vapour is called evaporation.

D.1. Three states of matter are:

- Solid
- Liquid
- Gas

Difference b/w them are:

Solid	Liquid	Gas
<ul style="list-style-type: none"> It has a fixed shape. 	<ul style="list-style-type: none"> It can change to any shape. 	<ul style="list-style-type: none"> It does not have any fixed shape.
<ul style="list-style-type: none"> It does not flow 	<ul style="list-style-type: none"> It flows. 	<ul style="list-style-type: none"> It occupies space.

- When water from water bodies converted into water vapour because of heat, it becomes cloud. The clouds become heavy and so it rains. The rain water reaches to the water bodies again. This cycle is called water cycle.
- The concept of float and sink:
 - Take one ball filled with air and take one apple.

28 Answer Key 1 to 5

- Take two tubs filled with water.
- Place the ball and apple in each tub.
- You will notice that the ball will stay up in water but the apple will go at the bottom of the water.
- This is because ball is lighter than water hence it floats while apple is heavier than water so it sinks.

Value and life skill

Preventing water scarcity at home, school and society by:

- Turning off the taps when not required.
- Using the used water of homes to water society parks.
- Reusing water for cleaning.

E. Think and answer :

- Both have equal mass.
- because ice melts and converted in water hence it increases.

Olympiad Question

- All matter has mass.

Project

Do it yourself.

CHAPTER-13

Our Environment

- A. 1.** (a) Plant 2. (d) Animals
3. (b) Bicycles 4. (c) Plantation

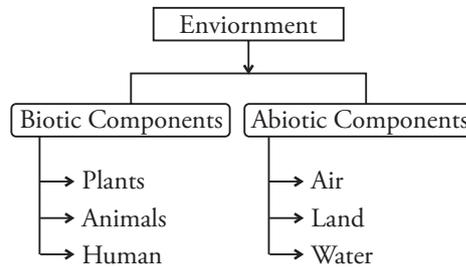
B. Answer in one word:

- Biotic 2. Air pollution
- 22nd April 4. Carbondioxide

C. Short Answer

- Everything in our surroundings like plants, animals, air, land, water is environment.
- Abiotic components of environment are air, land and water.
- Soil pollution means making the soil harmful by adding bad things like garbage or chemicals.
- Plants release oxygen that animals breathe whereas animals release carbondioxide that plant uses.

D.1.



- The contamination of air, water and land by harmful and unwanted substances is called pollution.

Types of pollution are:

- Air pollution
- Land pollution
- Noise pollution
- Water pollution

- 3R's of conservation are:

- Reduce (b) Reuse (c) Recycle

Reduce: Reduction of wastage through turning off the taps, car pooling.

Reuse: Reusing used water to water the plants. Reusing old clothes for dusting.

Recycle: Recycling newspaper, plastic bottles to make comb etc.

- Water pollution is caused by dumping garbage and harmful substance directly into water bodies.

Prevention in below ways:

- Stop washing clothes, utensils and bathing animals in water body.
- Stop dumping garbage in water bodies.

- E.** (a) Both plants and animals are dependent on each other.

- We require clean and hygienic water to drink.

Value and life skill

Their action will harm the environment. In such situation, Siya and Raman should make sure to travel together through car pooling.

Olympiad Question

- Dumping garbage in water bodies

Project

Do it yourself.

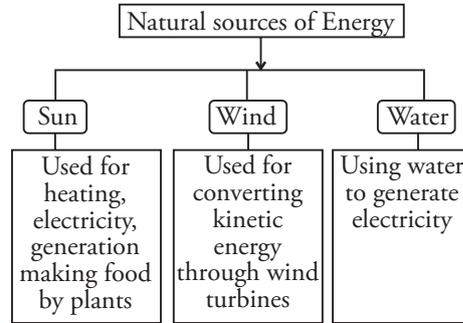
CHAPTER-14

Let's get Energised

- A. 1.** (a) food
 2. (b) photosynthesis
 3. (b) Nuclear Reaction
 4. (d) All of these
- B. 1.** Heat energy 2. Wheat
 3. Glucose 4. Nuclear
- C. Short Answer**
- The ability to do work is called energy.
 - lifting the book from ground.
 - Our body gets energy from the food we eat through the process of digestion and metabolism.
 - (a) Batteries (b) capacitors (c) lightning (d) appliances.
 - (a) Electrical energy
(b) chemical energy
- D.1.** Food is necessary because:
- To get energy to perform any task.
 - To get nutrients that are required to repair our body automatically.
 - For growth and development.
 - To maintain overall health and well being.
- 2. It's all about Energy**
- Energy is the ability to do any work. We need energy for all the task either basic or complex. Energy is required for even sleeping. If we do not have energy, we will feel very low and would not be able to perform any task for our daily well being that's why energy is very important.
- 3.** Plants obtain energy from sunlight through photosynthesis while animals and organisms depend on plants and

on each other to get energy. They utilise the energy by performing various task.

4.



- E. 1.** Skipping breakfast is not advisable as it is one of the most essential meal of the entire day. If we skip it, it slow down our metabolism rate and hence causes weight gain.
- 2.** If nuclear reactions do not take place on sun's surface then sun would shrink due to gravity and the sun would become dwarf, cold and dark.

Value and life skill

Ways to save energy at home are :

- Switch off lights and fan when not in use.
- Replace old light bulbs with energy efficient LEDs.
- Unplug Electric devices.
- Utilize natural light instead of artificial lights.

Olympiad Question

- No, sunlight is mandatory for plants to grow.
- Microphones

Project

Do it yourself.

30 Answer Key 1 to 5
Worksheet Based on Unit-4

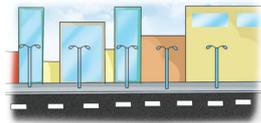
A.



Air Pollution



Land Pollution

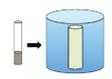


Road Pollution

Type of Pollution	Its main cause	One prominent effect
Air Pollution	Smoke, dust, gases	Skin diseases
Water Pollution	Dumping waste in water bodies	Unfit water causes diseases
Land Pollution	Dumping plastic waste in soil	Infertile land

B.

Instruments	Image	Measuring
	Barometer	Air Pressure
	Thermometer	Temperature

	Anemometer	Wind Speed
	Weather rane	Wind direction
	Rain gauge	Amount of rain

C.

		
Solid	Gas	Liquid
		
Solid	Gas	Liquid

 ?

No Yes



Thoughts Cupcake

No Yes

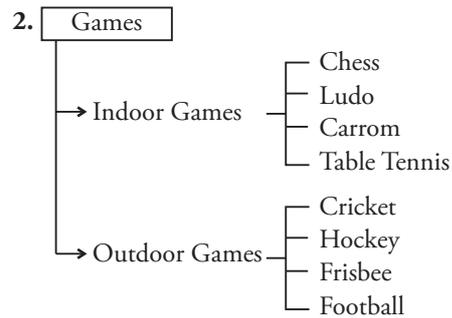
 

Dreams Spill juice

Competency Based Assessment-1

- A. 1. (d) Respiratory system
2. (a) Ludo

3. (a) buy tickets
 4. (b) communicate
 5. (d) Sweeper
- B. 1. T 2. T**
3. T 4. F
5. T
- C. 1. Cousins**
2. mouth
3. unhealthy
4. Cowasjee Nanabhoy Davar
5. regular, speed post
- D. Short Answer**
1. Relatives that are from the sides of mother are maternal relatives.
 2. All the parts of digestive system are mouth, foodpipe, stomach, small intestine, large intestine, anus
 3. E-mail is the system of exchanging messages electronically over computer networks, including the internet.
 4. We should play games to relief ourselves from stress and to enjoy.
 5. We should avoid street food because of its unhygienic preparation methods, unhealthy products used, and risk of contamination.
 6. Car pooling is sharing car with others to reduce environmental pollution and to decrease travel expense.
- E. 1. Process of Digestion of food.**
- We eat food through mouth where chewing occurs with the help of teeth and saliva to make food slimy.
 - Then food reaches to stomach through food pipe.
 - In stomach, digestion takes place with the help of digestive juices.
 - Then undigested food reaches in small intestine for digestion. Nutrients are absorbed.
 - Later the food reaches to large intestine. The water is absorbed from undigested food and water is moved forward to Anus.



- 3. Road ways:** It is the most common means of transport to cover short distances. It provides door to door service, making it convenient. We can use multiple vehicles like car, trucks, rickshaw, autos, cycles, motorbike.
- Railways:** It is commonly used to travel for long distance in budget. It is used to transport goods and main benefit is that there is no issue of traffic.
4. Ways to show love and care for disabled people are:
- (a) Never make fun of their short coming.
 - (b) Always be respectful and help them in every mean you can.
 - (c) Always prioritise them in the queue or any place to reduce their discomfort.
 - (d) Do not ask them about their disability as it might trigger their pain.
 - (e) Always provide your seat when they are travelling with you in public transport.
5. When a person does something regularly in order to earn money is called occupation.

Occupation	Tools
(a) Farmer	Tractor, Plow
(b) Electrician	Screwdriver, pliers
(c) Doctor	Stethoscope, syringe

6. Our heart is located in the middle of the chest. It is primarily protected by the ribcage which forms a bony shield around the chest cavity. The function

32 Answer Key 1 to 5

of our heart is to pump blood through out the body.

F. Think and Answer (HOTS)

Do it yourself.

G. Diagram based questions.

Do it yourself.

Competency Based Assessment-2

- A. 1.** (c) Wood log
2. (a) Downstroke
3. (a) 5
4. (a) Mass
5. (d) All of these

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

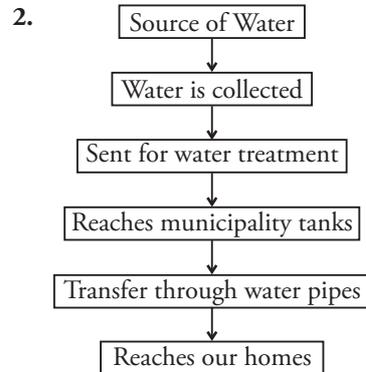
- C. 1.** Carbondioxide
2. 6
3. shape
4. east

D. Short Answer

1. Flowers of garland are living because it contains living cells and photosynthesize for a period. It will die eventually without the support of parent plant.
2. Carnivores have sharp teeth to tear the flesh apart.

3. Two main characteristics of an insect are (a) It has 6 legs, (b) It has 3 body parts.
4. The main source of light energy is Sun. Plants need light energy to prepare food through photosynthesis.
5. It is a concept of understanding how shadows are formed when light is blocked by an opaque object.

- E. 1.** No, Spider is not an insect because it has eight legs while the insects have six legs only. Also, spiders do not have antennae whereas insects have.



3. Shadow are formed when an object blocks light from reaching a surface.
4. Do it yourself.

F. Think and Answer :

Do it yourself.

G. Diagram/Picture based Questions

Do it yourself.



EVS 4

CHAPTER-1 Adaptive flora

Exercises

- A. 1** aquatic plants
2. Lotus
 3. Potato
 4. Submerged plants
 5. Stems
- B. 1.** fixed **2.** Conifers
3. Floating **4.** Mangroves
 5. Coniferous
- C. 1.** Adaptation is ability of plants and animals to adjust themselves to the surrounding in which they grow.
2. The place and conditions required for plant and animal to grow and survive are called their habitat.
Example of artificial habitat– Aquarium.
 3. Plant that grow on hills and mountains are known as conifers.
 4. Water hyacinth floats on water while lotus floats on water's surface and lower body remains fixed to the bottom of the water body.
 5. The fruit that coniferous plants bear are called cones.
- D. 1.** Some plants eat insect to fulfil their shortage of nitrogen.
- 2.

Submerged plants	Fixed plants
1. They have narrow, thin leaves without stomata	Stomata is on the upper surface of the leaves
2. They have hollow and light weight stem	They have delicate and fixable stem

3. The desert plants have thorns and spines instead of leaves to reduce the

water loss through transpiration.

4. In some plants, leaves remain green throughout the year and so they are called evergreen trees.
 5. Hilly plants do not bear flowers. Instead, they bear fruits, called cones. That is why, they are called conifers.
- E. 1.** Mangroves are plants, that grow in marshy or swampy areas.
- As these plants grow in sticky and clayey soil, air can not reach under the ground due to clayey soil. Therefore, the roots of these type of plants are above the ground to breath. Hence, they are called breathing roots.
2. Three characteristic of evergreen trees are as follows:
 - (i) They have broad leaves.
 - (ii) Their leaves remain green throughout the year.
 - (iii) They do not shed all leaves together
 3.
 - (i) Hollow and light-weight stems help leaves and flower float.
 - (ii) Leaves are wax wated to repel water and to prevent them from rotting. on the upper side of the leafe.
 4. **Similarity**– Both terrestrial plants and aquatic plants perform photosynthesis to make their food using sunlight, carbon dioxide and water

Difference–

- (i) Terrestrial plants grown on land while aquatic plants grow in water.
- (ii) Terrestrial plant have strong stem and developed root system while aquatic plants have flexible stem and have floating or reduced roots to survive in watery environment.

34 Answer Key 1 to 5

5.

Types of terrestrial plants	
→	Plants that grow on hills or mountains. For ex- Spruce, Apple etc.
→	Plants that grow in plains. For ex- Mango tree, Neem tree
→	Plants that grow in deserts. For ex- Cactus, Succulent etc.
→	Plants that grow in heavy rainfall area. For ex- Rubber and Teak tree.
→	Plant that grow in coastal area. For ex- Coconut and Palm tree.
→	Plants that grow in marshy areas. For ex- Mangroves etc.

- F. 1.** Desert plants do not have leaves. They make their food by using their green, fleshy stem.
2. If we accidentally put our finger on the leaves of venus fly trap, the lid will close and our finger will get into Venus fly trap plant. If our finger remains stuck in for a long time it will get dissolve.
3. Some plants have waxy coated leaves to repel water or snow and to protect themselves from rotting.
4. Paddy plants don't have broad leaves, but they grow in heavy rainfall because in heavy rainfall area, plant have broad leaves to make transpiration better. But Paddy plants requires more water so to decrease the transpiration rate paddy plants have narrow leaves.

Olympiad:

Hilly Area.

Project :

Do yourself.

**CHAPTER-2
Field to plate**

Exercises

- A. 1.** nutrients 2. Jute
3. South India 4. Assam
5. Millets.
- B. 1** Sowing
2. Plantation agriculture
3. Shifting agriculture
4. Sickle
5. Kerala, Karnataka
- C. 1.** Crops that are grown for human consumption are called food crops. For examples– Wheat, Rice, Maize etc.
2. The process of watering the fields is called irrigation.
3.

Subsistence Agriculture	Commercial Agriculture
In this type of agriculture the farmers cultivate crops to meet their family needs. They do not sell their crops	In this type of agriculture crops are cultivated on large scale to sell them in the market to make money.

4. It is the process of removal of husk from the grains.
5. Farmers protect their crop from pests and insects by spraying pesticides and insecticides on their crops.
- D.1.** Agriculture is the cultivation of soil for growing crops to obtain food and raw material
- The following steps are involved in agricultural process.
- (i) Ploughing (ii) Manuring
(iii) Sowing (iv) Irrigation
(v) Protection (vi) Harvesting
(vii) Threshing (viii) Winnowing

2. **Types of Soil**
- Sandy Soil**
It is good for drainage system.
 - Silt Soil**
It is used to improve soil fertility.
 - Clay Soil**
This soil has very good water storage capacity
 - Loamy Soil**
It contains all the type of soil material. It retains moisture and nutrients.
3. Soil is the uppermost layer of the Earth's surface. The main components of soil are minerals, organic material, water, air, microorganism. The texture of the soil depends upon sand, silt and clay present in it. The leaves and other debris of plant and animals waste decay and mixed with the soil, It forms humus.
4. **Cash crops**— Crops that are grown for sale to earn a profit are called cash crops. For examples jute, cotton, tea, coffee etc.
- Cotton**—
- (i) Cotton is obtained from cotton plants.
 - (ii) The product produce by cotton is cotton clothes.
 - (iii) Season of crop cultivation is Kharif season (June to October).
 - (iv) It is mainly cultivated in Madhya Pradesh, Gujarat, Maharashtra, Haryana, Punjab, Andhra pradesh and Tamil Nadu.
5. Loamy soil is the combination of sand, silt, clay. It is also called the best type of soil because it contains all types of soil material. It has ability to retain moisture and nutrients.

