SCIENCE–IV ANSWERS

UNIT 1 : LIVING THINGS

Chapter 1 : Life on Earth

I. 1. The only planet that supports life is the earth.

2. The layer of gases surrounding the earth is called the atmosphere.

3. Humans need oxygen to breathe. It burns the food that living things eat in order to produce energy to do work. Animals also take in oxygen while respiration.

4. Plants take in oxygen at night through the tiny holes or pores found on their leaf surface. These pores are called stomata.

5. Photosynthesis is a process by which plants can prepare their own food in the presence of sunlight, carbon-dioxide, chlorophyl and water.

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

III. 1 (e) 2. (d) 3. (d) 4. (c) 5. (a)

IV. air, water, sunlight

V. 1. atmosphere 2. burn 3. three 4. stomata 5. sun

VI. 1. We need oxygen present in the air to breathe. Plants need carbon-dioxide present in the air to prepare food.

2. Water helps in the absorption of food. It transports chemicals to and from the cells of the body.

3. Minerals are important for proper functioning of bodies of living things. They help in maintaining good health and growth.

VII. Plants and animals are inter-dependent.

UNIT II : PLANT LIFE

Chapter 2 : Where plants Grow ?

I. 1. Plants which grow on land are called terrestrial plants. e.g. cactus and pin.

2. The hilly plants having cones instead of flowers are called conifers. Pine, spruce, cedar and fir trees are some examples of conifers.

3. The plants that grow under the water are called underwater plants. e.g. hydrilla and pondweed.

4. The leaves of the floating plants are coated with a thin layer of wax so as to make them waterproof. Due to this, the leaves do not decay by water.

5. The roots of mangroves cannot get air from the soil. Due to this, the roots grow above the soil to take in the air they need and such roots are called the breathing roots.

II. 1. more 2. deciduous 3. aquatic 4. grass

III. 1. (e) 2. (d) 3. (a) 4. (b) 5. (c)

IV. Wheat, Rice, Sugarcane, Bamboo

V. A, Lotus; T, Cactus; T, Sugarcane; T, Mango; I, Venus-fly-trap; I, Pitcher plant

VI. 1. Conifers have conical shape and needle-like leaves which help them to cut down the snow during the snowfall. The leaves of conifers have very few stomata.

2. Floating plants float freely on water. They have light and spongy bodies with air filled parts which help them float. The stem of floating plants is reduced and roots are poorly developed.

UNIT III : ANIMAL LIFE

Chapter 3 : Animal kingdom

I. 1. The animals with a backbone are termed as vertebrates. These include fish, amphibians, reptiles, birds and mammals.

2. The animals without a backbone are termed as invertebrates. e.g. insects, worms, snails, etc.

3. The process of adjustment of animals to their surroundings by the development of suitable characters to improve the chance of survival is called adaptation.

4. The animals undergo a long sleep in winter to protect themselves from cold. This process is called hibernation.

5. The process of travelling long distances in search a food and warmth from one place to another and again returning back is called migration. Mainly, birds show migration.

6. The phenomenon of change in the body colour according to the surroundings is called camouflage.

II. 1. Fins and tail is used to swim in water. e.g. dolphin

2. Wings of birds help them to fly e.g. eagle.

3. Oil glands in birds are used for dressing feathers. e.g. sparrow.

4. Mammary glands in mammals are used to feed the young ones on milk e.g. kangaroo.

5. Body scales of snakes are used to keep their skin dry.

III. 1. terrestrial 2. habitat 3. arboreal animals
4. pisciculture 5. amphibians 6. moulting
7. tadpoles 8. insects 9. birds 10. parasites

