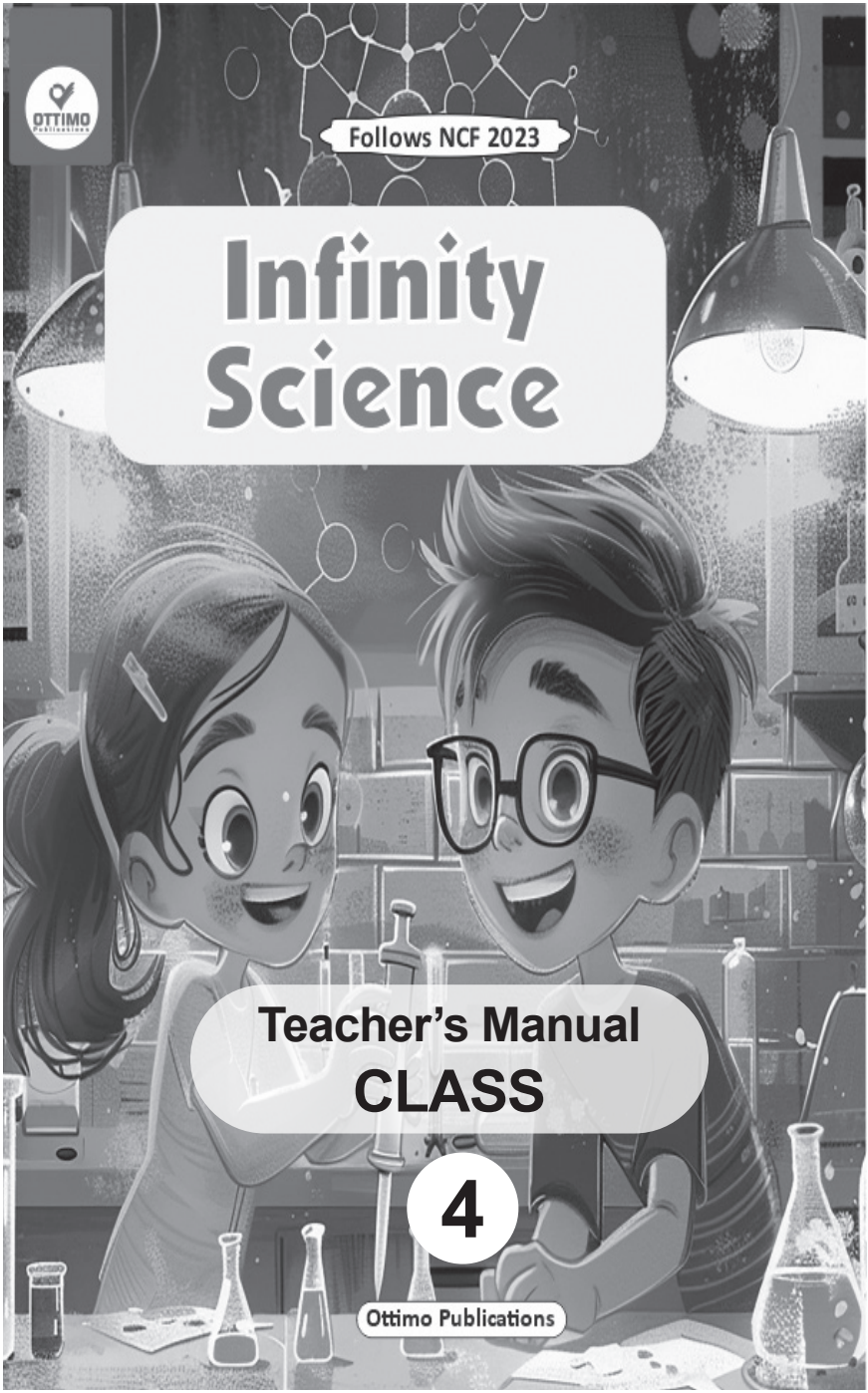

OTTIMO
Publications
Follows NCF 2023
Infinity Science
Teacher's Manual
CLASS
4
Ottimo Publications

INFINITY SCIENCE
Class – 4

Chapter – 1 Food and Digestion

Tell Me Now (Page 7)

1, 4, 7, 8 – Correct

Tell Me Now (Page 14)

1. (d) frying in hot oil 2. (e) Digestion 3. (b) Stomach 4. (a) Saliva
5. (c) Preservation

Learn and Revise

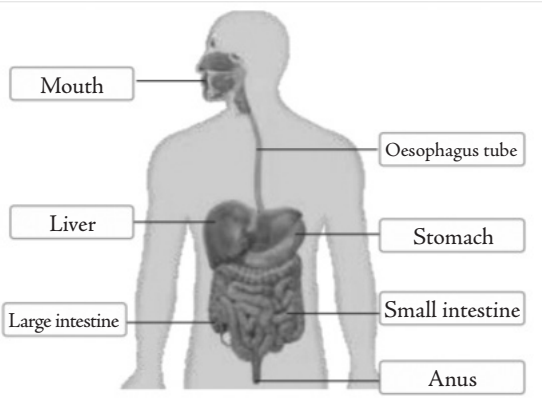
A. 1. (b) Potato 2. (b) proteins 3. (b) body-building foods 4. (a) mouth
5. (a) Boiling

B.