- E. 1. Jute fibre is known as golden fibre because it has brown colour.
2. Yes, we can grow rice or paddy in the month of May-June because in May - June monsoon starts and this is a water - intensive crop and rice grow best in warm and humid region.
3. Manuring is important to increase the fertility of the soil. It adds all the essential nutrients to the soil.

Value and life skill:

- D.1. We will provide them food and essentials.
2. Help them to access government help for compensation.

Olympiad:

July to October

CHAPTER-3

Richy Rich Plants

Exercises

- A. 1. Seeds 2. grains
3. All of these 4. Flowers
5. legume.
- B. 1. Vegetables 2. Cereals
3. Pulses 4. fruits
5. Nuts 6. Oil seeds
- C. 1. Any potable liquid other than water, such as tea, coffee, milk, juices, soft drink etc are called beverages.
2. Cereals are grass cultivated for its edible seed. It has carbohydrates, vitamins, proteins and minerals in it. Any two cereals we have at our home are— (i) Rice (ii) Wheat.
3. Any two medicinal plants are :
- (i) Tulsi— It is used to cure diseases like flu, cold, cough etc.
 - (ii) Turmeric— It is used to prevent infection at the site of injury. Also in diseases like cold, cough etc.
4. Some seeds are called oilseeds because they are mainly grown for producing oil. Two oilseeds are— (i) mustard seeds, (ii) sesame seeds.

36 Answer Key 1 to 5

D.1. Parts of plants that can be eaten as vegetable are roots, stems, leaves, fruits and flowers.

Leaves as vegetable– Spinach, cabbage etc.

Flower as vegetable– Cauliflower, broccoli etc

Fruits as vegetable– Tomato, brinjal etc

Stems as vegetable– Sweet potato, potato etc.

Roots as vegetable– Ginger, turmeric etc.

2. Spices– Spices are the main ingredients of Indian cuisines. We get spices from different parts of plants. Such as.

Flower as spices– Cloves, saffron

Seeds as spices– Cumin, coriander

Fruits as spices– Cardamom

Leaves as spices– Bay leaf

Bark as spices– Cinnamon

Roots as spices– turmeric, asafoetida

Oilseeds– Oilseeds are grown mainly for producing edible oil. They are rich source of fats, minerals, fibre and vitamins. They give us energy.

Some common oil seeds are–

Mustard seeds, almonds, sesame seeds, sunflower seeds etc.

3. Some plants have medicinal properties and hence they are used to cure common diseases.

(i) Tulsi– Boost immunity, treats cough and cold.

(ii) Neem– It has antibacterial and antifungal properties. It is used in curing skin problems and purifies blood.

(iii) Turmeric– It is used to improve digestion and to cure wounds.

E. 1. We get rubber, cotton, jute, bamboo, dyes and raisin etc.

Value and life skill:

Yes, because if we waste food on daily basis, it will require more production of food, so increase the production, the farmer is

forced to use chemicals to increase the speed of production.

Olympiad Question:

(d) is incorrect sentence.

Project:

Do yourself.

Worksheet - 1:

A. Plants are used by people in their everyday life in many ways.

1. Plants keep air clean.
2. Plants give us food to eat
3. Plant gives us medicines
4. Plant gives wood to build house

B. 1 Cauliflower, Broccoli

2. Carrot, Radish
3. Lady finger, peas
4. Spinach, Cabbage
5. Potato, lemon grass

C. 1 Plough the soil to remove weeds and stones by oxen and tractor.

2. Add manure and fertilisers to increase the fertility.
3. In the ploughed field, seeds are scattered.
4. After sowing, irrigate the soil for seeds germination.
5. Spray the pesticides and insecticides to prevent crop from pests and insects.
6. After the crop is mature, farmer cuts the crops and collect them.
7. After harvesting, farmer separate the grain from husk. This is called threshing.
8. After that, he separate the grain from husk by falling the grain from height and hush and dirt blow away.

**CHAPTER-4
Animal Parade**

Exercises

- A. 1.** arboreal **2.** Pigeons
3. Parasites **4.** 5-10 years
5. Both B and C

- B. 1.** Amphibians **2.** Gills
3. Tadpole
4. Sharp tearing teeth (Canines)
5. Emu

C. 1. The life cycle is the series of changes that occur in an organism since their birth.

2. Some animals go on long sleep during winters, as it is very difficult for them to find food. This is called Hibernation.
3. Amphibians are those animals that live both on land and water. for ex- frogs, crocodiles etc.
4. Lice and ticks are called parasites because they get their food and nutrition by living inside or outside the body of other living organism.
5. The process of developmental changes in an organism from their young stage to an adult stage is called metamorphosis.

D.1 Based on their food habits animal are divided into five categories :

- (a) Herbivores- Animals that eat plants are called herbivores. For ex- Cow, deer etc.
- (b) Carnivores- Animals that eat flesh of other animals are called carnivores. For ex- Lion, tiger etc.
- (c) Omnivores- Animals that eat both plants and animals are called omnivores. For ex- Crow, dog etc.
- (d) Parasites- Animals that get their food by living inside or outside the body of the other living organism are called parasites. For ex- lice, tapeworm etc.
- (e) Scavengers- Animals which feed on the dead bodies of other animals. For ex- Vulture, Jackal etc.

2. (a)

<u>Aerial animals</u>	<u>Arboreal animal</u>
1. Aerial animals spend most of their time in air.	Arboreal animals spend most of their time on trees.

2. Their forelimbs are modified into wings which help them to fly.	Their limbs are strong to hold the branches.
--	--

(b)

<u>Scavengers</u>	<u>Parasites</u>
1. They get food from dead body of other organism.	They get food by living on or inside the body of other organism.
2. For ex-Crow, vulture etc.	For ex- Lice, Tapeworm etc.

3. Polar bear have thick fur on their body to protect them from low temperature and to keep them warm.

While Desert animals do not have thick fur so that they can trap less heat.

4. Life cycle of a butterfly-

- (1) A butterfly lay its eggs on the leaves or stems of plants
- (2) Egg hatches into larvae or caterpillar.
- (3) Caterpillar shed its old skin and grows a new one. This is called moulting.
- (4) Caterpillar changes into pupa and it is covered with a hard covering cocoon.
- (5) Cocoon of the pupa breaks and adult butterfly comes out.

E. 1 The eggs of frogs have jelly like covering to protect them and to help them to breathe underwater.

2. No, human being cannot live like aerial animals or amphibians because their bodies are not adapted to fly in the air or to live in the water.

Olympiad Question-

They both are aquatic animals.

Project:

Do yourself.

CHAPTER-5 Human body system

Exercises

A. 1 20

2. 32

38 Answer Key 1 to 5

3. oesophagus 4. Ureter
5. Urinary bladder

B. 1. Kidney– Filter and helps in removal of wastes from blood and produce urine.

2. **Heart**– It pumps blood to all parts of the body.

3. **Canines**– They are used for tearing the food.

4. **Small intestine and large intestine**– Small intestine digests the food and absorbs the nutrients into the blood. Large intestine absorbs the water from the food with no digestion and forms solid waste.

C. 1. Kidney 2. Urethra

3. Capillaries 4. Large intestine

5. Enamel

D. 1. Arteries carry pure and oxygenated blood from the heart to various parts of the body.

2. The process of removal of waste out from our body is called excretion.

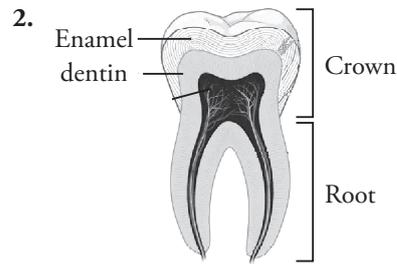
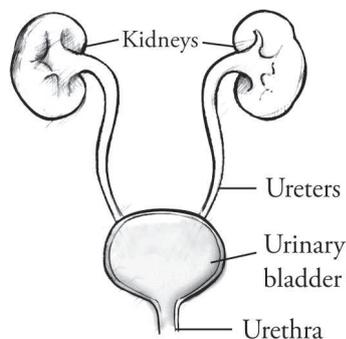
3. The process of breaking down of food particle into smaller, simpler and soluble substance is called digestion.

4. Four kinds of teeth are–

- (a) Incisors
(b) Canines
(c) Premolars
(d) Molars

5. Capillaries are one of the three type of blood vessels in our body. These are the finest tube which form a network between arteries and veins.

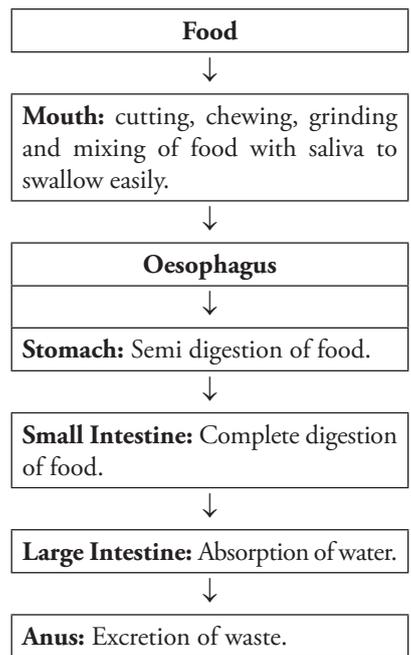
E. 1.



3. There are four types of teeth :

- (a) **Incisors**– They are used for cutting food into small pieces.
(b) **Canines**– They are used for tearing the food.
(3) **Premolars**– They are used for crushing and grinding the food.
(d) **Molars**– They are also used for grinding the food.

4.



5. (a) A pair of kidneys remove waste product from blood and produce urine.
(b) Urine is transported to urinary bladder from kidney through Ureters.
(c) Urinary bladder stores urine and excretes it out through urethra.

- F. 1. We are not advised to eat chocolates and candies because germs grown between our teeth are feed on sugar particles and produce an acid that damage the enamel and form a hole in the tooth. This is called tooth decay.
2. Circulatory system is known as transport system of our body because it helps to transport nutrients mixed in the blood through out the body.

Value and life skills

He should first make her calm, and then he should call emergency services and help her to sit in comfortable position. Also, he should offer her some water.

Olympiad Question

Excretory system.

Project

Do yourself

CHAPTER-6

Material Matters

- A. 1. Wool 2. Silkworm
3. Cotton 4. Transparent
5. Clay
- B. 1. Metal and plastic
2. Metal
3. Metal, Plastic and Rubber
- C. 1. The source of wood are shrubs and trees. Two objects made of wood are—
(i) Furniture
(ii) Paper
2. Glass and ceramic objects both are delicate and breakable.
3. Metals are found in the Earth. People dig out metals from mines. There are different kind of metals like gold, silver, aluminium etc.
4. Two properties of wooden chair are—
(i) It is hard and strong.
(ii) It does not create any pollution.
5. Fabric is a cloth made up of different fibres like cotton, wool, silk etc.
- D.1. Three types of fabrics that we use to make clothes are—
(i) Woollen clothes— Woollen clothes are made by knitting the wool fibre. Wool fibre is obtained from the fleece of some animal such as sheep, yak, camel etc.

- (ii) Cotton clothes— Cotton fibres are woven to make cotton clothes. Cotton is obtained from the fruits of cotton plant.
- (iii) Silk clothes : Silk clothes are made by spinning the silk fibre. It is obtained from the cocoon of silkworm.

2.

Types of Material	
→	Wood: It is obtained from shrubs and trees.
→	Rubber: It is obtained from Rubber plant.
→	Fabric: 1. Silk 2. Cotton 3. Wool
→	Glass: Transparent material
→	Metal: Found from Earth
→	Ceramic: Made by baking clay.
→	Plastic: It is non-biodegradable and causes pollution.

3. Four main properties of material are—
(i) Float— Plastic and wood floats on water surface
(ii) Strength— Metal are strong and stiff
(iii) Breakable— Glass can break easily as it is not flexible
(iv) Hard and non-flexible— Wood is hard and non-flexible.
4. Rubber is a plant product obtained from rubber tree. It is the sap of the rubber tree. Rubber is used to make many objects like eraser, rubber gloves, rubber bands, toys, balloons etc.
5. Mixed fabrics are obtained by blending two different kind of fabrics. For Ex— Terry cotton and terry wool.

40 Answer Key 1 to 5

- E. 1. Glass material is used to make window panes because it is transparent so light can easily enter through it.
2. If the tyre of vehicles are made of plastic then there will be no flexibility. The vehicle will not run smoothly. Also, it will break because of its non-flexibility.

Value and life skills

I will advise them to not throw garbage on the ground as it is non bio-degradable. Hence, it will harm the environment causing pollution.

- I will start a campaign with my friends to make people aware of harm of non-biodegradable item.
- I will start clean-up drives, and educate people about the importance of environment.
- Always set an example to dispose plastic waste properly.

Olympiad Question

Glass is transparent.

Project:

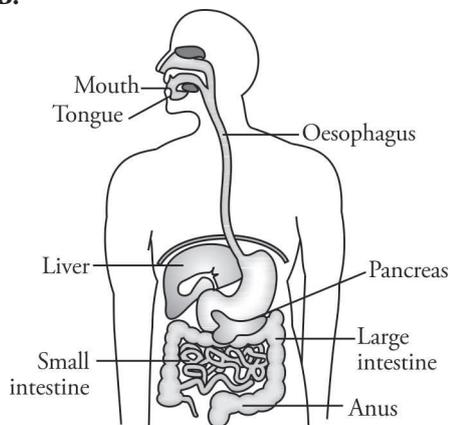
Do yourself.

Worksheet-2

A.

<u>Plain</u>	<u>Aquatic</u>	<u>Desert</u>	<u>Mountain</u>
Deer	Hydrilla	Camel	Snow leopard
Peepal	Octopus	Cacti	Pine
Mango	Seahorse	Gazelles	Cedar
Cattle			
Banyan			

B.



**CHAPTER-7
What is Matter**

- A. 1. Oil
2. It has fixed volume
3. Both b and c
4. Enough space between molecules.

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

- C. 1. Liquid
2. Precipitation
3. Melting, Evaporation
4. Freezing
5. Boiling

D.1 Evaporation is a process in which water is changed into water vapour due to rise in the temperature.

2. With an increase in the temperature, solid changes into liquid and liquid changes into water vapours. This process can be reversed on decreasing the temperature. This is called interconversion of state of matter.

3. When the clouds become heavy and changes in rain water due to atmospheric pressure, it is called precipitation.

4. When temperature of ice get increased its particle move and they start vibrating and start getting apart from each other. In this way it changes into water.

5. In liquid, particles are loosely packed and molecules are weakly held together, so they can move and can flow.

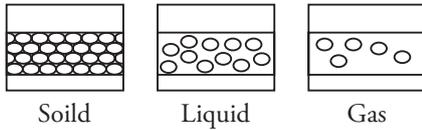
E. 1. Similarity– Volume is same in both liquid and solid.

Difference– Particles are tightly packed in solid.

2. Properties of a gas are–

- Particles are very loosely packed.
- It does not have fixed volume.
- It doesn't have fixed shape.

3.



Solid–

- (i) Particles in solids are very tightly packed.
- (ii) It has fixed shape and volume.

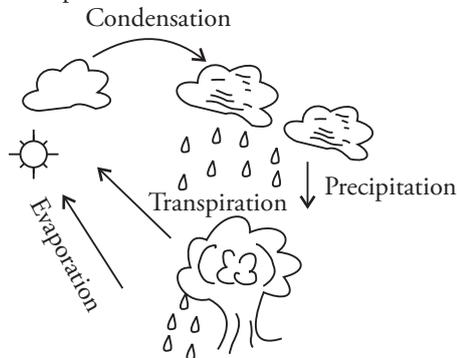
Liquid–

- (i) The particles are loosely packed.
- (ii) They do not have fixed shape but have fixed volume.

Gas–

- (i) The particles in gases are very loosely packed.
- (ii) They do not have fixed shape and volume.