IV. 1. shark, eel, sting-ray, star-fish

2. Frog, Toad, Newt, Salamander.

3. Wall lizard, Chameleon, Python, Crocodile

4. Sparrow, Parrot, Eagle, Ostrich

5. Kangaroo, Rat, Squirrel, Man

6. Earthworm, Leech, Roundworm, Tapeworm.

7. Silverfish, Cockroach, Dragonfly, Beetle

V. 1. (d) 2. (j) 3. (i) 4. (a) 5. (b) 6. (h)
7. (e) 8. (g) 9. (c) 10. (f)

VI. 1. carnivores 2. mammals 3. aquatic animals
4. reptiles 5. worms

VII. 1. (Aq) 2. (Ar) 3. (A) 4. (T) 5. (Ae) 6. (T)

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

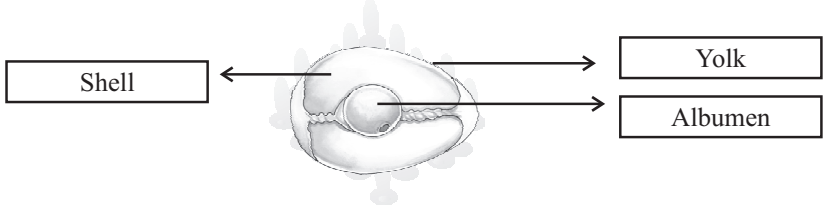
Chapter 4 : Animal Reproduction

I. 1. The process by which the living things produce young ones of their own kind is called reproduction.
2. The two ways of reproduction are by giving birth to the young ones and by producing eggs.
3. The mammals which do not give birth to the young ones instead they lay eggs are termed as egg-laying mammals. e.g. : duck-billed platypus and spiny anteater called Echinda.
4. The care given by the parents to their young ones or eggs is called the parental care.
5. The various developmental stages through which the eggs of animals pass to become adults.
6. The shedding of skin is termed as moulting.

II. 1. life span 2. mammary 3. monkeys, squirrels 4. ostrich
5. embryo 6. food

III. 1. F 2. F 3. F 4. F 5. F 6. T 7. T 8. T 9. F 10. F

IV.



V. Spawn ⟶ Tadpole ⟶ Frog

VI. 1. Rat 2. Duck-billed 3. Maggot 4. Chitin

UNIT IV : MATTER AND MATERRIALS

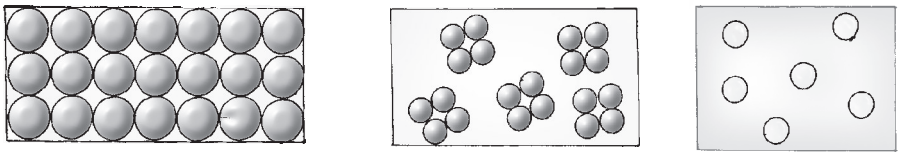
Chapter 5 : Matter and Its Forms

I. 1. Matter is anything that has weight and occupies space.
2. A molecule is the smallest and simplest particle of matter. It cannot be seen by the naked eye.
3. The three forms of matter are solid, liquid and gas.
4. In solids, the molecules are closely-packed. That is why solids are hard and rigid. In solids, the molecules are attracted to each other and the force of attraction is great. The molecules cannot move about freely.
5. Liquids do not have a definite shape. In liquids, the molecules are less closely packed. The force of attraction between molecules is not so strong. The molecules move about little but not too much. Because of

this, the spaces between the molecules are greater. Hence, the liquids can flow and do not have a definite shape.

6. The substances that dissolve in liquids are called soluble substances.

II.



Solids Liquids Gases

III. 1. molecules 2. solids 3. liquid 4. shape, volume
5. solvent

IV. 1. T 2. F. Molecules of matter are constantly moving.
3. F. Molecules of a particular matter are exactly alike.
4. F. Liquids do not have a definite shape. 5. T

V. 1. (c) 2. (c) 3. (d) 4. (a)

VI. 1. We can smell a perfume from a distance because the molecules from the perfume scatter through the air and reach us.
2. Fish are able to breathe in water as they take oxygen from the water.
3. Gases do not have a fixed volume because the molecules in gases are very loosely packed. They can move about freely because the forces holding the molecules together are much bigger. As a result, gases do not have a fixed shape or a fixed volume.

Chapter 6 : Properties of Matter

I. 1. Some examples of matter are cotton, flower, wool, silk, sponges, etc.
2. The things which allow the light to pass through them are called transparent things.
3. The things which do not allow the heat to pass through them are called non-conductors of heat.
4. Heating and cooling can change the state of a substance.
5. Soft matter can change its shape when pressed e.g. cotton, flower, wool, silk, sponges, etc. Hard matters cannot change their shape when pressed e.g. wood, stone and iron.

