

Elements of Science - 4

1. The Food We Eat

A. Tick (✓) the correct answer.

1. (a) 2. (a) 3. (c) 4. (b) 5. (c) 6. (c)

B. Fill in the blanks.

1. nutrients 2. Carbohydrates 3. protein
4. anaemia 5. sufficient 6. Idli, Momos

C. Write 'T' for true statements and 'F' for false statements.

1. F 2. T 3. F 4. F 5. T 6. T 7. F

D. Match the following.

- | | | |
|-------------|---|---------------------|
| 1. Food | — | (a) strong bones |
| 2. Calcium | — | (b) salad |
| 3. Iron | — | (c) energy |
| 4. Apple | — | (d) blood formation |
| 5. Roughage | — | (e) vitamin C |

E. Answer in a sentence or two.

1. They are food substances essential for our body.
2. They build up our muscles and repair tissues.
3. It helps the body to dissolve, digest and absorb the food.
4. Iron and Calcium.

F. Answer in brief.

1. The different components of food are carbohydrates, proteins, fats, vitamins and minerals, roughage and water.
2. Roughage is essential for the digestion of food as it helps us to remove waste materials out of our body.
3. A balanced diet is a diet which contains a proper amount of all the nutrients, roughage and water in right proportions.
4. Boiling is used for cooking rice, pulses, potatoes and eggs. Frying is used for cooking fried potatoes, puris, chips, Roasting is used to cook chicken and brinjal. Baking is used to make cakes, biscuits. Steaming is used to make Idlis, dhoklas and momos.
5. If food is left at room temperature for some time then it gets spoiled and inedible. The methods of preservation are Drying, Pickling, Boiling, Bottling etc.
6. We should do exercise as it helps us to digest food and stay healthy, Strong and active.

Hots

1. For people doing physical work Carbohydrates and fats.
For a growing child Proteins.
2. She should have boiled the milk again in the afternoon.

2. Dental Care and Our Digestive System

A. Tick (✓) the correct answer.

1. (b) 2. (a) 3. (a) 4. (c) 5. (c)

B. Fill in the blanks.

1. four 2. Molars 3. crown, root 4. Canines 5. dentine

C. Write 'T' for true statements and 'F' for false statements.

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

D. Answer in a sentence or two.

1. They are the teeth a child has after two and a half years.
2. It is a yellow sticky layer of germs on teeth.
3. They are small living things visible under a microscope.
4. There are 20 teeth.

E. Answer in brief.

1. Temporary teeth are found in a baby of about two and a half years. They are 20 in total.
Permanent teeth are the teeth which grow in place of the milk teeth. They are 32 in total.
2. Incisors are used for cutting the food. Canines are sharp teeth and are used for tearing the food. Premolars help to crack and chew food. Molars have very broad surface to chew and grind the food.
3. Crown is the visible part and Root is the invisible part. Crown is covered by enamel which is white in colour. Enamel is white in colour. The layer inside the enamel that forms the main part of the tooth is called Dentine. Inside dentine, the pulp is very soft and has blood vessels and nerves.
4. Food Particles stuck in spaces that can cause the growth of bacteria and germs which form a sticky yellow layer called plaque we should consume more calcium and Vitamin C.

Hots

If we consume calcium and vitamin C then our teeth remain bacteria free.

3. Clothes

A. Tick (✓) the correct answer.

1. (c) 2. (c) 3. (b) 4. (c) 5. (c)

B. Fill in the blanks.

1. rain, dust, heat 2. animal skin 3. woollen
4. Cotton clothes 5. Dark coloured

C. Match the following.

- | | |
|------------|--------------------------------|
| 1. Cotton | (a) worn by the person on duty |
| 2. Wool | (b) national dress |
| 3. Rayon | (c) natural fibre |
| 4. Uniform | (d) worn in winter |
| 5. Sari | (e) synthetic fabric |

D. Write 'T' for true statements and 'F' for false statements.

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

E. Answer in a sentence or two.

1. We wear clothes to avoid, rain, heat.
2. We wear cotton clothes.
3. Neem leaves, Mothballs.

F. Answer in brief.

1. We wear woollen clothes in winter as they keep us warm.
2. Natural fabric is the fabric that we get from plant and animals such as wool, silk, fur etc.