4. Water cycle– The water cycle is the process by which water moves around the earth through evaporation, condensation, precipitation and percolation.



5. Take a syringe and pull its plunger to fill the air in the syringe. Now close the nozzle lightly and push the plunger in. As we apply pressure, the air is squeezed into smaller space.

This shows that earlier air occupied the whole space in the syringe but as we apply pressure, the air get compressed and squeezed into the small space.

F. Think and answer

1. The balloon gets burst when overinflated with any gas because the

increased pressure inside the balloon exceeds the strength of its material. As the balloon expands, the rubber or the latex become thinner and weaker. Eventually the pressure increased so high that leads to the rupture of balloon.

- 2. Solids are incompressible because the particles in the solid are very tightly packed and they cannot move their places Hence solids are incompressible.
- 3. Evaporation starts at normal temperature that is below 100°C while boiling starts at 100°C

Value and life skills

Yes, The neighbours are right. They can educate them to water conservation, and suggest them ways so that family can collectively reduce the water wastage.

Olympiad Question

The incorrect statement is that they are gaseous state of matter because they are not gaseous, they are made up of tiny water droplets or ice crystals suspended in air.

Project:

Do yourself.

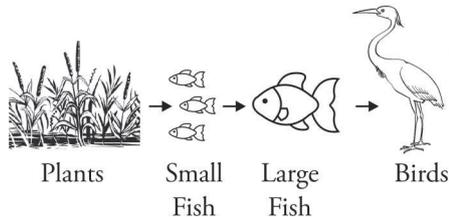
**CHAPTER-8
The Environment**

- A. 1. All of these 2. Deforestation
- 3. Oxygen 4. Carbon dioxide
- 5. Afforestation.
- B. 1. c, 2. d, 3. b, 4. b
- C. 1. The main cause of soil erosion is deforestation.
- 2. Sun, cool
- 3. The 3 r's are–
Reduce, Reuse, Recycle
- 4. Carbondioxide, Methane.
- 5. Carbondioxide
- D.1. Planting trees on a large scale is called afforestation.
- 2. Global warming– The increase in temperature on the Earth results in Global warming. It happens due to increase in the level of carbon dioxide and methane gas in the atmosphere.

42 Answer Key 1 to 5

3. Soil erosion– The removal of top soil by rain, or wind is called soil erosion. The main cause of soil erosion is deforestation.

4.



5. The sun and the river are called renewable natural resources because they do not get over and can be replenished.

E. 1. Cutting off the forest or trees on large scale to build factories, metros, building, highway etc is called deforestation.

- (i) It causes soil erosion.
- (ii) It also increases the temperature of the earth.
- (iii) Many birds and animals lose their shelter due to deforestation.

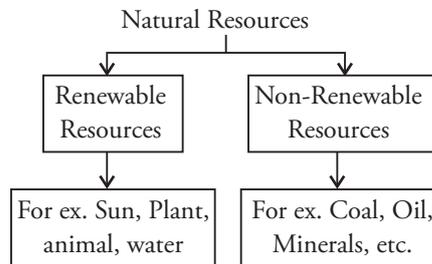
2. The temperature of our surrounding is increasing day by day due to the following reason:

- (i) Increasing number of vehicles– As number of vehicles are increasing, level of carbon dioxide is increasing which leads to trap the heat on the surface of earth and hence it is increasing the temperature of the earth.
- (ii) Forest fire– It is also the reason behind increasing the temperature of the earth as it causes the production of greenhouse gases due to forest fire.
- (iii) Deforestation– Because of deforestation, carbon dioxide is not getting absorbed by the plants so the level of CO₂ is increasing on the earth.

3. Trees have deep roots that hold the soil to the ground. If we cut the trees, the

soil will get loose which leads to soil erosion.

4.



5. Five ways to conserve resources are :

- (i) Follow 3 R's– Reduce, Reuse and Recycle.
- (ii) Avoid using vehicle like car, scooter, bike for shorter distance.
- (iii) Plant more trees.
- (iv) Say 'No' to plastic.
- (v) Avoid wasting papers.

E. 1. Due to deforestation, high number of trees are cut down which is causing loss of shelter to various birds and animals. The flora and fauna are also damaged due to deforestation of a particular region.

For example– When forest are cut down, animals like tiger, lose their home and they have no place to live or hunt. This can lead to their extinction.

2. If the mouse is removed, number of grasshopper may increase due to the lack of predator. The owl which feeds on mouse, may decrease in number or be forced to hunt other animal, disturbing the food chain.

3. Yes, it will affect our environment in a positive way as

- (i) It will lead to increase in the level of oxygen.
- (ii) It will help to bind soil particles together.
- (iii) It will reduce the level of carbon dioxide.
- (iv) Also, it will provide home to various animals.

Value and life skills

To reduce the natural calamities, we should:

1. Plant more trees.
2. Reduce deforestation.
3. Use non-renewable energy resources in controlled manner. For ex-water, soil.
4. Use eco-friendly fuels such as LPG, CNG etc.
5. Organize campaign to aware the people about ways to avoid natural calamities.

Olympiad Question:

(d) Non Renewable sources.

Project:

Do yourself.

CHAPTER-9

Force

- A. 1.** Force
2. Non-contact force
 3. Sir Isaac newton
 4. Pulls object towards the Earth
 5. Falling leaves and fruit
- B. 1.** force
2. Gravity
 3. Muscular force
 4. Friction
- C. 1.** A push or pull applied on an object is called force.
2. When we squeeze a lemon, its juice comes out and its shape gets change.
 3. Frictional force
 4. Kicking the football.
 5. Frictional force, gravitational force.
- D.1.** When we push a wall, we are using our energy. No, we cannot notice any change. It is a muscular force that is used here.
2. A type of force acting between two surfaces of object which are in contact is called frictional force or friction. It always act in the opposite motion of an object.
3. It is always difficult for rock climber to position their weight while climbing because gravity is constantly pulling them downward.
 4. Gravity– A force applied on an object to pull it towards the centre of the Earth is called gravitational force or gravity.
 5. Frictional force is responsible to write on the black board as due to friction that when we rub the chalk on the board the particle of chalk gets detach from it and get attached to the black board.
- E. 1.** The effects of force are as follows:
- (i) Change in position: A boy use force to ride a bicycle and change its position.
 - (ii) Change in speed: By using force, a boy can increase or decrease the speed of the bicycle.
 - (iii) Change in direction: By applying force, a batsman can change the direction of ball by hitting it.
 - (iv) Change in shape and size: When force is applied on a dough, we can change its shape and size.
- 2.** The friction is useful for us in many ways:
- (i) It helps us to walk without slipping.
 - (ii) Friction helps us to apply brakes and stop a vehicle.
 - (iii) We can write because of friction.
 - (iv) When we light a match stick, it burns because of friction.
- 3.** Any four uses of gravity are as follows:
- (i) We are able to walk or stand because of gravity.
 - (ii) Resolution of planets around the sun.
 - (iii) Waterfall comes down because of gravity.
 - (iv) When we throw something in upward direction, it comes down back because of gravity.

44 Answer Key 1 to 5

4. If the surface of contact is tough, the friction is increased and with the smooth surface the friction is reduced, for ex: If there is oil on the surface, it will make the surface slippery because on the smooth surface, there is less friction and we are unable to walk on it, but if the surface is rough, there will be more friction because particles of both surfaces will be interlocked with each other hence, increasing the friction.
5. If the sole of shoes are not grooved with patterns and design, it will reduce the friction and we can slip.
- F. 1.** After sprinkling powder, the striker started moving fast because sprinkling powder reduces the friction, which causes easy moving of the striker on the board.
2. If the Earth does not exert any gravitational force on the object then:
- (i) We can't even stand on the floor.
- (ii) When we throw something, it will not come down.
- (iii) Moon will not move around the Earth.
3. It happened because of the frictional force applied by the ground on the ball.

Value and life skills

- (a) Do yourself
- (b) Muscular force is applied here.

Olympiad Question

First shoe sole is best fitted for a foot baller's shoes.

Worksheet- 3

- A.** Temperature, vapour, 0°C, ice, freezing,
- B. 1.** Plant gives us oxygen to breathe.
2. It absorbs the green house gas (CO₂).
3. Plants provide shelter to various animal.
4. Plants protect the soil from soil erosion.
5. They help to maintain the water cycle.

- C. 1.** Frictional 2. Muscular force
3. Gravitational 4. Muscular force
5. Gravitational force.

**CHAPTER-10
Machinery world**

- A. 1** Fork 2. All of these
3. Screw 4. Pulley
5. 6
- B. 1.** Pulley 2. Wedge
3. Lever 4. Lever
- C. 1.** No work is done in this case as she is not moving and standing at one place.
2. Work done = Force × distance
3. Wedge
4. Steering of car, wheels of skates.
5. Scissor is lever (first class lever)
- D.1.** Screw: A screw is a type of inclined plane wrapped around a cylinder or a pole or rod.
2. Work is said to be done when force is applied on an object and object moves in the direction of force.
3. Simple machines are tools that make our work easier, faster and comfortable, using less amount of energy. There are six types of simple machines.
- (i) Lever → sea saw
- (ii) inclined plane → ramp outside of house
- (iii) Wheel and axle → steering of car
- (iv) wedge → knife
- (v) screw → Jar lid
- (vi) Pulley → flag pole
4. Wheel and axle: In this simple machine, a wheel is connected to pole called an axle, at its center. Both wheel and axle move together to make our work easier. for ex– doorknob, merry go round etc.
5. Yes, Ramp is a simple machine. It is an inclined plane.
The ramp in the hospital are used to push up or down a heavy stretcher

along with patient easily with less amount of force.

- F. 1. In first (i) and (iv) cases no work is done.
2. Do yourself.

Olympiad Question

It is not simple machine.

Project:

Do yourself.

**CHAPTER-11
Get energised**

- A. 1. Solar 2. Chemical
3. Cool 4. Sun
5. Kinetic
- B. 1. Potential energy 2. Kinetic energy
3. Heat 4. Light energy
5. Solar energy
- C. 1. We need energy to push an object
2. Tube light, mixer grinder, ovens etc.
3. Solar energy, light energy
4. Fruits, vegetables
5. To generate electricity.
- D. 1. Sound energy is helpful to us by enabling to listen any type of sound, whether it is music or noise.
2. The sum of potential energy and kinetic energy is called mechanical energy.
3. Solar Energy: The energy we get from the sun is called solar energy. Life is not possible on the earth without solar energy because plant uses solar energy for photosynthesis process. Solar energy can be stored and can be used for various purpose through solar panels.
4. Two ways to conserve energy at home are—
(i) Switch off the bulbs and fans while leaving the room.
(ii) Turn off the appliances on standby.
5. Positive use of nuclear energy—
It can be used to produce large amount of electricity with low green house gas emission.

Negative use of nuclear energy—

It can be used to create devastating weapons.

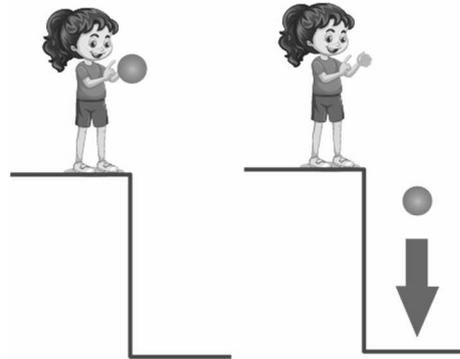
- E. 1. Heat Energy— The energy produced by burning wood or coal, that increases the temperature of the surrounding is called heat energy. For ex— burning of wood etc.

Wind energy— The energy possessed by wind is called wind energy. For ex— Running of windmill to generate electricity with the help of wind.

2. Any six forms of energy are—
(i) Solar energy
(ii) Heat energy
(iii) Light energy
(iv) Wind energy
(v) Electrical energy
(vi) Nuclear energy

Light energy— It is an essential energy produced from the sources, such as Sun, Stars, torches, bulbs etc. It helps us to see the objects clearly.

3.



There is a girl named Riya holding a ball in her hand. The ball stored potential energy as it is in still position. The girl dropped the ball and its potential energy changes into kinetic energy as the potential energy of ball decreases, its kinetic energy increase in this all the potential energy converts into kinetic energy.

46 Answer Key 1 to 5

4. The form of energy we use in our daily life are :
- (i) Chemical Energy– As we eat fruits and vegetables, the chemical energy stored in them is used by our body.
 - (ii) Solar energy– Solar energy is used by the plant to do photosynthesis. Also, it is used to maintain the temperature of the Earth.
 - (iii) Heat energy– The burning of fuel produces heat energy, we use LPG in our kitchen to cook food and petrol, diesel and CNG are used to run vehicles.
 - (iv) Sound energy– Sound energy is used by us to listen the various sounds.
 - (v) Light energy– Light energy is used by us to see things clearly.
 - (vi) Electrical energy– Electrical energy is used by us to run various electric appliances.

F. III picture is old one out because I, II and IV picture shows the different type of fuel while the III picture shows the solar energy.

Value and life skills :

No, it was not a good decision of Rishi's father. They could choose an option of public transport, because taking 7 seater car for 3 people. It consumed more fuel and also contributed to traffic congestion,

Olympiad Question :

A train as it is having huge mass and velocity.

Project :

Do yourself.

CHAPTER-12

Make your senses Active

- A. 1. A glass bottle
2. The sun
3. Form a dark shadow
4. Vacuum
5. Bird's chirping
- B. 1. Noise
2. Natural source of light

3. Pleasant music
4. Soft sound
5. Luminous object.

- C. 1. The things that emit light are called source of light. Two artificial sources of light are torches, bulbs etc.
2. Sound is a type of energy that is produced by the vibration of particles. Sound can travel in different medium like liquid, solid and gas.
3. An object that produce light on their own are called luminous object. For ex– Sun, Star, bulb, tube light etc.
4. When the path of light is blocked by an opaque object a dark shape is formed. This is called shadow.
5. Loudspeaker announcement, sound produced by machines in factories and honking on road causes noise in the surrounding.
- D.1. Transparent– The objects through which light can pass, are called Transparent object. For ex– Glass, air etc.

Translucent object– The objects which allow only some light to pass through them are called translucent object. For ex– Butter paper, dirty water etc.

Opaque objects– The objects that do not allow any light to pass through them are called opaque objects for ex– Wall, coin etc.

2. The pleasant sound does not strain the ear and make us emotionally positive and it does not cause discomfort to us. While the unpleasant sound can cause discomfort or stress to us. It makes us emotionally negative.
3. Sound is produced by the vibration of particles. When a sound is produced, it vibrates the air particles around the source of sound. These particles will vibrate the particles next to them and this vibration goes on and finally sound reaches from one place to another.

E. Think and answer

Yes, they can hear our voice under water because in water, sound can travel through the particles of water.

Value and life skills

On hearing sound of an ambulance on the road. We should stay calm and safely we should move to the left side of the road and let the ambulance pass quickly.

Olympiad Question

A transparent object.

Project

Do yourself.

CHAPTER-13**Our Solar System**

- A. 1.** (b) Orbit
2. (b) Northern hemisphere
3. (a) Plants
4. (b) Mars
5. (d) Meteors
- B. 1.** Uranus **2.** Constellation
3. Meteor **4.** Comet
- C. 1.** Venus
2. 365 days and 6 hours
3. The rotation of Earth causes day and night.
4. Earth is known as terrestrial planet.
5. Earth rotates from west to east.
- D.1.** The Earth is divided into two equal halves by an imaginary line called equator.
2. Constellation– The group of stars is known as constellation. For ex– Ursa Major, Ursa Minor etc.
3. The Earth spins on its axis in anticlockwise direction from west to east. This is called rotation. When the earth moves around the sun on its orbit. This is called revolution.
4. Dwarf Planet– They are small, almost round bodies that orbits the sun. There are five known dwarf planet in our solar system namely– Pluto, Eris, Ceres, Makemake and Haumea.
5. Life is only possible on blue planet such as Earth because it is the only planet where life exist. Because of its moderate temperature and presence of air and water in its atmosphere.