II. 1. (c) 2. (e) 3. (a) 4. (b) 5. (f) 6. (d)

III. 1. cotton, wool 2. stone, wood 3. glass, polythene sheet
4. wood, stone 5. tissue paper, cellophane 6. iron, copper
7. wood, cork

IV. 1. T 2. F. Iron is hard in nature.
3. F. Tissue paper is a translucent object 4. T 5. T

V. 1. Some things are soft. Soft matter can change its shape when pressed. For example, cotton, flower, wool, silk, sponges, etc. are soft. Some kinds of

matter are hard. Hard matter cannot change their shape when pressed. For example, wood, stone and iron are hard.

2. Some types of matter like glass, chalk, porcelain, mud pot, etc. break easily. Some kinds of matter like iron, copper, wood, etc. do not break easily.
3. Some things allow the heat to pass through them, when heated. Such things are called conductors. Some of the conductors of heat are iron, copper and aluminium. Some things do not allow the heat to pass through them. Such things are called non-conductors of heat. Some of the non-condutors of heat are wood, cork, glass, etc.

UNIT V : EARTH ATMOSPHERE

Chapter 7 : The Changing Earth

I. 1. Our planet earth is believed to have been formed millions of years ago. At that time, it was made up of dust and gases which formed a huge, hot ball. It was so hot that the earth's surface was a molten mass. Gradually, the earth's surface became cooler. Some gases escaped while some were trapped inside. Thus, the outer surface of the earth is hard but the inside of the earth is still very hot. As the earth cooled, the rocks were formed, moreover clouds were also formed and as the formation of oceans and seas on the earth. Now, the earth had the conditions required to make life possible on it.

2. The outer surface of the earth on which there are conditions suitable for life is called the crust. The portion under the crust which is made up of hot molten rocks is called the mantte. The hottest part of the earth i.e, the earth's centre is called the core.
3. The earth's surface has changed over millions of years. Some of the factors responsible for such changes are floods, earthquakes, wind and water action.
4. The process of carrying away of the top soil by the natural forces is called soil erosion.
5. Soil provides the base for the growth of variety of plants. Many animals like rats, moles, rabbits and snakes make their home in the soil. Other animals like ants, millipedes, centipedes, beetles, slugs, etc. also live in the soil.
6. The protection of the top soil from erosion is called soil conservation. The three ways by which the soil can be conserved are :

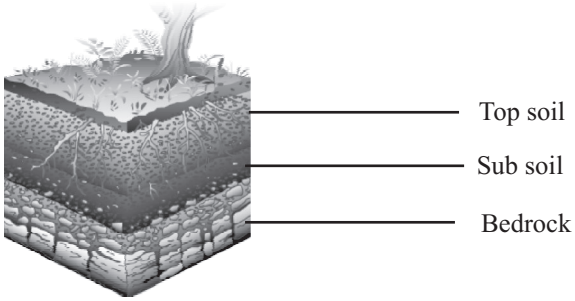
   (i) By planting trees and grasses.

   (ii) By making bunds, dams, and embankments

   (iii) By making terraces and furrows.

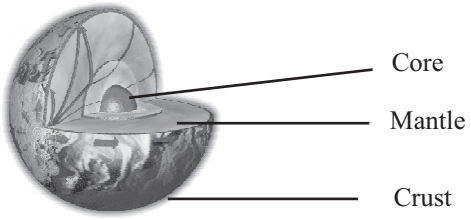
II. 1. molten 2. topsoil 3. crater 4. humus 5. Dams

III.



IV. 1. core 2. absence 3. lava 4. bedrock 5. Bacteria

V.



VI. 1 ✓ 2. ✓ 3. ×

Chapter 8 : The Weather

I. 1. A current of moving air is called wind. A gentte wind is called breeze.

2. During day, the land is heated up more than the water in the sea. The hot air above the land rises up and the cold air from the sea water rushes to fill the space. Thus breeze flows from sea to land. It is called sea breeze.