1.	a. Rice	b. Bread	c. Potatoes
2.	a. Butter	b. Olive oil	c. Cheese
3.	a. Oranges (Vitamin C)	b. Carrots (Vitamin A)	c. Spinach (Vitamin K)
4.	a. Spinach (Iron)	b. Bananas (Potassium)	c. Milk (Calcium)
5.	a. Eggs	b. Chicken	c. Lentils

C. 1. Fats, carbohydrates 2. vitamins 3. sugar 4. blood 6. Proteins

D.



E. 1. We take food to live.
2. Water maintains our body temperature. It helps us to digest our food
3. Vitamins: Egg, meat, fruits Minerals: Apple, banana, grapes
4. A diet that provides us the nutrients essential for our body is called a balanced diet.
5. i. Storing the Food at Low Temperature
ii. Storing in airtight containers

F. 1. i. Do not throw away the water in which pulses are soaked. It contains vitamins.
ii. We should not wash vegetables after cutting because in doing so certain vitamins and mineral salt are lost.

iii. Food should be cooked in clean utensils using clear water.
iv. Overcooking should be avoided. Overcooking destroys the vitamins

2. We eat or drink through our mouth. When we eat solid food, we first cut it and chew it with our teeth. In the mouth, a digestive liquid, saliva mixes with the food. This makes a paste of the food. Saliva also changes the starch in the sugar with the help of an enzyme.
3. From stomach the food is pushed into long coiled tube called the small intestine. From the small intestine the food goes to the large intestine. More digestive juices are added to the food in the small intestine. These juices mix with the food and change it into simple liquid form.
4. Minerals also keep us healthy and fit. They help us to build strong bones, teeth and blood. We get minerals from fresh fruits. That's why food items rich in vitamins and minerals are known as protective foods.
5. Food is valuable. So, preservation of food is necessary If it is not preserved, it may begin to spoil. The process of treating food in a way that preserves its value for a long time is called preservation. Cooked or uncooked food can be preserved in different ways:
   i. Storing the Food at Low Temperature
   ii. Storing in airtight containers
   iii. Boiling

Word Puzzle

1. PROTEINS 2. SALIVA 3. FATS 4. CARBOHYDRATES
5. VITAMINS

Hots (Think and Answer)

Food rich in fibre known as roughage. It helps in expelling out waste materials from the body. Salad, vegetables and fruits are rich in fibre content.

Let's Talk

1. We do many types of activities from morning till night. Children study and play games. After working or playing for a long time, we get tired and hungry.
2. Proteins are body building foods. It help us to grow. They also help to repair the body and keep us healthy. That is why, children need more proteins and their grandfather.

Explore More

Do it yourself

Chapter – 2 Teeth and Microbes

Tell Me Now (Page 20)

Students should label themselves

Tell Me Now (Page 23)

1. (c) Tearing teeth 2. (d) Cracking teeth 3. (b) Grinding teeth 4. (a) Cutting teeth

Tell Me Now (Page 25)

(a) Fungi: Ringworm, Athletes foot
(b) Bacteria: Cholera, Tuberculosis
(c) Protozoa: Malaria, Dysentery
(d) Viruses: Chicken pox, Dengue

Learn and Revise

A. 1. (c) canines
2. (a) milk teeth
3. (c) six
4. (b) Caterpillar
5. (a) We must not brush our teeth every day.

B. 1. premolar 2. plaque 3. chocolates 4. germs 5. root

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

D. 1. i. Incisors or cutting teeth
ii. Canines or tearing teeth
iii. Premolars or cracking teeth
iv. Molars or grinding teeth

2. Humans have two sets of teeth–milk teeth and permanent teeth.

3. i. Bacteria are single-celled micro-organisms.
ii. Viruses are smaller than bacteria and can be seen only through a powerful microscope.
iii. Protozoa are single-celled micro-organisms.
iv. Fungi are organisms which grow on decaying matter.

4. i. Bacteria
ii. Viruses
iii. Protozoa
iv. Fungi

5. A tooth is made of three layers: enamel, dentine and pulp.

E. 1. Without teeth it would not have been possible for us to enjoy our food. Chewing breaks the food into smaller pieces so that it may be digested easily. Without teeth we cannot bite raw vegetables, fruits and nuts.

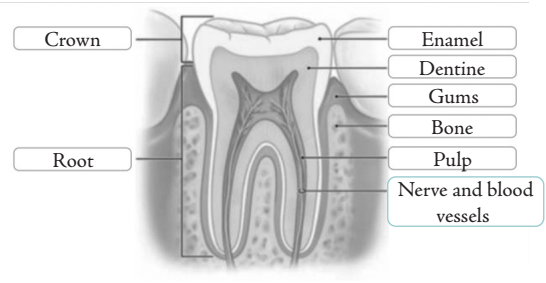
2. i. Incisors or cutting teeth: We use them to bite our food.
ii. Canines or tearing teeth: These are used for tearing the food
iii. Premolars or cracking teeth: They are meant for crushing food.
iv. Molars or grinding teeth: They are boarder than the premolars and have broad upper surface to grind food.