- E. 1.** Crust
 Upper Mantle
 Lower Mantle
 Outer Core (liquid)
 Inner Core (Solid)
- 2.** Meteoroids are small metallic or rock like structure travel through space. When meteoroids enter into earth's surface, they heat up and catch fire. These burning and glowing meteoroids are called meteors.
 Sometimes meteors do not burn completely and break down into the pieces that strikes the earth's surface. These broken pieces are called meteorites.
- 3.** We experience different seasons because of the revolution of Earth around the Sun. When the earth tilted towards the Sun receives more sunlight and heat, this part experiences summer season, and when tilted away from the Sun, receives less sunlight and heat and so experience winter season.
- 4.** There are some planet which have their moons. These moons are called natural satellite. Mercury and venus don't have any natural satellite.
- 5.**

Earth	Mercury
1. It is only planet where life exist	1. In mercury life is not possible
2. There is moderate temperature on the earth	2. There is very high temperature in day and very low temperature at night.
3. It has one moon	3. It has no moon.

- F. 1.** The Venus is the second largest planet from the sun, still it is the hottest planet because it is made up of carbon dioxide gas and this gas traps the heat of sun on the planet and do not allow to escape it.

48 Answer Key 1 to 5

2. It is not possible to even stand on the planet because it is the fastest spinning planet and it is made up of gases and it is too cold.

Olympiad Question

Uranus is known as evening star.

Project:

Do yourself.

Worksheet - 4

- A. 1** To move things along the ground
2. To lower and raise very heavy objects
3. To move object along a smooth surface
4. To lift and lower objects more easily
5. To break something apart
6. To hold something in a place.
- B. 1** Sound energy
2. Seismic energy, kinetic energy.
3. Light energy
4. Heat energy.
- C. 1.** Straight, see, reflects, reflection, ray shadow, Translucent, opaque, evening, shorter, direction, light, distance, object, light.
- D. 1.**

Across	Down
1. VENUS	2. SOLAR SYSTEM
3. MILKY WAY GALAXY	4. ATMOSPHERE
6. MARS	5. SATURN
7. URANUS	8. NEPTUNE
11. PLUTO	9. SUN
12. WATER	10. GRAVITY
13. JUPITER	
14. MERCURY	

- E. 1.** NEPTUNE **2.** MARS
3. VENUS **4.** JUPITER
5. EARTH **6.** MERCURY
7. URANUS **8.** SATURN
9. ASTEROID

Write all the planets in sequence starting from the sun

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

5. Jupiter 6. Saturn
 7. Uranus 8. Neptune.

Mercury → Dead Planet	Venus → Morning and evening star	Earth → Blue Planet
Mars → Red planet	Jupiter → Giant planet	Saturn → Ring planet
Uranus → Ice giant	Neptune → The blue giant	Asteroid → Rocky

Competency Assessment Term - 1

- A. 1.** Conifers **2.** Marshy Areas
3. All of these **4.** Venus flytrap
5. Threshing.
- B. 1.** False **2.** True
3. True **4.** False
5. True
- C. 1.** Hair **2.** Lustrous
3. Matter **4.** Temperature
5. Pollution.
- D. 1.** Two main causes of water pollution are—
 (i) Excessive use of pesticides and fertilizers.
 (ii) Leakage of oil in water bodies.
- 2.** Renewable sources of energy are type of energy that comes from natural process and are constantly replenished. For ex– solar energy, Hydro energy, wind energy, geo thermal energy etc.
- 3.** Recycling of paper helps to save trees because it reduces the need to cut down trees to make fresh paper. Making recycled paper, need less energy, less water and less raw wood.
- 4.**

Aerial animals	Arboreal animals
Aerial animals are those animal that fly in the air. For ex– Pigeon, insects that can fly, bat etc.	Arboreal animals are those animal that spend most of there time on trees. For ex– Monkey, squirrel etc.

5. The three main features of gas are–
- (i) Its particles are very loosely packed.
 - (ii) It does not have fixed shape.
 - (iii) It does not have fixed volume.

E. 1. Excretion is the process by which the body removes waste material from it.

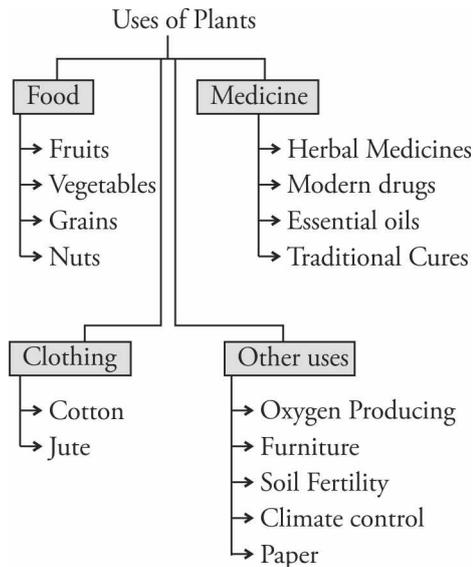
The main organs of excretory system are :

- (i) A pair of kidneys
- (ii) A urinary bladder
- (iii) A pair of ureters
- (iv) Urethra

Kidney filters blood and produces urine. Kidney transports urine to the urinary bladder through ureters.

Urinary bladder stores urine which is passed out of the body through urethra.

2.



3. Addition of the harmful substances in the air is called air pollution.

Causes of air pollution are :

- (i) Smoke from vehicles, factories, forest fire etc.
- (ii) Burning of fire crackers.
- (iii) Volcanic eruption
- (iv) Burning of fossil fuel.

Method to prevent air pollution:

- (i) Planting more and more trees.
- (ii) Encouraging the use of public transport.

4. Metamorphosis– The process of developmental changes in the structure of egg to an adult is called Metamorphosis.

Life cycle of butterfly–

- (i) A butterfly lays its egg on the leaves of plant.
- (ii) An egg hatches into a caterpillar or larva.
- (iii) Caterpillar feeds on the leaves and grows into new one. This is called moulting.
- (iv) Larva changes into pupa and covered with hard cocoon.
- (v) Inside pupa, butterfly develops, when pupa breaks an adult butterfly comes out from it.

5. Humus– Humus is formed by the decomposition of dead plants and animals. It makes the soil fertile and rich in nutrients.

The components of soil are:

- (i) Mineral particles (sand, clay and silt)
- (ii) Humus (organic matter)
- (iii) Water
- (iv) Air
- (v) Living organism (earthworm, bacteria)

F. 1. Camels are adapted with long eye lashes and long legs. These features help camel in the following ways:

- (i) Long eye lashes prevent the sand to enter into the eyes of camel, in desert there is a lot of dry sand.
- (ii) Its long legs help their body to be away from the heat of the sand.

2. Aquatic plants have waxy leaves because of the following reasons:

- (i) To prevent water from getting absorbed into them.

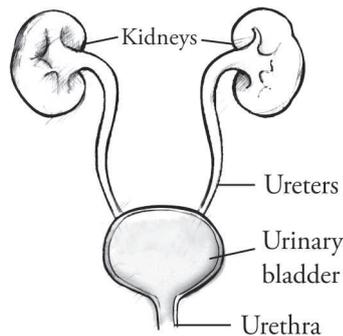
50 Answer Key 1 to 5

- (ii) It helps in the exchange of gases.
 - (iii) It also helps to keep plant's surface clean.
3. Silt soil is used to improve soil fertility because :
- (i) It has very fine particles that can hold water and nutrients.
 - (ii) It makes soil smooth and soft.
 - (iii) It is rich in minerals.

Hence silt soil is mixed to make the soil perfect for farming and gardening.

4. A sparrow can fly in the sky but ostrich can not because ostrich has very heavy weight which makes it unable to fly.
5. A baby has more bones than an adult to make it more flexible and soft which helps them to pass through the birth canal and grow quickly after birth.

G.1.



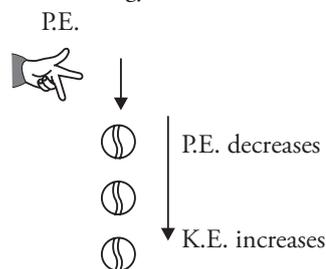
2. The given diagram is called food chain. If snake is removed from the food chain then the population of mouse will be increased because there will no snake to consume them.
- The population of eagle will be decreased because there will be lack of food for them.

Competency Assessment Term-2

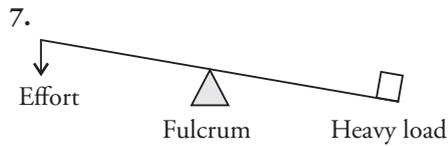
- A. 1. Friction 2. Lever
 3. Energy 4. Transparent
 5. Venus 6. Frictional force
 7. Chemical energy
- B. 1. True 2. False
 3. True 4. False
 5. True 6. True
 7. True

- C. 1. Core 2. Force
 3. Work 4. Mechanical
 5. Opposite 6. Gravity
 7. Orbit

- D.1. When an object is stationary and kept at a certain height, it contains potential energy but when the object is dropped from the height, its potential energy start converting into kinetic energy and as it reaches to the ground, all its Potential energy is converted into kinetic energy.



2. a.m → Ante meridian
 p.m → Post meridian
3. Dwarf Planet– They are small, almost round bodies that orbit around the Sun.
- There are five known dwarf planet Pluto, Eris, Ceres, Makemake and Hauemea. Pluto was considered as the ninth planet of the solar system.
4. In rotation, Earth rotates on its axis from west to east in 24 hours.
- While in revolution, Earth revolves around the sun in its orbit. It completes its one revolution in 365 days 6 hours.
5. When it is time of noon, a short shadow of an object is formed.
6. Nuclear energy is useful in producing :
- (i) Large amount of electricity with low green house gases emission, by using small amount of fuel.
 - (ii) Nuclear energy from Sun is used for recharging solar panels in spacecraft.
 - (iii) It also helps in treating cancer and in medical imaging.



E. 1. If the wheel of vehicles are not grooved with patterns and designs the friction will be decreased and the vehicle will get skid on the road.

2.

Simple Machines

- **Inclined Plane**
Ramp in hospitals or outside of house.
- **Screw**
Light bulb, Jar lid, Bolt and nut.
- **Wheel and Axle**
Roller skates, steering of car, doorknob.
- **Lever**
Sea saw, Scissors, Spoon, fork.
- **Wedge**
Knife, Axe
- **Pulley**
Well, Flag pole, Crane

3. Mechanical energy– The sum of potential energy and kinetic energy is called mechanical energy. Mechanical energy enables object to do work like lifting, pushing or moving other objects. Total mechanical energy always remains constant.

4. When light hits any surface and bounce back from the surface, it is called reflection of light. It enable us to see the world around us. Light travels in the form of electromagnetic wave. It travels in the straight line. The speed of the light is 3×10^8 m/s.

5. A planet is large celestial object that orbit around the sun. It does not have its own light.

Name of the planet in our solar system are:

- | | |
|---------|----------|
| Mercury | Jupiter |
| Venus | Saturn |
| Earth | Uranus |
| Mars | Neptune. |

The largest planet is Jupiter.



Jupiter

6. Nuclear Energy– The energy produced due to nuclear reactions. For ex-Sun produces a lot of heat and light through energy. Atom bombs and nuclear bombs are also result of nuclear reactions.

7. Mercury–

- (i) 1st planet from the sun.
- (ii) Smallest planet.
- (iii) Known as dead planet.
- (iv) It has no moon.

Venus–

- (i) 2nd planet from the sun
- (ii) Hottest planet in the Solar system
- (iii) It is known as morning and evening star.
- (iv) It has no moon.

Earth–

- (i) It is known as blue planet
- (ii) 3rd planet from the sun.
- (iii) It has moderate temperature
- (iv) 71% surface of earth is covered with water.
- (v) It has one moon.

Mars–

- (i) 4th planet from the sun.
- (ii) Also known as red planet.
- (iii) It is a cold planet.
- (iv) It has two moon.

52 Answer Key 1 to 5

Jupiter–

- (i) Vth planet from the sun.
- (ii) It is a gas giant
- (iii) It is too cold
- (iv) It has 95 moon.

Saturn–

- (i) VIth planet from the sun.
- (ii) It is surrounded by beautiful rings.
- (iii) It has 146 moon.

Uranus–

- (i) VIIth planet from the sun.
- (ii) It is an ice giant.
- (iii) It has 28 moon and 13 rings.

Neptune–

- (i) VIIIth planet from the sun.
- (ii) It is an ice giant.
- (iii) It is blue coloured, cold and windy planet.
- (iv) It has 16 moons.

F. 1. Gravity is important to keep our home, water and air and ourself anchored to the planet. Friction is important to walk without slipping or movement of vehicles without skidding.

Without gravity and friction, life on the Earth will be more chaotic.

- 2. Tong is considered as a machine, because it make our work easier by holding things or picking things up. It gives grip and safety.
- 3. Shadow is formed due to blocking of light by any object but transparent

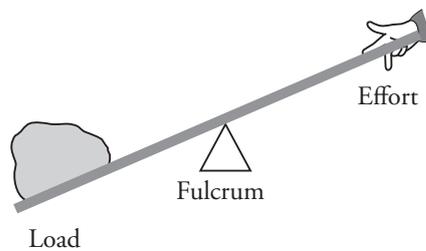
object do not block any light so it is unable to form any shadow.

- 4. We experience season because of the revolution of Earth around the Sun. The part of the earth that is tilted away from the sun faces winter season.
- 5. If no sunlight reach on the Earth there will be no life possible on the Earth.

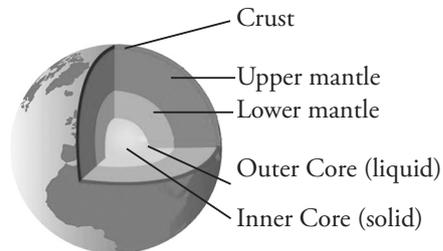
If there is no sunlight, plants can't perform the process of photosynthesis and they will be unable to make their food and hence all the plants would die. There will be extremely cold on the Earth if there will no light. Eventually, life on Earth will not survive.

Diagram based Question

1.



2.

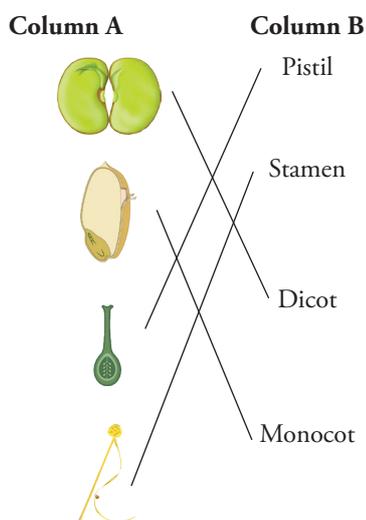


EVS-5

CHAPTER-1 Our Green World

- A.**
1. (b) Pistil
 2. (c) Dicot seed
 3. (b) In Anther
 4. (a) All of these
 5. (a) Root

B.



C. Very Short Answer Type Question

1. Seed is responsible for the growth of a plant.
2. Papaya, watermelon.
3. Cotyledon or Endosperm
4. Ovules are found inside the ovaries of a flower.

D. Short Answer

1. A seed contains a young baby plant called an embryo.
- 2.

Pollination	Fertilisation
<p>a. The transfer of pollen grains from anther to stigma.</p> <p>b. Occurs outside the ovary.</p>	<p>The fusion of pollens with ovules.</p> <p>Occurs inside the ovary.</p>

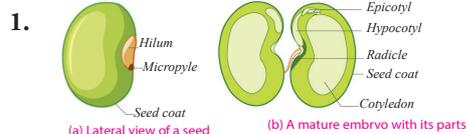
3.

Pistil	Stamen
<p>a. Female reproductive organ.</p> <p>b. Made of stigma, style, ovary.</p>	<p>Male reproductive organ.</p> <p>Made of anther and filament</p>

4. A — Anther
- B — filament
- C — stigma
- D — style
- E — ovary

The style of a flower is the stalk that supports the stigma and connects it to the ovary.

E. Long Answer



The seed is covered with a seed coat that protects the young baby plant. There is a hole, called micropyle, through which the water enters to the young baby plant when the seed is soaked or sown.

Difference between Monocot and Dicot seeds

Monocot seeds have one cotyledon while dicot seeds have two cotyledons.