At night, the land loses its heat faster than water. So, the water above water rises up, cooler air from the land flows to fill its space. Thus, breeze blows from land to sea. It is called land breeze.

3. The amount of water vapour in the air is called humidity.

4. Cooling of water vapour and changing it into water is called condensation. Its several forms are fog, dew, frost, hait, snow, etc.

5. Addition of unwanted substances in water bodies which harmfully affect the life of the living organisms is called water pollution.

II. 1. condensation 2. pollutants 3. frost 4. humidity
5. germs 6. snow

III. 1. (a) 2. (b) 3. (b)

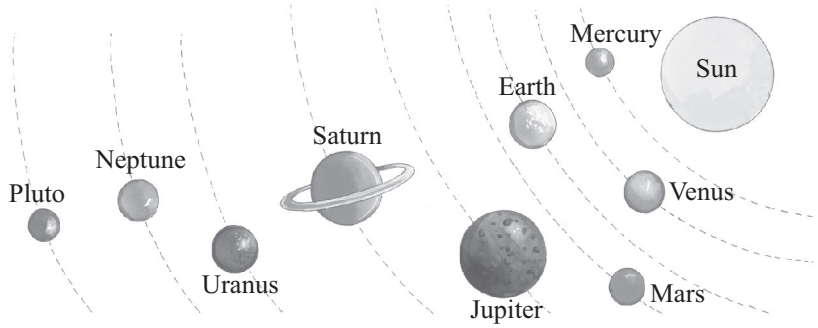
UNIT VI : THE UNIVERSE

Chapter 9 : The Planets

I. 1. The fixed paths around the sun in which the planets revolve are called orbits.

2. Asteroids are the small bodies found between the orbits of Mars and Jupiter.

3. Moons or satellites are smaller heavenly bodies that revolve around the planet.
4. The sun and its nine planet is termed as the solar system.



Solar System.

5. Space probes are unmanned space-ships sent into space and travel very fast. These are sent into space to get sufficient information about planets. They help us to know the weather conditions and the different kinds of minerals found on a particular planet. They send pictures to the space centres where the scientists analyse them.

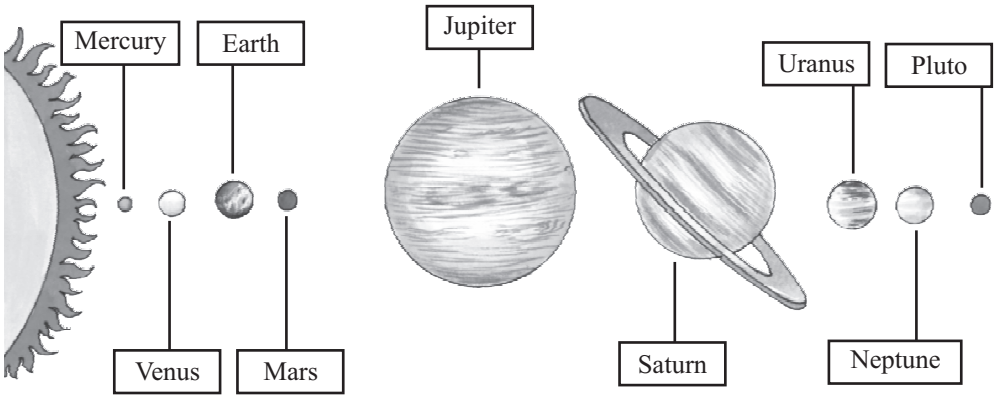
II. 1. Jupiter 2. Mercury 3. Earth 4. Pluto 5. Planets
6. Space-probes

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

IV. 1. (b) 2. (d) 3. (e) 4. (a) 5. (c)

V. 1. Mars 2. Venus 3. Sputnik -I

VI.



Chapter 10 : The Earth in Space

I. 1. The spinning of earth on its own axis is called the rotation of the earth.
2. Earth's rotation causes day and night. As the earth rotates, one half of it faces the sun and experiences day while the other half is away from the sun at that time. This part experiences night.