3. Tooth decay result in bad breath, bleeding of gums and digestion.
Tips for Keeping Teeth Healthy
i. We must brush our teeth at least twice a day every morning and every night before going to bed.
ii. We should wash our mouth after every meal.
iii. We should not eat many sweets, biscuits, toffees and chocolates too much.
iv. We should get our teeth examined by a dentist after every six months.

4. Microbes are very small organisms. They can be seen only through microscope. The microbes are found everywhere.
Malaria and dysentery are caused by protozoa.

5. There are some microbes which are useful to us. They help us in many ways.
i. Some bacteria change milk into curd and some help in making cheese.
ii. Some bacteria help in baking bread and making wines.
iii. Some bacteria help in the decay of dead plants and animals.
iv. Some bacteria help to digest food in animals.

F.



Word Puzzled

Across
1. MALARIA
4. INCISORS
6. DENTINE
7. VIRUSE

Down
2. ROOT
3. CURD
5. CANINE

Hots (Think and Answer)

We should not eat too much chocolates because it spoil the teeth.

Let's talk

1. We must brush our teeth well after meal to avoid the spoiling of teeth from bacteria.
2. We should wash our hands before and after having meal to avoid from germs and bacteria.

Explore More

Do it yourself

Have Fun

Bacteria, Virus, Protozoa

Chapter – 3 Safety First

Tell Me Now (Page 30)

Matchbox: It may cause burn to child
Knife: It may cause cut to child
Medicines: It may cause infections and reactions to child
Electric switches: It may cause electric shock to child

Tell Me Now (Page 33)

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

Tell Me Now (Page 35)

1., 2., 5. and 6.

Learn and Revise

A. 1. (a) apply lime water 2. (c) both 3. (b) Synthetic 4. (a) wet hands
B. 1. (b) Must be kept dry to prevent slipping on them.
2. (c) Should be handled carefully.

3. (d) If you are not an expert swimmer.
4. (e) Must be used to clean cuts.
5. (a) apply an antiseptic cream on the affected area.

C. 1. carelessness 2. footpath 3. fire 4. GO 5. first-aid

D. 2 and 3

E. 1. First aid is the immediate help given to a wounded person before proper medical aid arrives.
2. In school, accidents can happen when children run, push and fight with each other.
3. i. Follow the signals of the traffic light or the traffic policemen.
ii. Walk on the footpath or on the left side of the road.
4. A zebra crossing is marked by white stripes painted across the road.
5. Minor cuts, Insect bite

F. 1. In case of minor wound and scratches, wash the wound with soap and water. Apply an antiseptic like Savlon or Dettol on it. In case there is lots of bleeding apply ice on the wound to stop the bleeding. Cover the wound with a band-aid.
2. In case of burn, we should pour cold water on it and apply antiseptic or burnol also before going to doctor.
3. Keep all medicines and household chemicals beyond the reach of small children. Read the label carefully before using any bottle. In case of any kind of poisoning, try to induce vomiting in the victim.
4. The red light says 'STOP'. The yellow light says 'WAIT'. The green light says 'GO'.
5. Do not go for swimming alone. If you do not know to swim, stay at the shallow of the pool. Use a swimming tube for swimming if you are not an expert swimmer. Always swim in the presence of an adult.

Hots (Think and Answer)

We should not wear nylon clothes while cooking in the kitchen because it catches fire easily.

Let's Talk

1. Fire caused by burning petrol is very dangerous to us, so we should first use fire extinguisher if available otherwise sand can also be used. Call immediately fire brigade.
2. Delhi. It has maximum numbers of vehicles on the road. So, Delhi is the most polluted city in India.

Explore More

A. Do it yourself B. Do it yourself

Chapter – 4 Clothing

Tell Me Now (Page 40)

1. N 2. S 3. P 4. P

Tell Me Now(Page 43)

a. cotton b. Warm c. school uniform d. cloth

Tell Me Now (Page 44)

1. Punjab 2. Gujarat 3. Rajasthan

Learn and Revise

A. 1. (c) animal's skin
   2. (c) all of these
   3. (a) Cotton, (c) Nylon
   4. (a) Saree

B. 1. saree 2. insects 3. raincoat 4. Naphthalene 5. winter

C. 1. We get cotton from plants.
   2. Synthetic fibres are made by chemical processes.
   3. We should wear dry socks and comfortable shoes.
   4. Polyester did not absorbs lot of water.
   5. The national dress of an Indian woman is sarees.

D. 1. Frock 2. Jeans 3. Saree 4. Kurta

E. 1. Natural fibres are those which are made from natural materials.
   2. Nylon, rayon, polyster
   3. Clothes protect us from heat, cold, dust and rain.
   4. Warm clothes
   5. We should wash clothes to protect us from germs and bacteria.