2. Two types of pollination are
 - Self Pollination
 - Cross Pollination

Self Pollination

Occurs in bisexual flowers only. The pollens from the anthers reach to the stigma of the same flower through wind, humans, insects etc.

Ex- pea, tomato etc.

Cross Pollination

Can occur in unisexual or bisexual flowers.

54 Answer Key 1 to 5

The Pollens from the anthers reach to the stigma of the same or of different flowers.

The various modes of Cross-Pollination are wind, bird, animals, human etc.

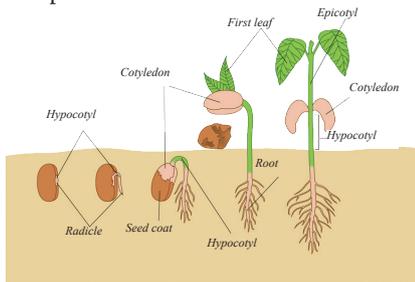
Ex- apple, pumpkin etc.

3. The fusion of pollens with ovules is called fertilisation.

After fertilisation, the ovary of the flower changes into fruit and the ovules change into seeds. Each fertilised ovule develops into one seed. The ovary protects the seed until the fruit is not ripen.

4. Process of seed germination–

- (i) Seeds absorb water through micropyle and oxygen through seed coat.
- (ii) In 2-5 days, seed coat breaks down and radical emerges as primary root.
- (iii) Later, plumule grows a primary shoot. The stem and leaves grow from plumule.



F. Think and Answer :

The seeds kept in the warm place will germinate first.

Reason : Seeds need warmth, water and air to germinate. The refrigerator is cold, which slows down the germination process.

Value and life skill :

- (i) If all the flowers are plucked, plants can't make seeds or fruits and nature will lose its beauty.
- (ii) Yes, we will get fewer fruits, no honey, and less greenery around us.

Olympiad Question :

C. Plants will grow better when they are closer.

Project

Do yourself.

**CHAPTER-2
Eat to Grow Not to Slow**

- A. 1. (d) Both a and b
2. (d) Aerated drinks
3. (a) Soil preparation
4. (b) Cut the weeds

B.

Column A



Column B

Surface Irrigation

Granaries

Bolo

Drip Irrigation

Sprinkler Irrigation

C. Very Short Answer

- 1. Legumes, eggs
- 2. Grab hoe, sickle
- 3. Drip irrigation
- 4. Vitamin A, B, C, D, E and K.

D. Short Answer

1. A food pyramid is pyramid shaped diagram that represents optimal number of servings to be eaten from each food group per day.

Food pyramid is important as it–

- (i) Reminds us to have a balanced diet.
 - (ii) Provides visual dietary chart.
2. We should add sprouts in our meal as they contain all the six nutrients. They help us;
- To improve the digestive process
 - In blood purification
 - To protect our body against diseases.
3. Sprinkler irrigation– In this method, water is sprayed into the air and allows to fall on the ground surface.

Drip irrigation– In this method, water is supplied to the plants through small pipes which makes water drip slowly to the roots of the plants.

- The farmer raises the plants with care is called cultivation.

The main steps involved in the process of cultivation are–

- Soil Preparation– Soil is ploughed every well to make it aerated.
- Manuring– Manures are added to make soil more fertile and then seeds are sown.
- Irrigation– Watering the plants is called irrigation. After seed sowing, the field is irrigated properly using various modes. Let the plants grow and mature enough to get seeds from them
- Harvesting– Once the fruits or seeds gets matures, the extraction of seeds is done.

The process of collecting plant products and animal products as food is called harvesting.

E. Long Answer

- The journey of crop from cultivation to harvesting involves key stages, including soil preparation, manuring, irrigation and harvesting.

- Soil Preparation– Soil is ploughed every well to make it aerated.
- Manuring– Manures are added to make soil more fertile and then seeds are sown.
- Irrigation– Watering the plants is called irrigation. After seed sowing, the field is irrigated properly using various modes. Let the plants grow and mature enough to get seeds from them
- Harvesting– Once the fruits or seeds gets matures, the extraction of seeds is done.

The process of collecting plant products and animal products as food is called harvesting.

2.



- Watering the plants is called irrigation.

Three types of irrigation are–

- Surface irrigation– It is the most common form of irrigation. Water is delivered to the crops by allowing it to flow over the soil surface.
- Sprinkler irrigation– In this method, water is sprayed into the air and allows to fall on the ground surface.
- Drip irrigation– In this method, water is supplied to the plants through small pipes which makes water drip slowly to the roots of the plants.

- Nutrients are substances found in food that our body needs to survive, grow and function properly. Nutrients are the main component of food that includes– Carbohydrates, fats, proteins minerals, roughage and water.

Minerals are the protective food which help our body to fight from various diseases.

Like–

Calcium– It is needed for the growth of healthy teeth and bones.

Fran– It is needed for the formation of red blood cells.

F. Think and Answer :

- | | |
|-------|--------------|
| Bolo | Hand Trowel |
| Spade | Spading Fork |
| Rake | Crow bar |

- Rake
- Bolo

Value and Life Skill

- Yes, he was right because farmers work hard to grow the food we eat.
- He was teaching them to respect farmers and be thankful for their efforts.

56 Answer Key 1 to 5

Olympiad Question

(d) Both b and c.

Project

Do yourself.

**CHAPTER-3
Animals**

- A.**
- (a) Lizard
 - (c) Crepuscular
 - (a) Mosquitoes
 - (d) Both a and b
 - (c) jellyfish

B.

Column A	Column B
Hibernation	deep sleep
Migration	Seasonal movement
Structural Adaptation	Physical features of an animal
Reptile	Cold blooded animal

C. Very Short Answer

- Human
- No, some are nocturnal or crepuscular.
- The need of adaptation is to survive in their specific environment or habitat by the living beings
- Social insects— Ants, Honeybees
Amphibians— Frog, salamander
- Based on their active time, the pets are considered as Diurnal, Nocturnal or crepuscular.

D. Short Answer

- No, a spider is not an insect. Insects have 6 legs and 3 body parts, while spider have 8 legs and 2 body parts.
- Because they live and work together in a group and have a division of work.
- Similarity :** Both amphibians and fish live in water.
Difference : Fish breathe with gills, but amphibians breathe with lungs and skin when they grow up.
- Honeybees are useful insects because they make honey, which we eat.

5.

Ectotherm

Endotherm

That cannot control their body temperature with the change in environment.

That can control their body temperature with the change in environment.

Obtain their energy from surroundings.

Obtain their energy from food consumption.

E. Long Answer

- Hibernation is a deep sleep of animals that helps them to save their body energy and survive.
Animals hibernate due to the following reasons—
 - Scarcity of food
 - Extreme change in weather.
 - Camel is adapted structurally in the following ways—
 - Leathery mouth helps camel eat spiky plants.
 - Hump is used to store food.
 - Long legs keep camel off the hot sand and to keep cool.
 - Hair on back to protect against the Sun.
 - Structures of a Polar Bear—
 - Muscle hump over shoulders for catching large prey.
 - White fur helps them hide in plain sight.
 - Large, furry feet for walking on ice and snow.
- Structure of an Elephant**
- Tusks are used to fight and to find food and water.
 - Trunks are used to drink and to pull trees out of the ground.
 - Big legs are used for migration.
- Yes, birds are vertebrates.
Four characteristic features of bird are—
 - Body covered with feathers.
 - They live in the air or on the ground.
 - They have wings to fly.
 - They are born (hatched) from eggs.

5. Based on the hours of activity, animals are classified in three categories–

1. Diurnal Animals

The animals which are active during the day time and inactive during the night are called diurnal animals.

Ex– Mammals and Birds

2. Nocturnal Animals

The animals which are active during night time and inactive during the day time are called Nocturnal Animals.

Ex– Bat, Owl, Moth etc.

3. Crepuscular Animals

The animals which are most active at dawn (Sunrise) and at dusk (Sunset) are called crepuscular animals.

Ex– deers, skunks and fireflies.

F. Think and Answer

Structurally

Behaviourally

Behaviourally

Value and Life Skill

(a) No, some insects may look scary, but they are not harmful.

(b) No, all insects are not harmful. Some insects like honeybees help us by giving honey.

Olympiad Question

(d) All of these.

Project

Do yourself.

CHAPTER-4 Micro organisms

A. 1. (b) Yeast

2. (b) Pickling

3. (b) Bacteria

4. (c) Pasteurization

5. (d) All of them

B. 1. T 2. T

3. T 4. T

5. T

Very Short Answer

1. Harmful microbes cause diseases in humans, animals and plants and also spoil food.

2. 1. Cholera, Tuberculosis

2. Malaria, Amoebiasis,

3. Yeast

4. Lactobacillus

5. Yes, Lactobacillus

D. Short Answer

1. Very tiny organisms that cannot be seen through naked eyes are called microbes.

Some type of microbes in our surroundings are– bacteria, fungi, algae, protozoa and virus.

2. Yes, bacteria can be useful. Bacteria which are useful to us are called good bacteria. They are helpful in the following ways–

- Lactobacillus bacteria, helps to turn milk into curd.

- Bacteria living in our intestine helps in digestion.

- Bacteria in the roots of leguminous plants helps to absorb nitrogen from soil in nitrogen fixation process.

3. Diseases caused due to microbes spread to one another through contact are called communicable diseases.

Two examples of communicable diseases are–

- Tuberculosis

- Chicken pox

4. (a) Food preservation– The method to prevent the food from getting spoiled is process called food preservation.

(b) Pasteurization– A heat treatment process in which microbes are killed by boiling and then sudden cooling.

5. Harmful bacterial in our mouth feed on sugars and excrete smelly sulphurous gases that causes bad breath.

E. Long Answer

1. Yes, bacteria can be both useful and harmful. Bacteria which are useful to us, are called good bacteria. While the bacteria which are harmful to us are called bad bacteria.

Importance of good bacteria

- Lactobacillus bacteria helps to turn milk into Curd.

- They live in our intestine and help in digestion.

- Bacteria in the roots of leguminous plants helps to absorb nitrogen from soil in nitrogen fixation process.

58 Answer Key 1 to 5

Bad bacteria causes–

- Causes many diseases in plants, animals and humans.
 - Bacteria grow on food particles that get stuck between our teeth and cause tooth decay.
 - Harmful bacteria in our mouth feed on sugars and excrete sulphurous gases that causes bad breath.
2. Five techniques of food preservation are–
1. Pickling– It is the oldest method of food preservation. In this method, salt and oil are mixed to fruits and vegetables.
 2. Canning and Bottling– Canning is method of food preservation in which food is processed and sealed in an airtight container.
Ex– fruit jams.
 3. Pasteurization– It is heat treatment process in which microbes are killed by boiling and then suddenly cooling.
 4. Drying– It is one of the oldest methods of preservation. The food is dried and then stored in jars.
Ex– Spices are stored by drying
 5. Refrigerating and Deep freezing– This method is used for the preservation of fruits, vegetables, dairy products and some eatables.
3. Fungi are used for many purposes inducing–
- They are used in bakery industry.
 - They are used in production of soya sauce and vinegar by the process of fermentation.
 - They help in recycling nutrients in the soil by feeding on dead and decayed materials.
 - They produce medicines
Ex– Pencillin is an antibiotic that is produced from a fungus penicillium.
 - Mushroom (a fungi) is used as food.
4. Causes of Athlete's foot–
Harmful fungi
Symptoms of Athlete's foot–
- Itching and stinging between the toes.

- Cracked skin between the toes.
 - Small blisters at the edge or the top of the foot.
 - Dry, flaky skin on the sole of the foot.
5. The influence of bad bacteria on our teeth causes various teeth problems including tooth decay.
Bacteria grows on food particles get stuck between our teeth causes toothache and various teeth problems.

F. Think and Answer:

The microbes in the milk multiplied overnight, making the milk sour, when heated again, the growth of bacteria spoiled the milk.

Value and Life Skill

Aman should tell the juice seller to stop or inform a health officer. Drinking juice made from rotten fruits may cause stomach problems or food poisoning.

Olympiad Question

- (a) fungi

Project

Do yourself.

CHAPTER-5

Human body system

- A. 1. (b) Trachea
2. (c) 4
3. (b) Cerebellum
4. (d) All of these

B. Very Short Answer

1. Cardiac muscles are found in the Heart.
2. Capillaries
3. Brain
4. The blood carries water and nutrients from digested food and distribute to all part of body.
Some common blood groups are– A, B, AB and O
5. Forelimbs

C. Short Answer

1.

Cerebrum	Cerebellum
1. It is the largest part of the brain.	It is the smallest part of the brain.

2. It is associated with higher brain functions such as thinking, learning, memorising, logical reasoning etc.	It is associated with regulation and coordination of movement, posture, balance and cardiac, respiratory and vasomotor centers.
--	---

2. The heart is made of cardiac muscles, hence it is known as muscular organ. It is divided into four chambers. It pumps blood to all parts of body through its four chambers and with help of the cardiac muscles. The muscles contracts and relaxes while pumping the blood. The right side of heart collects impure or deoxygenated blood from the body parts purifies it by adding oxygen gas in blood. The left side of the heart distributes pure oxygenated blood to different parts of the body. The heart normally contracts and relaxes 70-80 times in a minute and pumps nearly 7500 litres of blood each day.
3. Ligaments help bones to move in multiple direction. Two or more bones meet together and get attached with the help of ligament.
4. We can move our head in multiple directions because it is connected by a ball and socket joint which allows multi-directional movement, whereas the elbows are connected by hinge joint that allows movement in only one direction.

D. Long Answer

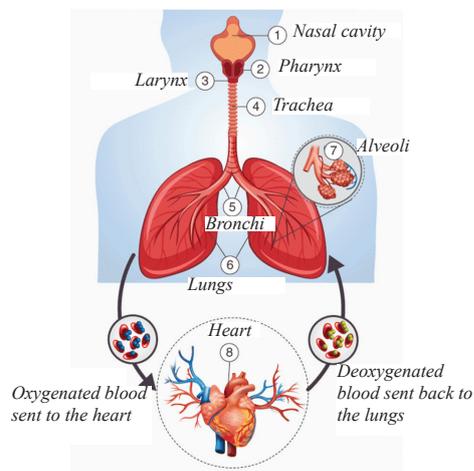
1. Functions of skeletal system is to protect our internal organs like—
 - a. Skull— It protects our brain, eyes and inner ears. The bones in skull are joined together and so are not movable.
 - b. Ribcage— It is a cage of bones attached to the vertebral column and sternum or breast bone holds ribs in the middle. The last two ribs, that are not attached to the sternum are called floating ribs.
 - c. Vertebral column— The vertebral column is attached to the skull which contains 33 irregular shaped bones called vertebrae. The spinal cord passes through vertebrae.

- d. Limbs— The forelimbs and hindlimbs enable movement of our hands and legs and avoid any harm to them.

2. The organs involved in the process of breathing including lungs, trachea and Bronchi, work together and make respiratory system.

Functioning of human respiratory system:

- a. When we breathe in, air enters to our nasal cavity and is cleaned by hair and mucus in the nostrils available.
- b. Air then moves through trachea to the lungs.
- c. Trachea branches off into two bronchi which ends into lungs.
- d. Lungs are the main organs of respiratory system. Our left lung is smaller than right lung due to the presence of heart on left side. The inhaled air when reaches to lungs, the oxygen gas from the air is absorbed and send to the heart. From the heart, carbon dioxide is send back to lungs and then from lungs it is exhaled out through nostrils.



Human Respiratory System

3. Joints— Joints are special points where two or more bones meet together and get attached with the help of ligament.

Ligament— Ligament is connective tissue that connects bones to other bones at joints, providing stability and support.

60 Answer Key 1 to 5

Movable joints	Immovable joints
1. These joints help in movement	These joints do not help in movement
2. These are found in arms, legs, fingers etc.	These are found in ribcage, skull etc

4. The blood vessels are thin tubes that transport blood to all parts of the body.

Three type of blood vessels in our body are–

- a. Arteries– Arteries carry pure and oxygenated blood away from the heart. They circulate pure blood to different parts of the body.
- b. Veins– Veins carry impure and deoxygenated blood from different parts the body to the heart.
- c. Capillaries– Capillaries are finest tubes which form network between veins and arteries

Heart attack happens due to the arteries.