3. Earth's revolution causes seasons.
4. As earth rotates from west to east on its axis, thus the sun seems to rise from east and set in the west.
5. The earth takes 365¼ days to orbit the sun.

II. 1. 30 kilometres 2. day, night 3. seasons 4. north
5. long

III. 1. rotation 2. equator 3. Northern hemisphere and southern hemisphere.

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

V. 1. Revolution 2. Rotation

VI. 1. When the northern hemisphere is tilted towards the sun, it gets longer hours of sunshine than the southern hemisphere. The northern half, therefore has summer with longer days and shorter nights. On the other hand, the southern hemisphere has winter with shorter days and longer nights. Thus, it is clear, that when the northern hemisphere has summer the southern hemisphere has winter and vice-versa.
2. During summer in the northern hemisphere, the north pole has sun shine all the time while the south pole has night all the time. The poles have sunshine for six months in a year and night for another six months.

UNIT VII : THE HUMAN BODY

Chapter 11 : Food

I. 1. Nutrients are the different substances needed by our body for doing different things.
2. Carbohydrates are energy-giving nutrients. They supply energy to the body.
3. Proteins are nutrients that our body requires for growth. Babies and young children need more proteins than adults as they are in the growing stage.
4. A diet containing all the nutrients along with proper amounts of water and roughage is called a balanced diet.
5. Cooking makes the food soft, tasty and easily digestable. Cooking also kills the germs present in vegetables that make us sick.
6. We can preserve food by adding preservatives. Food can also be preserved by canning and drying.

II. 1. Carbohydrates 2. fats 3. water 4. roughage
5. milk 6. salt and sugar.

III. 1. gives energy 2. give energy 3. helps in growth
4. Protect the body from diseases 5. Makes throwing out wastes from the body easy.

IV.

Carbohydrates	Fats	Proteins	Vitamins & Minerals
Sugar	Butter	Dal	Orange
Honey	Cheese	Fish	
Potato		Nuts	Grapes
		Milk	
		Eggs	
		Soyabean	

Chapter 12 : Digestion of Food

I. 1. Digestion is breaking down of food inside our body, to convert complex food into a soluble substance.

2. Saliva softens the food, so that it can be swallowed easily.

3. In the stomach, the muscles churn the food with more digestive juices. They break down proteins and other substances into simple, soluble substances. The food remains in the stomach for about 3 to 5 hours.

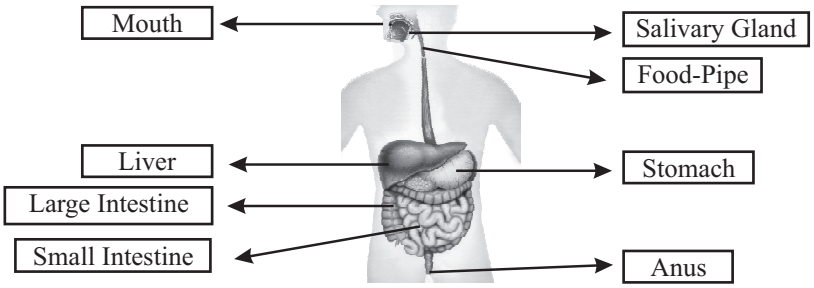
4. Liver and pancreas are the two organs of the digestive system, which make the digestive juices.

5. The undigested part of the food is passed to the large intestine. Here the water is absorbed from the undigested food. The solid part is thrown out of the body as waste through the opening called anus.

6. Some good food habits are :

- Wash your hands well with soap and water before you eat your food.
- Eat at regular intervals.
- Chew the food well.
- Do not eat in hurry.

II.



III. 1. (d) 2. (a) 3. (e) 4. (b) 5. (c)

IV. 1. complex 2. saliva 3. oesophagus 4. liver 5. chew

Chapter 13 : Teeth and Microbes

I. 1. The teeth help us to bite, chew and grind the food. The teeth help us to speak clearly. Our tongue touches the teeth while pronouncing certain words. Moreover, teeth give a decent look to our face.