F. 1. Clothes protect us from the heat of sun. In winter seasons, we like to wear thick and warm clothes. They protect us from the cold. In rainy season rain coat protects us from the rain.
   2. Natural fibres are those which are made from natural materials. Synthetic fibres are prepared by different chemical processes.
   3. The clothes should be regularly washed. Cotton clothes are washed with soap and water. We should rinse the clothes in water. After washing we should squeeze our clothes properly and dry them. We should iron the clothes and keep in an almirah.
   4. People wear special clothes for specific work. Doctors and nurses wear white coats. People working in factories wear overalls. A soldier wear a uniform made from tough material. So that it does not tear easily. You wear a uniform to school so that you can be recognised as a student of your school.
   5. We wear socks and shoes to protect our feet from cold, heat, dust, germs and worms. If we move without wearing shoes, it can cause cuts through which dirt, germs and worms may enter the body.

Hots (Think and Answer)

Ancient people wear clothes made by animal's skins because that time they did not know how to make clothes, so clothes are not available for them.

Let's Talk

1. Do it yourself
2. In winter seasons, we like to wear thick and warm clothes. They protect us from the cold.

Explore More

A. 1. Fibre: Natural
   Season: Summer
   2. Fibre: Natural
   Season: Winter
   3. Fibre: Synthetic
   Season: Rainy

B. Natural: Cotton, Jute, Linen;
   Synthetic: Rayon, Nylon, Polyster

Chapter – 5 Solids, Liquids and Gases

Tell Me Now (Page 49)

Solid Matter: Chair, Computer, Book, Pen
Liquid Matter: Milk, Water, Juice
Gaseous Matter: Steel span

Tell Me Now (Page 51)

Book: Definite shape. Easily held in hand.
Glass juice: It takes the shape of glass. It can flow.
Perfume bottle: No definite shape. It can occupies space of bottle.

Tell Me Now (Page 53)

(i) Sand: Insoluble (ii) Sugar: Soluble (iii) Common Salt: Soluble
(iv) Ghee: Insoluble (v) Coconut oil: Insoluble

Learn and Revise

A. 1. (a) Wax 2. (b) solvent 3. (b) Gas 4. (a) interchangeable 5. (a) Stone

B. 1. molecules 2. solute 3. Space, weight 4. closely 5. solvent

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

D. 1. Anything that has mass and occupies space is called matter.
2. The three states of matter are solid, liquid and gas.
3. Sugar and salt
4. Matter is made up of tiny particles called molecules.
5. Water

E. 1. The molecules of solid are closely placed. In liquid, the molecules are less closely placed.
2. Two solids which are soluble in water are sugar and salt and two solids which are not soluble in water are sand and flour.
3. The substances which dissolve in a liquid are called solute. For example, salt. The liquids in which solids dissolve are called solvents. For example, water. The substances which dissolve in any solvent are called solutes. For example, salt-water.
4. When ice (solid form) is heated, it changes into water (liquid form) and when water is heated, it changes into water vapour (gaseous form). Similarly, when we cool the water vapour, it forms water. Water on cooling turns into ice. Thus, the states of matter are interchangeable either by heating or cooling.
5. A liquid is a substance that has no shape of its own. It takes the shape of the container in which it is kept. In liquid, the molecules are less closely placed. A gas is a substance that has no definite shape or volume. In gases, the molecules of a gas is weakest. The gas occupies the complete space in the container in which it is kept. It can move in any direction.

Hots (Think and Answer)

A liquid take the shape of container because it has no definite shape.

Let's Talk

1. Inter-molecular space is the empty space between the tiny particles (molecules) that make up everything around us. The amount of space between these molecules changes depending on whether the substance is a solid, liquid, or gas.

2. Solid has a definite shape and volume. The shape of a solid does not change unless some force is applied on it. A liquid is a substance that has no shape of its own. It takes the shape of the container in which it is kept.

Explore More

A. Do it yourself B. Do it yourself

Chapter – 6 Plants and their Food

Tell Me Now (Page 57)

Do it yourself

Tell Me Now (Page 61)

1. Non-green plants – Moulds, Mushrooms
2. Materials needed for photosynthesis – Sunlight, carbon dioxide
3. The parts of a leaf – Stalk, Midrib
4. Herbivores – Cow, Deer
5. Carnivores – Dog, Cat

Learn and Revise

A. 1. (b) midrib 2. (a) stalk 3. (b) chlorophyll 4. (b) Moulds

B. 1. chlorophyll 2. decaying 3. photosynthesis 4. herbivorous 5. stomata

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

D. Sun, Sunlight, Carbon dioxide, Water, Oxygen

E. 1. The process of preparation of food in the green leaves of plants is known as photosynthesis.
2. Water, carbon dioxide, chlorophyll and sunlight are required by plants to prepare food.
3. Extra food in plants is stored in the form of starch.
4. Only green leaves which contain chlorophyll can prepare food for the plants.