When arteries are blocked. The heart does not get inefficient oxygenated blood. In this case, cardiac muscles stress out and causes heart attack.

E. Think and Answer

If a person's spinal cord is damaged, he/she might not be able to move or feel some parts of their body. They will have trouble while walking, using their hands etc.

Project

Do yourself.

Worksheet-1**A. Across :**

7. Skeletal 8. Arteries

10. Pasteurization

11. Cotyledon

Down :

1. Balanced Diet 2. Cholera

3. Pollination 4. Vaccination

5. Vertebrates 6. Hibernation

9. Ectotherms

B. Do it yourself.

**CHAPTER-6
States of Matter**

A. 1. (d) Temperature

2. (c) Plantation

3. (a) Solute

4. (d) Milk + Water

B. 1. A substance that will dissolve in a liquid

2. The liquid in the solid dissolves

3. A mixture of the solid and liquid

4. The solution that dissolves in a liquid

Very Short Answer

1. a. Oil and water

b. Kerosene and water

2. Sublimation

3. Deposition

4. Super saturated solution

Short Answer

1. Miscible liquid– When two liquids are mixed and they dissolve in water, they are called miscible liquid.

Ex– Vinegar in water

Immiscible liquid– When two liquids are mixed and they do not dissolve into each other, they are called immiscible liquid.

Ex– Oil in water.

2. Clothes dry with the process of evaporation due to heat of the Sun.

3. LPG – Gas in liquid

Cold drink – Gas in liquid

Air – Gas in gas

Smog – Solid in gas

Lemon water– Solid in liquid

4. The conversion of gas into solid with the decrease in temperature is called deposition whereas the conversion of gas into liquid by decrease in temperature is called condensation.

Long Answer

1. The phenomena of changing matter from one state to another and returning to its original state is called interconversion of states of matter. The process involved in this phenomena are–

- Freezing– The conversion of liquid into solid with the decrease in temperature.
 - Melting– The conversion of solid into liquid with the increase in temperature.
 - Evaporation– The conversion of liquid into gas with the increase in temperature.
 - Condensation– The conversion of gas into liquid by decrease in temperature.
 - Sublimation– The conversion of solid into gas with increase in temperature.
 - Deposition– The conversion of gas into solid with the decrease in temperature.
2. The solute can be a solid, liquid or gas. They form different solution when dissolved in water.

Type of Solution	State of Solute	Solvent	Example
Solid in liquid	Solid	Liquid (water)	Sugar solution and salt solution
Liquid in liquid	Liquid	Liquid (water)	Milk in water, and vinegar in water
Gas in Liquid	Gas	Liquid (water)	Carbonated drink (carbon dioxide gas dissolved in water), and oxygen gas dissolved in water bodies.

3. ● **Unsaturated Solution:** A solution in which more solute can dissolve at a given temperature.
- **Saturated Solution:** A Solution in which more solute cannot dissolve at a given temperature. But on heating a few more solute particles can dissolve. It contains the maximum amount of solute.

- **Supersaturated Solution:** A solution in which no more solute can dissolve even on heating it.
4. The conversion of liquid into solid with the decrease in temperature is called freezing whereas the conversion of solid into liquid with the increase in temperature is called melting.

F. Think and Answer

Solute	Solvent	Solution
Sugar	Water	Lemonade
Salt		
Lemon		

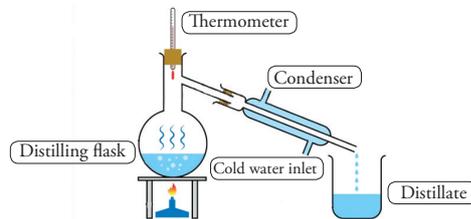
Project

Do yourself.

**CHAPTER-7
Water**

- A. 1. (a) Sugar and Salt
 2. (c) Resale
 3. (c) Filtration
 4. (b) Alum
 5. (a) Chlorine

B.



C. Very Short Answer

- Reduce ● Reuse ● Recycle
- Sewage treatment plants
- Distillation
 - Boiling
- Distillation

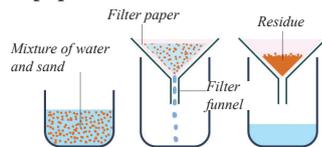
D. Short Answer

- Sedimentation– Water with insoluble impurities such as mud and sand is kept undisturbed in a container for some time. The insoluble particles known as sediments settle down at the bottom of the container. Decantation– After sedimentation, the clear and clean water is poured out in a separate container.

62 Answer Key 1 to 5



2. Solid insoluble impurities can be removed by passing the impure water through a filter paper is called filtration.



3. The process of adding chlorine tablets to the water to kill all the germs that may cause water-borne diseases.
4. Here's how 'Reduce' helps conserve water:
- By washing fruits, vegetables and dishes in a water tub instead of a running tap.
 - By using a cloth piece and pail of water for washing the cars instead of using water from hose or pipe.

E. Long Answer

1. ● Distillation involves evaporation followed by condensation. After evaporation, water vapours pass through condenser where process of condensation takes place and it changes into water.
- Steps in the process of Distillation are–
- Bunsen Burner gas burner used to heat and sterilize.
 - Distilling flask separate mixtures of liquid with different boiling point.
 - Thermometer is used to measure temperature.
 - Condenser is used to condense vapour and turn it into liquid by cooling it down.
 - Receiving flask is used to collect condensate.
2. The soluble impurities from water can be separated with the method of Evaporation and Distillation.
- Process of removing soluble impurities from water
- **Evaporation**– A solution containing soluble impurities is heated to separate water from the impurities. On heating,

water changes into vapours and soluble impurities like salt remain left in the container.

- **Distillation**– It involves evaporation followed by condensation. After evaporation, water vapours pass through condenser where process of condensation takes place and, it changes into water.
3. **Sublimation**– The conversion of solid into gas with increase in the temperature is called sublimation.
- Condensation**– The conversion of gas into liquid by decrease in temperature is called condensation.
4. The clear water obtained after decantation may contain few undissolved fine particles in it which can be removed by using a chemical called Alum by the process of loading.

A piece of alum is suspended in the beaker containing muddy water or some undissolved particles. Alum helps suspended particles heavier and to form a sediment of solid. Thus, all the undissolved particles settle faster at the bottom of the container. This complete process is called loading.

F. Think and Answer :

The child used different sized gravels to filter water better. Bigger gravels stop large dirt and smaller ones stop fine dirt.

Value and life skill

Riya should gently remind her grandmother to turn off the tap and help her understand the importance of saving water.

Olympiad Question

- (b) It is the method of separating soluble impurities from the solution.

**CHAPTER-8
The Earth**

- A. 1. (c) Hydrosphere
2. (b) Predators
3. (d) Both a and b
4. (c) Sunlight
- B. 1. Food web 2. Atmosphere
3. Biotic, Abiotic 4. Ozone
- C. Very Short Answer**
1. Chlorofluorocarbons (CFCs)
2. Animal, plants, micro-organisms etc.

3. 1%
4. Yes, in a small amount

D. Short Answer

1. **Predators**– Animals that hunt and feed on other animals.

Prey– Animals that are hunted and eaten by other animals.

2. Increase in the amount of greenhouse gases such as methane, carbon dioxide, nitrous oxide, ozone etc. increases the temperature of the planet Earth causes global warming.
3. Decomposers break down dead plants and animals hence help in cleaning the environment. They recycle nutrients back into the soil supporting plant growth and the food chain.
4. Consumers are of 3 types–

- **Primary Consumer**– The consumer that depends upon plants for their food.
- **Secondary Consumer**– The consumer that depends upon other animals (primary consumer) for their food.
- **Tertiary Consumer**– Consumers that depend upon secondary consumer for their food.

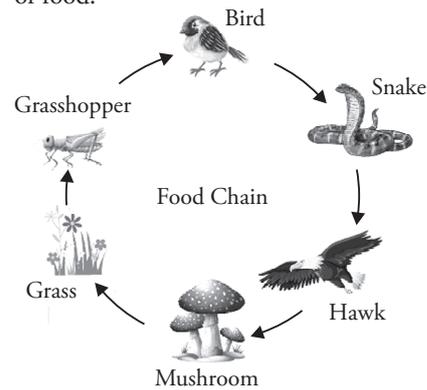
E. Long Answer

1. The layer of air or mixture of gases that surrounds the earth is called atmosphere.. Different layers of atmosphere are–

- **Troposphere**– It is innermost layer of Earth's atmosphere. It makes 75% to 80% of the atmosphere which includes Lithosphere, Biosphere, and Hydrosphere. It ranges 0 to 12 km from the earth's surface. The lowest part of the troposphere is called the boundary layer and the topmost layer is called the tropopause. The word 'troposphere' means 'region of mixing'. This layer is named due to presence of vigorous convective air within the layer. The weather phenomena like humidity, cloud formation, rainfall, temperature variation, and other atmospheric changes occur in troposphere.
- **Stratosphere**– It is second layer of the earth that protect it from many harmful radiations. It contains ozone layer that absorbs ultraviolet (UV) rays from the sun. UV rays may cause many diseases like skin cancer, sun

burn and premature ageing of the skin. This layer is free from any weather disturbance like a thunderstorm, clouds, turbulence, etc. because of the absence of any conventional current flow. Therefore, this layer is suitable for flying jet, aircraft. The aircraft always flow up to a height of above 10 km.

- **Mesosphere**– It is the coldest layer. It has a temperature as low as -1000°C. It extends from about 50 to 85 km above the earth's surface. In this layer, temperature decreases with height throughout the mesosphere.
2. A sequence of organisms where energy and nutrients are transferred from one organism to another is called a food chain. A food chain starts from the plants that shows a relationship among organisms and transfer of energy among them in the form of food.



In this food chain, the plant or grass is eaten by a grasshopper which is further eaten by the bird. In continuation, bird is eaten by snake and snake is eaten by hawk. Here the plant is producer as it produces food by the process of photosynthesis.

Grasshopper is primary consumer as it depends on the plants for food, bird is a secondary consumer as it depends on other animals (primary consumer) for its food. Snake is a tertiary consumer as it depends on secondary consumer for its food. Mushrooms are microorganisms and known as decomposers.

3. The main causes of global warming are–
 - **Pollution**– Burning of fossil fuels such as coal, petrol, diesel, etc. releases

It was initiated by Ms Gaura Devi and the other prominent leaders were-Sundarlal Bahuguna and Chandi Prasad Bhatt.

3. All the plants and trees make flora of the forest and all kinds of animals make fauna of the forest.
Example of flora– Neem tree, Bamboo, Rose etc.
Example of fauna– Tiger, Elephant, peacock etc
4. Sacred grooves are the habitat of variety of plants and animals including medicinal plants and hence are very important to us.

E. Long Answer

1. Clearing forests by cutting down trees on a large scale is called deforestation.

The main causes of deforestation are–

- **Commercial logging**– Cutting down trees to sell them as timber and pulp to make plywood, veneers, and furniture. It is also used in the paper and synthetic textile industries.
- **Shifting cultivation** is a common mode of farming by using the 'slash and burn' method. The farmers cut the trees and burn them, then plant crops in the exposed, ash-covered soil for two or three seasons.
- **Urbanisation**– To cope up with this scarcity, forested areas are cleared to construct buildings and roadways.
- Overgrazing, mining, forest fires, also contribute, etc. also contribute in deforestation.

The impact of deforestation are–

Deforestation causes soil erosion, global warming and loss of habitat on a larger scale. Due to deforestation, only fewer plants are left to use this gas and to the soil erosion and global warming.

2. The forest department of the government of India implemented Forest Conservation Act in the year 1980. It is an act by the parliament of India which ensures the conservation of forests and their resources. It ensures–
 - An increase in the forest area by reforestation and afforestation.
 - Protection of forest by local communities.
 - Forestry research for better

understanding to maintain the ecological balance in forest.

- A regular survey to be conducted to know about forest product.
3. Afforestation is one of the most effective preventive measure of deforestation. By creating new flora on new land by planting trees, afforestation contributes to prevent soil erosion.

4.

Deforestation	Reforestation	Afforestation
1. Cutting down trees or clearing the forest on a large scale.	Planting trees on a large scale where flora has already been depleted.	A way to create new flora on a new land by planting trees
2. Leads to soil erosion, urbanisation, forest fire etc.	Prevention measure of deforestation by preventing soil erosion.	Prevention measure of deforestation by preventing soil erosion.
3. Increases global warming because fewer plants are left to use carbon dioxide.	Helps slow down global warming as trees bring back green cover and removes extra carbon dioxide	Reduces global warming as trees absorb carbon dioxide and clear the air.

F. Think and Answer

To protect trees, animals and nature. Many trees and animals would be lost and nature would be harmed.

Value and Life Skill

Many trees are cut to build roads, malls and buildings. This destroys homes of birds and animals. The surroundings become hot, noisy and less green.

Olympiad Question

- (a) Madhya Pradesh

Project

Do yourself.

CHAPTER-10

Pride of India-Indian Heritage

- A.** 1. (b) Maharashtra
 2. (a) Madhya Pradesh
 3. (a) Tsuklakhang Royal Chapel and Monastery
 4. (c) Ramayana
 5. (b) Pali

- B.** 1. (e) 2. (d) 3. (a)
 4. (b) 5. (c)

C. Very Short Answer

1. Pandit Vishnu Sharma
2. Raja Rawal Jaisal
3. Bihar
4. Tamil Nadu
5. 1565 CE

D. Short Answer

1. Folk tales are stories narrated by head of the family and passed down from generation to generation. They are generally based on daily life experiences of common people that generally ends up with a moral value or a message to the society.
2. An epic tells us about a legendary person in the form of poems that ends with the moral values. An epic teaches us about our culture and influence greater civilization, hence are very important to read.
3. Konark Sun temple, in Puri, Odisha is associated with God Sun. It is located on Eastern Coast of Odisha, India, built by king Narasimha Deva I of Eastern Ganga dynasty in 1250 AD. The word 'Konark' is a combination of two words 'Kona' means 'Corner' and 'Arka' means 'Sun' so when it combines it becomes 'Sun of the corner'.
4. The monuments are the structures or buildings that are built to honor a special person or an event. Two of the famous monuments are-
 - a. Charminar, in Hyderabad
 - b. Sanchi-Stupa, in Bhopal, Madhya Pradesh
5. The monument in the image is Charminar situated in Hyderabad.
 Its two features are-
 - a. The word 'Charminar' means four towers.
 - b. It has a square base with a tower on each corner.

E. Long Answer

1. Heritage is something that we receive from our ancestors. It gives an opportunity to understand our specific traditions.
 The architectural heritage of Ajanta and Ellora caves-
 These caves are located in Aurangabad, Maharashtra, India. The caves were constructed by Rashtrakutas and Satvahanas which show the earliest Buddhist architecture. The paintings and sculptures of the caves are UNESCO World Heritage Sites since 1983.
2. Features of Nalanda University-
 - a. It is the world's first residential research university, founded by Emperor Kumaragupta I of Gupta empire and later flourished under Harsha, the emperor of Kannauj.
 - b. Now this university is named as Nalanda Mahavihara- The university of future.
 - c. The new campus of Nalanda University, located in Rajgir near the ruins of the ancient university, focuses on retaining the cultural and architectural ethos of Nalanda Mahavihara.
3. Location of five UNESCO world heritage sites in India are-
 - a. Sonar Quila or Jaisalmer fort- Jaisalmer, Rajasthan
 - b. Red Fort- Agra, Uttar Pradesh
 - c. Sanchi-Stupa- Bhopal, Madhya Pradesh
 - d. Tsuklakhang Royal Chapel and Monastery- Gangtok, Sikkim
 - e. Ajanta and Ellora caves- Aurangabad, Maharashtra
4. **Folk Tales**- These are stories narrated by head of the family and passed down from generation to generation. They are generally based on daily life experiences of common people. Folk tales generally end up with a moral value or a message to the society. The most common folk tales in India are Panchtantra and Jataka Tales.
Epics- An epic is a long narrative story of a legendary person written in the form of poems. The Indian epics are based on stories with moral values. Ramayana and Mahabharata are our two great epics which teach us our culture and influence greater

Indic civilisation.