2. The four kinds of teeth are incisors, canines, premolars and molars.

3. Microbes are harmful to us and cause diseases are called germs.
4. The four kinds of microbes are bacteria, protozoa, fungi, viruses.
5. The microbes that are harmful to us and cause diseases are called germs.

II. 1. yeast 2. adult 3. incisors 4. enamel 5. microscope

III. 1. bacteria 2. virus

UNIT VIII : SAFETY AND FIRST-AID

Chapter 14 : Safety

I. 1.
- Be careful while using sharp things like knives and tools.
- Never wear nylon or synthetic clothes while working in the kitchen. Such clothes catch easily.

2. The main dangers in the bathroom are the wet floor and the electric gadgets.
3. First-aid is the immediate care given to a person who is injured or gets suddenly sick.
4. In case of a nose bleeding, pinch the nose and hold it 7-8 minutes till it stops bleeding. Put some ice and wrap it up in a handkerchief. Then apply it to the nose. This will stop the bleeding quickly.
5. To be safe in the playground, follow these rules.
   - Never play games on the road. Always play in the playground.
   - Never push or kick anyone while playing a game. Always follow the rules of the game.
   - Do not play a rough game.

II. 1. F 2. T 3. F 4. F

III. 1. In case of slight burns, run cold water over the burnt part and then put burnol.
2. In case of a nose bleed, pinch the nose and hold it 7-8 minutes till it stops bleeding. Put some ice and wrap it up in a handkerchief. Then apply it to the nose. This will stop the bleeding quickly.
3. In case of bleeding wound, wash with water and apply any anitseptic cream. If the beading is more, tie a bandage to stop.

IV. 1. sharp 2. wet 3. rules 4. left

UNIT IX : CLOTHING

Chapter 15 : Clothes We Wear

I. 1. The people living in hot place wear cotton clothes because they let the air in and also absorb the sweat. As the sweat evaporates, the body cools down. So, they feel cool and comfortable in light cotton clothes.
2. In cold climate, people wear warm woollen clothes made up of wool, fur or leather. Air does not circulates easily through these clothes owing to this, heat of the body does not easily go out through such clothes. So, we feel warm and comfortable in dark woollen clothes.

3. Clothes are made up different fibres. Some are natural fibres whereas some are artificial fibres.
4. Doctors and nurses wear white coats or uniforms because these clothes easily show dirt. Hence, they wear clean clothes as they have to take care of the sick people.
5. We clean clothes by washing them properly with soap or detergent and water.
6. The silk and woollen clothes should be stored properly, other wise they can be damaged by insects. So, they should be kept in boxes along with mothballs or dried neem leaves to keep the insects away.

II. 1. nylon 2. wool 3. cotton 4. flax 5. silkworm
6. overall 7. dry-cleaning 8. petrol

III. 1. bodies 2. rain coats 3. natural 4. man-made
5. soldiers 6. washed

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

Model Test Paper-I.

I. Grass ⟶ Deer ⟶ Lion
Plants and animals are interdependent.

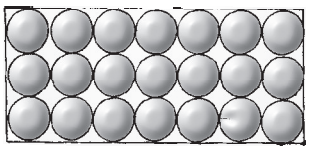
II. 1. Plants which grow on land are called terrestrial plants e.g cactus and pine.
2. The animals without a backbone are termed as invertebrates.
3. The phenomenon of change in the body colour according to the surrounding is called camouflage
4. The shedding of skin is called moulting.
5. The care given by the parents is called parental care.

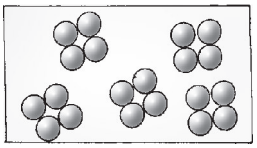
III. 1. Cow 2. Duck-billed Platypus 3. Maggot 4. Squirrel
5. Pitcher plant

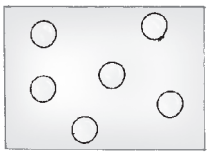
IV. 1. Fins and tail is used to swim in water.
2. For dressing feathers.
3. Help them to fly.
4. Used to feed the youngones on milk.
5. Used to keep the skin dry.

Model Test Paper-II

I.