F. 1. If the iodine solution turns blue-black, it indicates the presence of starch in the leaf.
2. Human beings and all other animals depend directly or indirectly on plants for their food.
3. So, we should maintain this balance in nature, we have to protect both plant and animals. Under wildlife protection programmes, wild animals are given special protection in forest reserves and sanctuaries.
4. Plants and animals are interdependent and maintain a balance in nature. If there is a sudden increase or decrease in the number of either plants or animals on earth, this balance will be disturbed. If more and more plants are cut, then animals will not get enough oxygen to breathe.

Word Search

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

Hots (Think and Answer)

The leaves of a plant kept in the dark do not produce starch due to sunlight and oxygen.

Let's Talk

- Plants and animals in our surroundings are interdependent, means they depend on each other for survival in various ways.
- Plants and animals depend on each other for survival, forming a balance in nature. Humans play a significant role in preserving this balance by protecting the environment, conserving resources, and supporting sustainable practices.

Explore More

A. a. CHLOROPHYLL b. MOULDS

B. Do it yourself

Chapter – 7 Survival of Plants

Tell Me Now (Page 66)

Do it yourself

Tell Me Now (Page 69)

1. Banyan	(a) plains
2. Coconut	(e) hot and damp area
3. Pitcher plant	(d) insectivorous plants eat insects
4. Cactus	(b) desert
5. Pine	(c) hilly area

Tell Me Now (Page 71)

(a) Spruce (b) Needle-like leaves (c) Hilly areas

Learn and Revise

A. 1. (c) Pine 2. (c) Pitcher plant 3. (b) needle-like leaves
4. (c) Mangrove

B. 1. Cactus, Palm 2. Water hyacinth, Duckweeds 3. Pine, oak
4. Hydrilla, Vallisneria 5. Pitcher plant, Venus flytrap

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

D. i. Water hyacinth plants protect small water animals from the heat of the sun.
ii. Venus fly trap belong to the grass family.
iii. Duckweed plants protect small water animals from the heat of the sun.
iv. Cactus plants growing in deserts have spines instead of leaves.

E. 1. Plants that grow in water are called aquatic plants. For example, Duck weed and Water lettuce
2. Pine, Deodar, Spruce
3. Rice, Wheat
4. Pitcher plant, Venus flytrap

F. 1. In marshy areas, the soil is sticky and clayey. The trees that grow here are called mangroves. The clayey soil does not provide air mangroves to the roots for breathing. So some breathing roots come above the ground. These roots are called areal or breathing roots.
2. The stem of the lotus is hollow and light which keeps the leaves and the flowers afloat.

3. These plants are useful to us in many ways. They provide food for humans and animals. Cereals such as rice, wheat, jowar, bajra, sugarcane and bamboo belong to the grass family.
4. Bamboo is a useful grass plant which is used to make huts, baskets, chairs, mats, toys and brooms.

Hots (Think and Answer)

People worship the banyan tree for its long life, spiritual meaning, and its role in nature and culture.

Let's Talk

1. A leaf is often called the "kitchen of the plant" because it is the part of the plant where photosynthesis happens.
2. 1. Banyan 2. Lotus 3. Fir 4. Babul 5. Rubber

Explore More

A. Do it yourself B. Do it yourself

Chapter – 8 Reproduction in Animals

Tell Me Now (Page 75)

Puppy, Calf, Kitten, Foal

Tell Me Now (Page 77)

a. Dolphin b. Bats c. Fish d. Bird e. Dog

Learn and Revise

A. 1. (b) Cow 2. (a) kittens 3. (c) Squirrel 4. (a) Fish
B. 1. Mammals 2. water 3. egg 4. Bats
C. 1. Cats (e) Give birth to young ones
2. Monkeys (d) Arboreal animals
3. Dolphins (c) Mammals
4. Birds (b) Egg laying animals
5. Albumen (a) Protects the embryo
D. Water, Tree, Sky
E. 1. Cow
2. Hen
3. The animals give birth to their young ones are called mammals.
4. Mammals give birth to their young ones of their own kind. Birds reproduce by laying eggs.

F. 1. Arboreal animals are animals that primarily live in trees. For example, Monkeys, Squirrels, Koalas
2. Mammals take care of their babies for long period of time. Usually, the mothers care for the young ones. They feed the babies, clean them and keep them warm. Mothers protect them from enemies. As they grow the mother teaches them to find food and live on their own.
3. Birds reproduce by laying eggs. Most birds like crow, sparrow, hen and eagle lay eggs. They lay eggs in nest. Birds sit on eggs to keep them warm. After some time, the eggs hatch and baby birds come out.

4. Reproduction is the biological process by which living organisms produce offspring, ensuring the survival of their species.

Word Search

COW, DOG, CAT, HUMANS, HORSE

Hots (Think and Answer)

Animals take care of their young in many ways, such as providing food, protection, warmth, shelter, and teaching them necessary survival skills. The methods vary based on the species and their environment, but the primary goal is to ensure the survival and well-being of their offspring.