5. "We need to preserve our monuments". The statement is rightly said since the monuments have been a significant part of our history. We need to preserve them as they—
- Showcase cultural heritage.
 - Serve as valuable educational resources.
 - Symbolise power.
 - Represent national pride and identity.
 - Preserve architectural marvels for future generations to appreciate.
 - Attract tourism.

F. Think and Answer

Do it yourself.

Value and Life Skill

- No, it is not a good habit because it spoils our beautiful and historical monuments.
- I would stop them politely and tell them to respect our heritage.

Olympiad Question

- It is not a UNESCO World Heritage Site.

Project

Do yourself.

Worksheet-2

A. 1. rainfall

- colourless, tasteless and odourless
- Napotholene balls
- UV rays
- Grasshopper, Snake, Eagle

B. Pollution, Environment, Producers, Food chain, Mesosphere, Hydrosphere, Tribes.

C. Statue of unity, Gujarat, 2018, Tallest statue in the world, Iron man of India, Sardar Vallabh bhai patel.

CHAPTER-11
Measurement

- (b) 1760
 - (c) litre
 - (c) Daniel Gabriel Fahrenheit
 - (d) Both 'b' and 'c'
 - (a) 47 inches
- 940
 - 149°F
 - 208

4. 3770, 37,70,000

5. 2,400,000, 240000

C. Very Short Answer

- Kilometres
- Greenwich Mean Time (GMT)
- 35 degree C to 42 degree C
- February

D. Short Answer

- If the time in Los Angeles is 8:58 AM and IST is 5 hours 30 minutes ahead of GMT, then the time in New Delhi would be 1:28 PM.
- The units that are used to measure temperature are—
 - Celsius (degree C), named after Anders Celsius
 - Fahrenheit (degree F), named after Daniel Gabriel Fahrenheit
 - Kelvin (K), named after William Thomas
- Two time zones used in the world are— GMT (Greenwich Mean Time) and IST (Indian Standard Time).

GMT was primarily associated with UK (United Kingdom) but now it is followed in some other countries like Ghana, Senegal, Iceland etc., whereas IST is followed in country like India etc.

- The years in which February has 29 days is called a leap year. The year when divided by 4 and leaves no remainder is leap year.
Example— Year 2024 is completely divided by 4, leaving no remainder, therefore it is a leap year.

- 1 yard into inches—
1 yard = 36 inches
 - 1 mile into yards
1 mile = 1760 yards

E. Long Answer

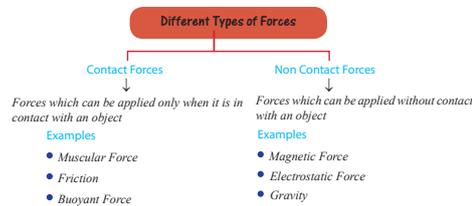
- The metric system is a decimal-based system of measurement used globally. It includes units like metre(length), gram(mass), litre(capacity).
The units used in—
 - Metric system— metre, kilogram, litre, celsius

Magnetic force- Magnets attract magnetic materials with a force at a distance. It is called magnetic force.

4. The weight of an object decreases because the Moon's gravity is one-sixth of the Earth.
5. The force through which our Earth pulls all the objects towards itself is called gravitational force. It depends on the-
 - a. Mass of the object
 - b. Distance between the two objects.

E. Long Answer

1. A force is simply defined as a 'push' or 'pull' acting on an object. Different types of force are-



- a. Muscular force- *Example-* pushing object
 - b. Frictional force- *Example-* The friction between your shoes and the playground is more which opposes our motion and so balances the body.
 - c. Buoyant force- *Example-* the rubber ball kept in the glass of water will float on the water glass since the weight of the ball is much lighter.
 - d. Magnetic force- Magnets do not attract plastic, rubber, wood etc.
 - e. Gravitational force- Earth's gravity pulling every object towards itself.
 - f. Electrostatic force- When a balloon is rubbed against hair, it gets charged and can easily attract pieces of paper.
2. Frictional force is the contact force and works only when two surfaces come in contact with each other. It always work in the opposite direction of the moving object and so opposes the motion of that object.

Advantages of Frictional force-

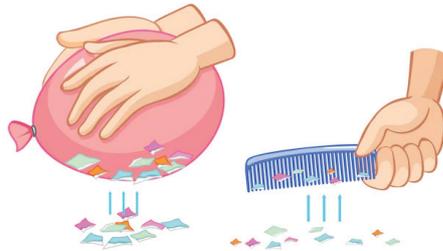
1. Friction helps in walking.
2. Friction helps to hold objects.
3. Friction produces heat.

4. Friction let things slide easily.
5. Friction helps to write something on the blackboard.

Disadvantages of Frictional force-

1. Friction causes wear and tear of the tyres of the vehicles and shoe soles.
 2. Friction produces heat and it causes damage to the parts of heavy objects.
 3. It is the friction, due to which it is difficult to move heavy objects.
 4. Slipping over wet and oily surfaces is the result of reduced frictional force.
3. Electrostatic force is a non-contact force that acts between the two charged particles. It pulls or pushes an object without touching it.

Activity- Rub a balloon against the hair or a plastic chair, it will get charged and can easily attract pieces of paper.



4. a. Due to the presence of gravitational force.
- b. Due to the frictional force.
- c. Cycle with worn-out tyres have less grip and can slip easily. They also reduce friction with the road making it unsafe.
5. The upward force exerted on the object by water is called buoyant force or buoyancy. Only a few objects float because of the force exerted by water on the object against its weight.

F. Think and Answer

Walk or run, lift anything, write or draw, open a door and eat food.

Value and Life Skill

- (a) Help lady to stand up and check if she is hurt.
- (b) The mud was slippery due to less friction.

Olympiad Question

- (d) Both a and c

Project

Do yourself.

CHAPTER-13

Energy

- A. 1.** (b) We can create energy and even destroy it.
 2. (d) Chemical
 3. (b) Kinetic energy + Potential energy
 4. (d) All of these

- B. 1.** F 2. T
 3. T 4. T
 5. T 6. F
 7. T

C. Very Short Answer

- Generating electricity
- CNG or hydrogen
- Remote control, Wall Clock, Torch
- Solar panel
- Joule and Calorie
- The energy we get from the Sun is called solar energy.
- Light energy and Heat energy.

D. Short Answer

- The ability to do work is called energy. Sources of energy are- Sun, Wind, Water, Fuel, Batteries
- Yes, energy can be converted from one form to another.
Examples-
 - A solar panel converts solar energy into electrical energy.
 - Fruits store chemical energy in the form of carbohydrates. When we eat them, the chemical energy changes into mechanical energy.
 - (a) When a pendulum is at the highest point- maximum potential energy converts to kinetic energy.
(b) When a pendulum moves down- potential energy is converted into kinetic energy
(c) When a pendulum is at the lowest point- maximum kinetic energy
(d) When a pendulum goes up again- kinetic energy converts back to potential energy.
- Cooking and generating electricity in thermal plants.
- Yes, plants store chemical energy. We can use this energy by eating plants in the form of fruits, vegetables, grains etc.

- A battery converts chemical energy into electrical energy which powers various battery operated devices.
- All electrical appliances of our home work with electrical energy, when plugged into an electric socket.

E. Long Answer

- The fuels are substances that store chemical energy and used to run various kind of vehicles, gas stoves, some power plants etc. All fuels are categorised into 3 groups-

a. Solid fuels-

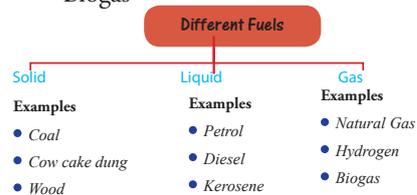
Examples- Coal, Cow dung cake, wood

b. Liquid fuels-

Example- petrol, diesel, kerosene

c. Gaseous fuels-

Example- Natural gas, Hydrogen, Biogas



- When a fuel is burnt, its chemical energy is converted into heat energy and sometimes light energy.
Five consequences of a day without fuel-
 - No transportation
 - No cooking
 - No electricity
 - No functioning of industries
 - No emergency services, like ambulance would be provided.
- The Sun is the main source of energy in the world. The energy we get from the Sun is called Solar energy.
 - Solar panels are made of the solar cells that convert Sun's light energy into electrical energy.
 - This energy can be stored for future use with the help of solar panels, battery and inverter.
 - The Sun gives us both light and heat energy.
 - Light energy helps us to see things, while heat energy enables us to dry the wet objects, cook the food, keep surrounding warm etc.

- 4. a. Solar energy- The energy we get from sun is called solar energy.
 - b. Electrical energy- Energy from the flow of electric charge.
 - c. Kinetic energy- The energy associated with the movement of an object.
 - d. Chemical Energy- The energy stored in the objects in the form of usable chemical compounds such as carbohydrates etc.
5. Potential energy- The energy stored in an object due to its position or height is called Potential energy.
Kinetic energy- The energy associated with the movement of an object is called kinetic energy.

Three differences between them-

Basis	Potential energy	Kinetic energy
State	Stored energy	Energy in motion
Depends on	Position	Speed
Example	Energy required by a pendulum when staying still either at the top or bottom	Energy required by a pendulum when going upwards or downwards

- 6. Same as above as answer 5.
- 7. Fuels are categorised into 3 groups- solid, liquid, gas.
 - a. Solid fuels- Solid fuels are used in gas stoves for cooking food. Coal is used in traditional charcoal iron boxes too. They are also used to keep the surrounding warm during winters.
 - b. Liquid fuels- Liquid fuels like petrol and diesel are used to run the vehicles. Kerosene is generally used in oil stoves for cooking food.
 - c. Gaseous fuels- Gaseous fuels like natural gas, LPG is filled in gas cylinders used as cooking gas in the kitchen.

F. Think and Answer

- 1. Chemical energy (from food) → Muscular energy.
- 2. Muscular energy → Mechanical energy (to move cycle)

- 3. While going uphill : Mechanical energy → Potential energy.
- 4. While coming downhill : Potential energy → Kinetic energy.

Value and Life Skill

- (a) Use public transport for short distances, use solar or electric energy to save fuel.
- (b) Yes, care for the environment and responsibility.

Olympiad Question

- (c) Chemical to Mechanical

Project

Do yourself.

**CHAPTER-14
Simple Machines**

- A. 1. (a) First
- 2. (b) Wedge
- 3. (b) A wheel barrow
- 4. (a) An inclined plane

- 5. (d)



B. Very Short Answer

- 1. Machines reduce our efforts and make our work easier.
- 2. Load, effort and fulcrum
- 3. Wheel and axle
- 4. Lever
- 5. Levers and wedges

C. Short Answer

- 1. Inclined planes help us move heavy objects easily to a higher place making the work easier.

Example– stairs, ramps etc.

- 2. A wheelbarrow is a complex machine related to wheel and axle. In a wheelbarrow, the load and the effort moves in the same direction.
- 3. Pulley is a simple machine or a mechanical device that uses a wheel and rope passing around the wheel to lift the heavy loads.

72 Answer Key 1 to 5

Two common places in which pulley is used are-

1. In wells, to pull out the water.
2. In cranes, to pull heavy loads.
4. A pulley uses a wheel and rope passing around the wheel, to lift heavy loads.
5. **Load**– the object on which work is done.

Fulcrum– the fixed point around which the object moves.

Effort– The force applied on the rod to do work.

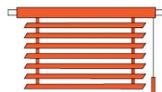
D. Long Answer

1. Simple machines allow us to apply force over larger area and thus lesser energy is required to do work. There are six types of simple machines-

a. Pulley– Pulley in wells used to pull water.



Water well



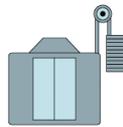
Window blind



Crane



Flagpole



Elevator

b. Wheel and axle– Wheel and axle are used in a wheelchair.



Wheelchair



Electric fan



Windmill



Bicycle



Ferris wheel



Doorknob

c. Screw–bulbs

d. Wedge– knife, axe

e. inclined plane– stairs, ladder



Ladder



Slide

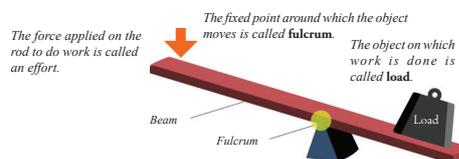


Stairs



Ramps

f. lever– see-saw



2. a. A knife- Wedge– A wedge is made of two inclined planes attached and tapering to a sharp thin edge.

b. A door knob– wheel and axle- It is a machine in which a wheel and a rod are joined at the centre. The wheel and rod rotate each other on applying force on either of them.

c. A pair of scissors– lever- A lever is a made of rod that rotates around or rests on fulcrum.

3. Simple machine.

lever	inclined plane	wedge
screw	pulley	wheel and axle

1. Lever– see-saw, scissors, nutcracker

2. Inclined plane– ramp, slope, ladder

3. Wedge– knife, axe, nail

4. Screw– jar lid, drill

5. Pulley– well pulley, crane, flagpole

6. Wheel and axle– rolling pin, doorknob, electric fan

4. It is a simple machine that is made of a rod (bar) that rotates around or rests on fulcrum. It is used to replace the heavy loads using shovel, to carry loads using wheel barrow, to break nuts in a nutcracker etc. It has three parts namely load, effort and fulcrum.

- The force applied on the rod to do work is called an effort.
- The fixed point around which the object moves is called fulcrum.
- The object on which work is done is

called load.

Lever are classified into three categories- First class, Second class, Third class lever based on the position of load, effort, and fulcrum.

Class 1	Class 2	Class 3
The fulcrum is placed between the effort and the load.	The load and the effort move in the same directions.	The effort is placed between the load and the fulcrum, with the effort closer to the fulcrum.
The load and the effort move in the opposite direction.	The load is placed between the effort and the fulcrum, with the load closer to the fulcrum.	Both the load and the effort move in the same direction.

5. Yes, simple machines make our tasks easier by reducing the efforts required.

Examples-

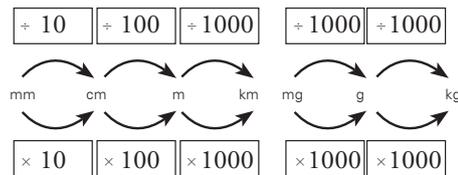
- Knife (wedge)– Cuts vegetables easily.
- Pulley– Helps draw water from a well.
- Ramp (inclined plane)– Moves goods to trucks.
- Screwdriver (wheel and axle)– Tightens or loosens screws easily.

Project

Do yourself.

Worksheet-3

A.



- Contact
- Contact
- Contact

C. Solar Energy, Chemical Energy, Electrical Energy, Heat Energy.

D. Scissors : Fulcrum, Effort, Load

Nutcracker : Fulcrum, Load, Effort

CHAPTER-15

Explore the Space

- (a) ISRO
- (b) Phobos

- (a) Aryabhata
- (d) ROSCOSMOS
- (b) USSR

B.

Abbreviations	Full form
NASA	National Aeronautics and Space Administration
ISRO	Indian Space Research Organisation
ESA	European Space Agency
SDSC	Satish Dhawan Space Centre
VSSC	Vikram Sarabhai Space Centre

C. Very Short Answer

- Sputnik 1
- Yes, Mercury and Venus do not have any natural satellite
- China National Space Administration
- Sriharikota, Andhra Pradesh, India
- Mercury and Venus

D. Short Answer

- The Solar System comprises of the Sun, stars, eight planets and some heavenly bodies.
- Satellites are celestial bodies, which revolve around the planets in a fixed orbit.
- There are mainly 5 orbits of the Earth- High Earth Orbit (HEO), Low Earth Orbit (LEO), Medium Earth Orbit

74 Answer Key 1 to 5

(MEO), Geostationary Orbit (GEO), Geosynchronous Orbit (GSO).

4. Phobos and Deimos
5. Spacecrafts are special vehicles used to transport people and cargo beyond the atmosphere of our planet Earth.