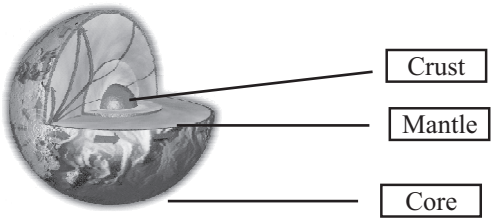

Solids


Liquids


Gases

II. 1. glass, polythene sheet cellophane paper 2. stone, wood 3. tissue paper, 4. iron, copper 5. wood, glass

III.



IV. 1. A current of moving air is called wind. A gentle wind is called breeze.

2. The amount of water vapour in the air is called humidity.

3. The process of carrying away of the top soil by natural forces is called soil erosion.

4. Our planet earth is believed to have been formed millions of years ago. At that time, it was made up of dust and gases which formed a huge, hot ball. It was so hot that the earth's surface was a molten mass. Gradually, the earth's surface became cooler. Some gases escaped while some were trapped inside. Thus, the outer surface of the earth is hard but the inside of the earth is still very hot. As the earth cooled, the rocks were formed, moreover clouds were also formed and as the formation of oceans and seas on the earth. Now, the earth had the conditions required to make life possible on it.

5. Matter is anything that has weight and occupies space.

6. Liquids do not have a definite shape. In liquids, the molecules are less closely packed. The force of attraction between molecules is not so strong. The molecules move about little but not too much. Because of this, the spaces between the molecules are greater. Hence, the liquids can flow and do not have a definite shape.

Model Test Paper-3

I. 1. Digestion is breaking down of food inside our body, to convert complex food into a soluble substance.

2. A diet containing all the nutrients along with the proper amount of water and roughage is called a balanced diet.

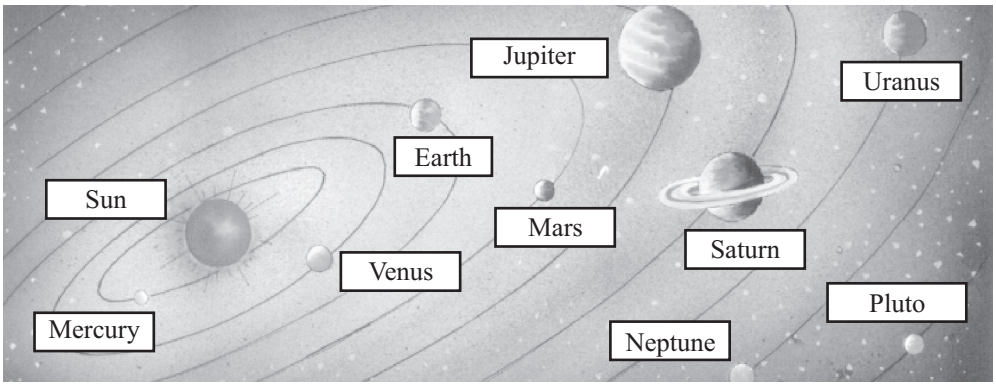
3. Asteroids are the small bodies found between the orbits of Mars and Jupiter.

4. Carbohydrates supply energy to the body.

5. The fixed paths around the sun in which the planets revolve are called orbits.

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

III.



IV. 1. Carbohydrates 2. Chew 3. Water 4. Venus
5. Sugar, salt

Model Test Paper-4

I. 1. The teeth help us to bite, chew and grind the food. The teeth help us to speak clearly.

2. Be careful while using sharp things like knives. Never wear nylon or synthetic clothes while working in the kitchen.

3. First-aid is the immediate care given to a person who is injured or gets suddenly sick.

4. Microbes are millions of very tiny living things found everywhere.

5. Clothes are made up of different fibres.

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

III. 1. Viruses 2. Bacteria 3. Protozoa

IV. 1. In case of bleeding wound, wash with water and apply any anitseptic cream. If the beading is more, tie a bandage to stop.

2. In case of a nose bleed, pinch the nose and hold it 7-8 minutes till it stops bleeding. Put some ice and wrap it up in a handkerchief. Then apply it to the nose. This will stop the bleeding quickly.

3. In case of slight burns, run cold water over the burnt part and then put burnol.