Let's talk

Snake:	Lay eggs
Cow:	Give birth to young ones
Horse:	Give birth to young ones
Sparrow:	Lay eggs
Hen:	Lay eggs

Explore More

Do it Yourself

Chapter – 9 Adaptations in Animals

Tell Me Now (Page 81)

Mongoose, Bat, Giraffe, Turtle

Tell Me Now(Page 85)

a. Cows, goats b. Lion, fox c. Bear, crow d. Vulture, Hyenas

Tell Me Now(Page 87)

1. Camel 2. Zebra 3. Leaf insect 4. Snake

Learn and Revise

A. 1. (c) habitat 2. (c) carnivores 3. (b) Rabbit 4. (b) amphibians
5. (a) tearing teeth

B. 1. Fish, Duck 2. Eagle, Bat 3. Tiger, Horse 4. Monkey, Squirrel
5. Frog, Salamander

C. 1. Terrestrial (d) Camel
2. Aerial (b) Crow
3. Omnivore (a) Bat
4. Colour protection (c) Leaf insect

D. Turtle: Turtle has limbs that help it to swim in water and to move on land.

E. 1. Adaptation is the process by which animals or plants adjust to their environment in order to survive.
2. Penguin, Polar bear
3. Animals which live on tree are called arboreal animals.
4. Most herbivores have long and strong legs to help them run fast.

E. 1 Those that spend most of their time in the air, like birds, bats, and insects—have evolved to have light bodies.

2. Some animals cannot survive in cold winter months. So they sleep for a great length of time in winter. They sleep in caves or underground burrows. This process of sleeping is called hibernation.

3. Camel has a thick and less hairy skin which protects it from the heat of sun.

4. The skin of animals acts as a protecting organ. It helps them to protect from various climatic conditions. Camel has a thick and less hairy skin which protects it from the heat of sun. Some animals like lizard, snake and some birds have scales or feathers on their skin. These protect their skin from drying. Some animals protect themselves from enemies by changing the colour of their skin resembles the colour of their surroundings. Their colour helps them in hiding from the enemies.

5. There are certain types of small animals that live on or inside the body of other animals. They are called parasites. The animals on which parasites depend for their food are called hosts. Mosquitoes, leeches, hookworms and bugs are parasites. They have suckers or sucking tubes to suck blood from their host.

Hots (Think and Answer)

Fish have several adaptations, like gills for breathing, fins for movement, and a streamlined body for swimming, that help them survive and thrive in their aquatic environment.

Let's Talk

1. Snakes don't have legs, so they move in a special way called slithering. They use their long, flexible body and muscles to move.
2. i. Polar bear
   Habitat: They live in cold region
   ii. Frog
   Habitat: These animals have limbs that help them to swim in water and to move on land. (Amphibian)
   iii. Turtle
   Habitat: These animals have limbs that help them to swim in water and to move on land. (Amphibian)

Explore More

Do it yourself

Chapter – 10 Force, Work and Energy

Tell Me Now (Page 91)

Force is applying on 2 and 4.

Tell Me Now (Page 93)

1. Lever and Wedge 2. Lever 3. Lever

Tell Me Now (Page 95)

1. Muscular energy 2. Wind energy 3. Water energy 4. Solar energy

Learn and Revise

A. 1. (b) sun 2. (b) Frictional 3. (b) energy 4. (b) machine 5. (a) Atomic

B. 1. energy 2. Friction 3. solar 4. Movement 5. opposite

C. 1. Electrical bulb (d) Electrical to light
2. Solar cookers (c) Solar energy to heat
3. Television (e) Electrical to light and sound
4. The sun (a) Solar energy
5. Petrol engine in car (b) Heat energy

D. i. Cutting ii. Moving iii. Tighten iv. Electricity

E. 1. The different forms of energy are electrical energy, heat energy, atomic energy and wind and water energy and solar energy.
2. Force can be used to push or pull something.
3. When a force moves some object over some distance, it is called work done.
4. Pushing a cart is an example of muscular force.

F. 1. When a force is applied in the same direction as a moving object, it increases the speed of the object. For example, if you push a toy car in the same direction it is already moving, the car will move faster.
2. Gravitational force is the force that pulls objects towards the Earth.
3. Simple machines help us by making our work easy.
4. When a force moves some object over some distance, it is called work done. Work done can be calculated by the following formula
Work done = Force applied on an object × Distance covered by the object

Hots (Think and Answer)

The harmful effects of sunlight are Sunburn, Skin Cancer, Heat Stroke, etc.

Let's Talk

1. A screw joins two pieces of wood better than a nail because of Grip, Stronger Hold, Better for Stability.
2. a. Energy b. Wedge c. Gravity d. Solar

Explore More

1. & 2. Do it yourself

Chapter – 11 Beyond the Earth

Tell Me Now (Page 99)

Do it yourself

Tell Me Now (Page 101)

1. Planet having life (d) Earth
2. Planet nearest to the sun (c) Mercury
3. Largest planet (a) Jupiter
4. Planet known as the red planet (e) Mars
5. Planet closest to the earth (b) Venus

Tell Me Now (Page 105)

1. There are 8 planets in our solar system. They are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune.
2. Mars is known as the Red Planet because its surface is covered with red dust and rocks.