Synthetic fabric is the fabric that are produced by mixing fibers with other materials such as nylon, rayon.

3. We should dry clean expensive, woollen and silk clothes and we should keep mothballs or dried neem leaves with woollen clothes.
4. We can keep mothballs or dried neem leaves with woollen clothes, otherwise, they will be eaten and destroyed by small insects like moths and silver fish.
5. We should wash clothes as washing makes clothes fresh, germ-free, sweat-free and stain-free.

Hots

1. It is a popular occupation in the mountains as sheep rearing provides wool and meat both necessary for keeping the body warm.
2. Because cotton is a soft, light and soothing cloth.

4. Solids, Liquid and Gas

A. Tick (✓) the correct answer.

1. (b) 2. (b) 3. (a) 4. (b) 5. (a)

B. Match the following.

- | | |
|-------------|--------------------|
| 1. Solid | (a) water |
| 2. Gas | (b) salty water |
| 3. Solute | (c) hard |
| 4. Solvent | (d) loosely packed |
| 5. Solution | (e) salt |

C. Write 'T' for true statements and 'F' for false statements.

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

D. Answer in a sentence or two.

1. It is a substance which has weight and occupies space.
2. They are - Solid, liquid, and gas.
3. Solute is a solid that dissolves in a liquid while solvent is a liquid in which a solute dissolves.
4. Substances which dissolve in a liquid are soluble substances.
5. Substances which do not dissolve in a liquid are insoluble substances.

E. Answer in brief.

1. They are the smallest substances of the matter. They have many arrangements which make solid, liquid and gas.
2. (i) In gases, molecules are loosely packed.
(ii) They have a very weak force of attraction.
(iii) They don't have fixed volume.
3. Melting is the change of solid into a liquid. Evaporation is the change of liquid into gas.
4. Condensation is the conversion of gas into liquid.
Freezing is the change of liquid into solid.
5. To make a solution, we need a solute and a solvent. So we take sugar and water, we dissolve sugar into water and get then a solution.

Hots

1. Because even after dissolving the sugar occupies the same space as before.
2. Because the molecules of gas are extremely loose so they rush quickly all around.

3. Because Iron Can be melted into different shapes or sizes.

5. Soil

A. Tick (✓) the correct answer.

1. (a) 2. (b) 3. (c) 4. (c) 5. (b)

B. Fill in the blanks.

1. soil 2. soil erosion 3. sand 4. rock 5. conservation

C. Match the following.

1. crop rotation ————— (a) makes the soil fertile
2. clayey soil ————— (b) soil erosion
3. loamy soil ————— (c) soil conservation
4. floods ————— (d) contains sand and clay
5. humus ————— (e) can hold a lot of water

D. Answer in a sentence or two.

1. It is the growing of different types of crops in the same field.
2. Sandy Soil
(i) It is yellow in colour. (ii) It mainly contains sand.
Clayey Soil
(i) It is found in beds. (ii) It is used for making pots.
Loamy Soil
(i) It contains Sand and clay. (ii) It is good for growing plants.
3. (a) When trees are cutting down in large numbers then winds and rain easily carry away soil.
(b) He cares for the nature & soil.

E. Answer in brief.

1. It is the breakdown of big pieces of rock into tiny pieces by heat of Sun, moving air and running water. When these tiny pieces mix with organic matter and minerals, Soil is formed.
2. (i) Plant more and more trees.
(ii) Dams should be built to stop floods.
(iii) Step farming should be used.

Hots

Sandy Soil is mixed with cement.