E. Long Answer

Planets	Earth	Mars	Jupiter	Saturn	Uranus	Neptune
No. of Moons	1	2	95	146	28	16
Example	Moon	Deimos, Phobos	Callisto, Europa, Ganymede	Dione, Titan, Rhea	Miranda, Ariel, Titania, and Oberon.	The first and largest moon - Triton

Artificial Satellites

These are man-made satellites launched into the space in the orbits of the Earth for various purposes.

Type of Satellites	Function of Satellites
Weather satellite	Study and prediction of weather
Communication satellite	Establish communication between different location in the world through specific waves.
Broadcast satellite	Broadcast of television programs.
Navigational satellite	Fix the location of any place on latitude co-ordinates.

2. Artificial satellites are used in the following ways–
 - a. They help in study and prediction of weather
 - b. They help in establishing communication between different location in the world through specific waves.
 - c. They help in broadcast of television programs.
 - d. They fix the location of any place on latitude co-ordinates.
3. ISRO (Indian Space Research Organisation) was established in November 1969. It is a major part of Department of Space (DOS). It has 25-sub centres in India.

1. Satellites can be natural or man-made.

Natural Satellites

Out of eight planets, six of them have their natural satellites or moons. Mercury and Venus are the planets which do not have any satellite.

The missions accomplished by ISRO in space are:

- Chandrayan-1: An orbiter that discovered evidence of water molecules on the moon.
 - Mangalyan: A spacecraft that reached Mars in 2014, making ISRO the fourth space agency to do so.
 - Chandrayan-2: A lunar orbiter that maps the moon and deploys a rover.
 - Pragyan Rover: It is the part of Chandrayan 3 launched by ISRO on 14th July 2023. It is the world's first rover that is operating near the south pole of the moon. It is working since 23rd August 2023.
 - Chandrayan-3: In 2024, ISRO plans to set up a habitat on the moon's surface.
 - Low-cost satellites: ISRO is also interested in developing satellites for military, commercial, and tourism use.
4. Chandrayan 1,2 and 3 are very different from each other in the following ways-
 Chandrayan-1: An orbiter that discovered evidence of water molecules on the moon.
 Chandrayan-2: A lunar orbiter that maps the moon and deploys a rover.
 Chandrayan-3: In 2024, ISRO plans to set up a habitat on the moon's surface.
 5. Space Research Organisations are the organisations which conduct research, development, and operations related to space activities.
 Some space research organisation in the world are:

- a. National Aeronautics and Space Administration (NASA, USA)
- b. China National Space Administration (CNSA, China)
- c. Russian Federal Space Agency (ROSCOSMOS, Russia)
- d. European Space Agency (ESA, Europe)

F. Think and answer

If a planet loses its gravity, everything would float away into space. Life would become impossible and the planet could drift out of orbit.

Value and Life Skill

- (a) Shamit is right. His thought reflects care for the poor.
- (b) But he is partly wrong as space research helps in long term progress like communication and weather forecast.

Olympiad Question

- (b) Pragyán rover is the part of Chandrayan : 1 & 2 both.

Project

Do yourself.

**CHAPTER-16
Natural Disturbances**

- A. 1. (a) Richter Scale
- 2. (a) Lituya Bay, Alaska
- 3. (a) Tsunami
- 4. (d) Tsunami
- B. 1. Earthquake
- 2. Waves
- 3. Cyclone

E. Long Answer

1.

Cyclone	Tsunami
1. A very strong and powerful storm that originate over the sea and travel 300 kms to 500 kms distance in a spiral coils, is called a cyclone.	The high waves caused by earthquakes or volcanic eruptions under the sea results into a tsunami.
2. India has seen several cyclones. Tropical cyclones typically develop over the Bay of Bengal, the Arabian Sea, or the Indian Ocean.	Famous Tsunami occurred in India was the Indian Ocean Earthquake and Tsunami on December 26, 2004.
3. The major hazards caused due to tsunami High level flooding, destruction of roads, bridges, and power lines etc.	The major hazards caused due to Tsunami are destructions of houses, damage of telephone poles and electric poles, loss of biodiversity, soil erosion etc

C. Very Short Answer

- 1. Coastal areas like Bay of Bengal, The Arabian Sea, or the Indian Ocean are the cyclone prone areas.
- 2. Typhoons
- 3. The high waves caused by earthquakes or volcanic eruptions under the sea are the major cause of Tsunami.
- 4. Northeast Pacific Ocean, South Pacific Ocean

D. Short Answer

- 1. Earthquake occurs due to the movement of tectonic plates in the outer layer of the Earth.
- 2. Tectonic plates are the layers of the Earth's crust.
- 3. Three precautions to be taken during a cyclone are–
 - a. Stay indoors, if possible find the place on the ground floor.
 - b. Avoid taking shelter under a tree.
 - c. Stay away from electrical appliances.
- 4. A hazard is a process that can cause harm or damage to humans, property or the environment. The main earthquake hazards are–
 - a. Building collapsing
 - b. Flooding
 - c. Fires
 - d. Loss of Biodiversity
 - e. Occurrence of tsunamis, landslides and rockfalls.

76 Answer Key 1 to 5

2. Lisbon Earthquake and Tsunami was occurred on November 1, 1755 between 19 to 50 feet caused by a 8.5 magnitude earthquake that crashed into the Portuguese, Spanish and Moroccan coastlines.
3. Safety Measures that can be applied before an earthquake are—
- Constructing earthquake resistant buildings.
 - Lightweight buildings in an earthquake prone areas.
 - Proper fixing of ceiling fan, AC, and air coolers.
4. Various types of natural disasters are—
- Land Disaster

Examples— earthquake

- landslide
- volcanism
- forest fire
- avalanches

- Air disaster

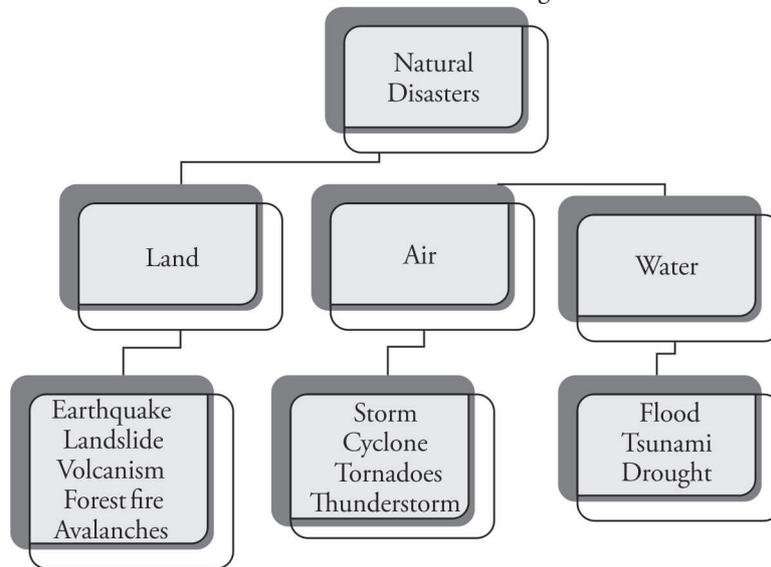
Examples— storm

- cyclone
- tornadoes
- Thunderstorm

- Water disaster

Examples— flood

- Tsunami
- Drought



F. Think and Answer

She should stay indoor and find the place on ground floor, if possible and close all windows and doors and stay away from them.

Value and Life Skill

I will serve in camps which help victims by providing food, clothes and shelter.

Olympiad Question

(a) Charless Richter

Project

Do yourself.

Worksheet-4

A. Across : 3. Sputnik, 5. ISRO,

6. ROSCOSMOS, 7. Aryabhata

Down : 1. Chandrayan I, 2. Vikram,

3. Pragyana.

B. Flood: Water cover areas are damaged, heavy rainfall, river overflow, dam failure, move to higher ground.

Cyclone : Heavy rains causes destructions, low pressure system over warm ocean waters, stay indoor.

Summative Assessment
Term-1

A. 1. Water

2. carpel

3. Proteins
4. Sun-drying
5. Stratosphere
6. circulatory
7. sublimation
8. Nocturnal

- B.**
1. Sublimation
 2. Chlorination
 3. Food chain
 4. Muscles
 5. Germination
 6. Endotherms
 7. Irrigation
 8. Microbes

Define—

1. **Sublimation** : Conversion of solid into gas with increase in the temperature.
2. **Chlorination** : The process of adding chlorine tablets to the water to kill the germs present in it.
3. **Food chain** : Food chain shows how energy passes from one organism to another through eating.
4. **Muscles** : Muscles are tissues that help in movement by contracting and relaxing.
5. **Germination** : The process of growth of a seed into a new plant.
6. **Endotherms** : Animals that can control their internal body temperature with change in environment.
7. **Irrigation** : Watering the plants.
8. **Microbes** : Tiny organisms that can be seen only through microscopes but not through naked eyes.

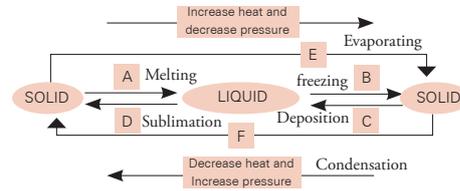
C. Draw the following and label them.

Do yourself.

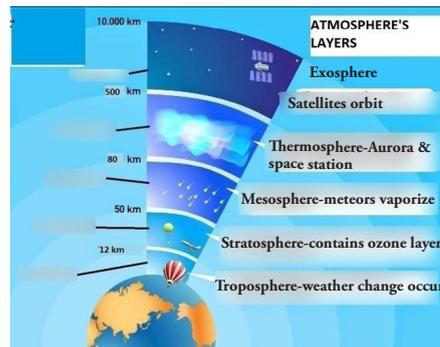
- D. 1.**
1. Supersaturated solutions cannot dissolve more solutes.
 2. Chocolates contain caffeine and sugar which disturbs sleep.
 3. Due to the reflex action
 4. Deforestation increases carbon dioxide that cause global warming.
 5. Seed dispersal helps plants to grow in new places and avoid overcrowding.
 6. To maintain strength for heavy work.

E.

1.



2.



F. 1. Do yourself

2. Farming tools are needed for various reasons like—

- Bolo is used for cutting tall grasses and weeds and chopping branch of a tree.
- Sickle is a hand-held agriculture tool with a variously curved blade typically used for cutting weeds.

3. The main causes of global warming are—

- **Pollution**— Burning of fossil fuels such as coal, petrol, diesel, etc. releases carbon dioxide and other harmful gases. Carbon dioxide absorbs heat and so it increases the earth's temperature globally.
- **Deforestation**— Plants use carbon dioxide in photosynthesis. Clearing of plants or deforestation results into fewer plants left to absorb carbon dioxide gas. This contributes to global warming.
- **Animal husbandry**— It is a branch of agriculture that involves raising animals for dairy products like eggs and meat. Animals such as sheep, pigs, cattle, chicken, etc. release a greenhouse gas methane, that may cause global warming.

4. The greenhouse effect traps heat in the Earth's atmosphere, keeping the planet

78 Answer Key 1 to 5

warm. However, excessive greenhouse gas causes global warming, lead to rise the temperature, melting glaciers and disturb weather patterns.

5. All the organs work together and make an organ system.

Example– When we eat food, the digestive system breaks it down into nutrients. These nutrients are transported by the circulatory system and the energy is used by the muscular system in movement.

6. Micro-organisms are essential in various ways–

- Bacteria lives in our intestine and help in digestion.
- Fungi helps in recycling nutrients in the soil by feeding on dead and decayed materials
- Micro-organism like fungi produce medicine.

7. Hibernation is deep sleep of animals that helps them to save their energy and survive. So, some animals hibernate in extreme cold weather to slow down their metabolism, when food is scarce.

Ex– Polar bears hibernate in winter to survive the cold and food shortage.

8. Colourful and having a good fragrance flowers attract pollinators like bees, butterflies and birds which help them in pollination.

Summative Assessment

Term-2

- A. 1. Adivasis
2. Sun
3. friction
4. kinetic energy
5. Lever
6. IST
7. Aryabhata
8. Tectonic plates.

- B. 1. Spacecraft
2. Seismograph
3. Satellite
4. Cyclone
5. Temperature
6. Machine
7. Energy
8. Monument

Define–

1. Spacecraft– Special vehicles used to transport people and cargo beyond the atmosphere of our planet earth.
2. Seismograph– An instrument used to detect and record vibrations in the earth caused by earthquake.
3. Satellite– Celestial bodies which revolve around the planets in a fixed orbit.
4. Cyclone– A very strong and powerful storm that originate over the sea and travel 300 km to 500 km in a spiral coil.
5. Temperature– The degree of hotness or coldness of anything is called temperature.
6. Machine– Things that reduce our efforts and make our work easier.
7. Energy– The ability to do work.
8. Monument– The structure or buildings that are built to honour a special person or event.

C. Draw the following and label them.

Do yourself.

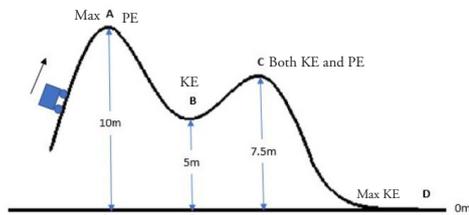
- D.1. Day-by-day increase in the amount of greenhouse gases such as methane, carbon dioxide, ozone, etc.
2. Writing on the walls of the monuments make them dirty and ugly. Monuments showcase our cultural heritage, represents national pride and identity and hence attract tourism. Therefore, we must never write on them.

3. Due to the religious and cultural beliefs and traditional customs sacred grooves are meant by villagers.
 4. Monuments need to be preserve because monuments showcase our cultural heritage, represents national pride hence attract the tourism, therefore they need to be preserved.
 5. To reduce friction between moving parts.
2. The energy stored in the objects in the form of usable chemical compounds such as carbohydrates, proteins, fats, propane, etc. is called chemical energy.
 - a. Heat energy– Burning wood or fuel
 - b. Light energy– fireflies using chemical reactions
 - c. Mechanical energy– fruits store chemical energy, when we eat them, their chemical energy changes into mechanical energy.

E.

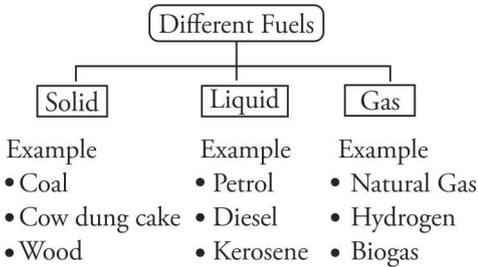
1. Gateway of India, Meenakshi Temple, Sun Temple

2.



F. Answers

1.



Solid fuels are used in gas stoves for cooking food. Coal is used in traditional charcoal iron boxes too. They are also used to keep the surrounding warm during winters.

Liquid fuels like petrol and diesel are used to run the vehicles. Kerosene is generally used in oil stoves for cooking food.

Gaseous fuels like natural gas LPG (Liquefied Petroleum Gas) is filled in gas cylinders used as cooking gas in the kitchen, CNG (Compressed Natural Gas).

3. The devices that make work easier and reduces the efforts.

Six types of simple machine are–

Categories	Example
Lever	Scissors
Pulley	Flag pole system
Inclined plane	Stairs
Wedge	Knife
Screw	Jar lid
Wheel and axle	School trolley

4. 1 mile = 1,609.34m
2.5 miles = 2.5 × 1609.34 = 4023.35 meters
5. 5 hours = 5 × 60 = 300 minutes
300 + 45 = 345 minutes

6.

Cyclones	Tsunami
(1) It is air disaster	It is water disaster
(2) A very strong and powerful storm that originate over the sea and travel 300 km to 500 km distance in spiral coils results in a cyclone.	The high waves caused by earthquakes or volcanic eruptions under the sea results into a tsunami.

80 Answer Key 1 to 5

(3) A cyclone causes– soil erosion, loss of biodiversity etc.	A Tsunami causes– Destruction of roads, bridges and power lines.
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7. ISRO or Indian Space Research Organisation conducts research, development and operations related to space activities.

It was established in November 1969. It is a major part of Department of Space (DOS). It has 25-sub centres in India.

- **Chandrayan-1**– An orbiter that discovered evidence of water molecules on the moon.

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