3. Venus is the planet that is nearest to the Earth.
4. Jupiter is the largest planet in our solar system.
5. Venus is called the evening star or the morning star because it is bright and can be seen in the sky just after sunset (evening) or just before sunrise (morning).

Learn and Revise

A. 1. (c) constellations 2. (c) star 3. (c) 8 4. (a) Jupiter 5. (c) Saturn

B. 1. Jupiter 2. Venus 3. Telescope 4. Saturn 5. Mercury

C. 1. earth 2. the moon 3. rotation 4. revolution 5. Constellations

D. Inner core, Outer core, Mantle, Crust

E. 1. There are some bright bodies which move around the sun along their fixed paths in the sky. These are called planets.
2. The earth spins around its own axis. This movement is called the Rotation of the earth.
3. Our earth completes one revolution in 365 days and 6 hours.
4. The group of stars form shapes are called constellations.
5. Earthworms, Ants

F. 1. A heavenly body that revolves around a planet is called the satellite.
2. The correct order of planets from nearest to sun is: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune.
3. A star is a huge ball of gases. It gives out light and heat. The planets do not give off any heat or light of their own. A planet is smaller than a star.
4. The earth completes one rotation in 24 hours. The rotation of our earth causes day and night. Our earth completes one revolution in 365 days and 6 hours. This time period is called solar year. The revolution of earth gives rise to seasons.

Word Search

MERCURY, EARTH, VENUS, SATURN, URANUS

Hots (Think and Answer)

So, Earth has life, water, air, temperature, and many other unique things help make it a place where plants, animals, and people can live. That's why Earth is different from all the other planets.

Let's Talk

1. Without weather, water, or an atmosphere, the Moon's surface doesn't change much. Most of the marks on the Moon are craters left by space rocks hitting it a long time ago!
2. A heavenly body that revolves around a planet is called the satellite. INSAT and Hubble Space Telescope are two artificial satellites.

Explore More

Do it yourself

Chapter – 12 Air, Water and Weather

Tell Me Now (Page 110)

1. Cold 2. Summer 3. Winter 4. Summer

Tell Me Now (Page 114)

1. (c) Dew 2. (a) Evaporation 3. (b) Snow 4. (d) Rain

Tell Me Now (Page 116)

1. SEDIMENTATION
2. EVAPORATION
3. INSOLUBLE
4. CONDENSATION

Learn and Revise

A. 1. (a) sun 2. (c) condensation 3. (a) dew
4. (b) decantation 5. (a) storm

B. 1. Condensation 2. filter 3. wind
4. longer 5. faster

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

D. a. In the morning we get slanting rays because the sun remains on one side of the sky. Therefore, the morning remains cool.
b. Because the sun shines over our head at noon and the sun's rays fall straight on the earth. It gets difficult to walk barefoot at noon.
c. After the sunset, heat escapes from the earth. Therefore nights remain cool.

E. 1. The sun causes changes in weather.
2. The change of water into water vapour is called the evaporation.
3. The change of water vapour into water by cooling is called the condensation.
4. Temperature, Surface Area, Humidity
5. Insoluble impurities, soluble impurities

F. 1. This process of settling down of heavy insoluble impurities is called the sedimentation. The clean water can be poured into another vessel. This is called the decantation.
2. The sun causes changes in weather. It affects the temperature and length of the day.
3. When the water vapour freezes in the air, it forms small icy-crystals. These are called snow.
4. Sedimentation, Decantation, Filtration, Boiling
5. The air pressure over the water is higher with cold dense air, which moves to occupy the space created over the land. The cool air that comes along is called the sea breeze.
Cold and dense air over the land begins to move to the water surface to replace the warmer rising air. The cool breeze from the land is called the land breeze.

Hots (Think and Answer)

Gaps are left between railway tracks so that the rails can expand and contract when the temperature changes.

Let's Talk

1. This happens because of condensation. During the night, the air cools down, and when the temperature drops, it can cause the moisture in the air to turn into liquid water. This is similar to how water droplets form on the outside of a cold glass. Since the surfaces of the cars and plants are cooler than the air, the water vapor in the air condenses on them, forming the drops.

2. a. Flood b. Driving c. Filtration d. Wind

Explore More

A. Do it yourself B. Do it yourself

Chapter – 13 Soil

Tell Me Now (Page 121)

Do it yourself

Tell Me Now (Page 126)

Do it yourself

Learn and Revise

A. 1. (b) Topsoil 2. (a) sand 3. (c) Loamy
4. (c) clayey 5. (b) soil erosion

B. 1. conservation 2. Sandy 3. Embankments
4. three 5. terrace farming

C. 1. Terrace farming is done on hillsides or sloped areas.
2. The topsoil provides the nutrients to the plants.
3. Deforestation is the main reason to cause the soil erosion.
4. Clay is the smallest particles in any type of soil
5. Loamy soil is well-drained in nature

D. 1. Sand: The largest particles in any type of soil is sand.
2. Clay: Clay particles are much smaller than sand.
3. Silt: Silt is a medium-sized soil particles that is smooth.