6. The Green Plants

A. Tick (✓) the correct answer.

1. (c) 2. (c) 3. (b) 4. (c) 5. (c)

B. Fill in the blanks.

1. chlorophyll 2. chlorophyll, water 3. photosynthesis
4. dependent 5. interdependence

C. Write 'T' for true statements and 'F' for false statements.

1. T 2. F 3. F 4. T 5. T 6. F

D. Match the following.

1. Stomata ————— (a) food factory of the plant
2. Leaf ————— (b) through veins
3. Chlorophyll ————— (c) tiny holes in the underside of a leaf
4. Glucose ————— (d) green substance that traps sunlight
5. Water ————— (e) stored food in plants

E. Answer in a sentence or two.

1. It is midrib.
2. It is called chlorophyll.
3. Because only green leaves make food for the plant by photosynthesis.

F. Answer in brief.

1. First, water and minerals are absorbed by the roots, then carbon dioxide is taken in through stomata. Leaves absorb sunlight with the help of chlorophyll which is mixed with carbon dioxide and water to make food.
2. Stalk is the part by which a leaf is attached to the stem. Leaf Blade is the flattened part of a leaf. Midrib is the main vein running along the middle of a leaf.
3. (i) They help plants to breathe through stomata.
(ii) They give shape and colour to the plant.
(iii) They have medicinal properties.
4. If no. of animals increases and no. of plants decreases then the animals will starve and die which will reduce the amount of carbon dioxide so the plants will also die.

Hots

1. When the sun is not visible so that the plants don't get sunlight and due to that they stop photosynthesis.
2. Plants need more food because if plants will increase only then there will be food available for the animals.

7. Plant Adaptation

A. Tick (✓) the correct answer.

1. (a)
2. (c)
3. (c)
4. (c)
5. (a)

B. Fill in the blanks.

1. adaptation
2. terrestrial plants
3. evergreen
4. floating plants
5. Coconut

C. Give one example for each of the following.

1. Hydrilla
2. Sundew
3. Lotus
4. Duckweed

D. Answer in a sentence or two.

1. These plants don't make their own food but they absorb food from other dead plants and animals.
2. Mango tree grows only in moderate climate but in mountains there is a cold climate.
3. Rice and wheat.

E. Answer in brief.

1. Terrestrial plants are plants which grow on land. They are found in different habitats like plains hilly areas, deserts, marshy areas.
2. Plants in marshy areas have roots above the ground to get air as the soil is full of water. These roots are called breathing roots.
3. Terrestrial plants grow on land while aquatic plants grow in water.
4. They are small plants that trap insects and eat them as food. Such as the pitcher plant which catches insects inside the pitcher. Then insect dies and breaks down and then is digested by the plant.

Hots

Inside the aquarium, tape weed should be kept as it is an underwater plant and it doesn't block the sunlight.

8. Animals and Their Young Ones

A. Tick (✓) the correct answer.

1. (a) 2. (a) 3. (a) 4. (b) 5. (a)

B. Fill in the blanks.

1. reproduction 2. mammals 3. continue
4. chick 5. foal 6. Parents

C. Match the following.

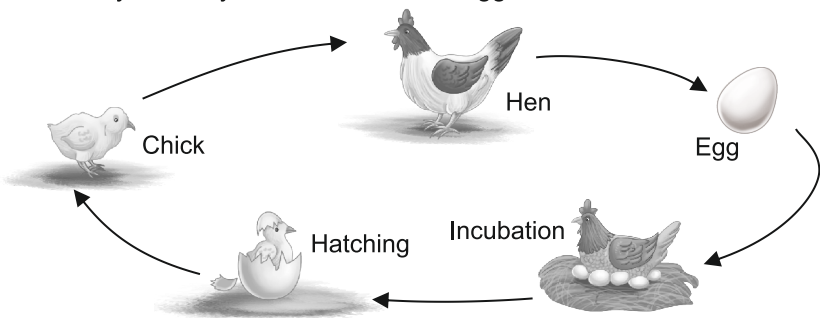
- | Column A | Column B |
|------------------------------|----------------|
| 1. Mammals | (a) warmth |
| 2. Birds | (b) yolk |
| 3. Incubation | (c) babies |
| 4. The yellow portion of egg | (d) chick |
| 5. Hen | (e) egg-laying |

D. Answer in a sentence or two.

1. Yolk is rich in protein. 2. Roe
3. It is the process of keeping eggs warm by mother animal.

E. Answer in brief.

1. It is the process of producing young ones of its own kind. It is by two ways-by babies or by eggs.
2. They are animals which give birth to young ones such as human beings, Horse and Lion.
3. Hatching is the breaking of the eggs when the babies are fully formed.
4. After laying eggs, the hen sits on the egg to give them warmth. On getting warmth, the chick forms inside the egg's yolk and is called an embryo. Finally it hatches out of the egg.