E. 1. Humus increases the fertility of the soil.
2. The topmost layer of the soil is called topsoil.
3. Wearing and carrying away the soil by natural forces is called soil erosion.
4. Wind and water are the main natural agents of soil erosion.
5. An embankment is a raised structure made of soil or rocks, used to prevent flooding or soil erosion along rivers or roads.

F. 1. Soil is formed by weathering of rocks by the action of wind, rain and the sun.
2. Humus helps in plant growth by improving soil fertility.
3. In the hilly areas, most of the rain water flows down the slopes with great speed. It carries large quantities of soil and other loose materials with it. This type of soil erosion can be prevented by cutting steps in the slopes and by terrace farming.
4. It has high nutrients content and a good drainage quality which makes it very productive.
5. Sandy Soil: Sandy soil is light and dry. It does not have moisture content and gets heated quickly.
   Clayey Soil: Clayey soil is wet in nature. It is suitable for planting seeds.
   Silt Soil: Silt soil is the most fertile soil present on the earth.
   Loamy Soil: Loamy soil is a combination of all the three soils.

Explore More

Do it yourself

Hots (Think and Answer)

Earthworms are called the friends of farmers because they help improve soil quality in several ways.

Let's Talk

1. sandy soil alone is not suitable for making pots, but a mixture of clay and sand is commonly used in pottery.
2. Do it yourself

Chapter – 14 A Clean World

Tell Me Now (Page 131)

1. Noise pollution
2. Water pollution
3. Land pollution

Learn and Revise

A. 1. (c) headache 2. (c) Bathing cattle in the river 3. (c) both 4. (a) cholera

B. 1. pollutants 2. unfit 3. Smoke 4. peace 5. rivers

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

D. 1. It showing water pollution done by man.
   2. i. It will make water dirty ii. Water is not fit for us for drinking.
   3. It affects our health very badly and make germ.

E. 1. The natural world, for example the land, air and water, in which people, animals and plants live.
   2. The harmful substances make the air, water or land dirty. This is called pollution.
   3. Cholera, diarrhea
   4. Harmful substances that pollute air, water and land are called pollutants.

F. 1. Air pollution causes breathing problem such as asthma and burning sensation in eyes. It also causes damage of nerves.
   2. Noise pollution disturbs our peace. Continuous noise can cause high blood pressure, deafness and other health problems.
   3. Smoke is harmful both to our health and to the environment.
   4. The land pollution occurs mainly due to the indirect and direct effects of human activities. The unnecessary materials contaminate the quality of our land for instance, even the garbage on the streets is a kind of land pollution only. There are various causes which contribute to this pollution.

Word Search

1. NOISE 2. SMOKE 3. DUST 4. FUEL

Hots (Think and Answer)

The government of India has banned the excessive use of plastic bags for several important reasons: Environmental Pollution, Harm to Wildlife, Health Hazards, etc.

Let's Talk

Students should do themselves

Explore More

1. & 2. Do it yourself

Test Paper – 1

A. 1. c. Carrot 2. b. six 3. b. synthetic 4. b. saree

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

C. 1. acid 2. twice a day 3. cold water 4. Plants 5. shape

D. 1. i. Always cross the road at the zebra crossing.
ii. Look both ways before crossing the street.
iii. Wear a helmet when riding a bicycle or scooter.

2. i. Wash clothes in good detergents.
ii. Store clothes in a clean and dry place to avoid damage.
iii. Iron clothes to remove wrinkles and keep them looking neat.

3. Molecules are tiny particles made up of two or more atoms that are joined together.

4. Stomata are small openings on the leaves of plants.

5. Food preservation is the method of keeping food fresh and safe to eat for a longer time.

Test Paper – 2

A. 1. c. sundew 2. c. carnivores 3. b. machine 4. c. petroleum

B. 1. pollution 2. terrestrial plants 3. mammals 4. solar energy

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

D. 1. The solar system is made up of the Sun, eight planets (including Earth), and their moons. The Sun is at the center, and all the planets move around it.

2. Frost is tiny ice crystals that form on cold surfaces, like windows, when the temperature is below freezing. It happens when the water vapour in the air turns into ice instead of liquid water because of the cold weather.

3. Smoke is harmful because it has harmful chemicals that can make us sick. Breathing in smoke can hurt our lungs, cause coughing, and make it hard to breathe.

4. Venus flytrap is a plant that catches insects. It has special leaves that snap shut when an insect touches them. The plant then digests the insect to get nutrients.

5. Hibernation is when some animals, like bears, sleep during the cold winter months to save energy. They don't eat or move much during this time and wake up when it gets warmer.