5. The egg's outer covering is called a shell inside which there is a sticky white fluid also called albumen. Inside it is a yellow round yolk.
6. Mammals feed their babies with their own milk. They teach them to find food and live on their own. They also make houses to protect them from enemies.

Hots

1. No reproduction is necessary to continue life on earth.
2. 3 stages

9. Animal Adaptations

A. Tick (✓) the correct answer.

1. (b)
2. (a)
3. (a)
4. (c)
5. (a)

B. Fill in the blanks.

1. their surroundings
2. Terrestrial animals
3. limbs
4. Arboreal animals
5. Scavengers

C. Match the following.

- | | |
|--------------|------------------|
| 1. Elephant | (a) parasite |
| 2. Crow | (b) camouflaging |
| 3. Chameleon | (c) extinct |
| 4. Leech | (d) aerial |
| 5. Dodo | (e) terrestrial |

D. Write 'T' for true statements and 'F' for false statements.

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

E. Answer in a sentence or two.

1. They have strong and sharp beak for tearing the flesh.
2. Pandas.
3. It is the change of body colour according to the surroundings to confuse their enemies.

F. Answer in brief.

1. Adaptation refers to the adapting of the animals to different types of surroundings to survive.
2. Animals of cold areas have thick fur on their body or a thick layer of fat called blubber to keep them warm.
3. They have sharp claws to climb up and down the branches of trees and a strong muscular and long tail for holding on the branches.
4. Herbivorous animals are animals which eat plants like cow, zebra. Carnivorous animals are animals which eat animals like Lion, tiger.
5. They protect themselves in the following ways.
 - (i) By moving very fast.
 - (ii) By changing their body colour.
 - (iii) By hiding themselves.

Hots

1. Their wings are very small compared to their size so they can't bear their weight.
2. (i) They are extremely flexible. (ii) They can survive in any condition.
3. Yes, the camel will survive as it will gradually adapt itself to the desert.

10. Circulatory and Excretory System

A. Tick (✓) the correct answer.

1. (a)
2. (a)
3. (a)
4. (c)
5. (b)

B. Fill in the blanks.

1. organ systems
2. circulatory
3. blood
4. vessels
5. urethra

C. Match the following.

- | Column A | Column B |
|------------|---------------------------------------|
| 1. Blood | (a) One pair |
| 2. Heart | (b) Stored in the urinary bladder |
| 3. Kidneys | (c) Medium to transport substances |
| 4. Urine | (d) A muscular organ that pumps blood |

D. Answer in a sentence or two.

1. Circulatory and Excretory system.
2. It is a system which transports substances throughout the body.
3. Heart, Blood, Blood vessels.

E. Answer in brief.

1. It is responsible and essential for the transport of oxygen and nutrients to every cell, tissue and organ of the body. There are three parts in this system-namely heart, blood and blood vessels.
2. It is the process by which waste get removed form our body is called excretion.

Hots

1. Because our body performance not only one but many functions.

11. Work, Force and Energy

A. Tick (✓) the correct answer.

1. (a) 2. (a) 3. (b) 4. (b) 5. (b)

B. Fill in the blanks.

1. gravitational 2. smooth, rough 3. Energy
4. easier, faster 5. Solar energy

C. Write 'T' for true statements and 'F' for false statements.

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

D. Answer in a sentence or two.

1. It is a push or pull done to move an object.
2. Frictional and gravitational.
3. It is the force which attracts objects towards the centre of the earth.
4. Work is done when an object is moved from its place.

E. Answer in brief.

1. It is the force which attracts objects towards the centre of the earth. It gravity did not existed, then we all would be floating in the air. Everything which goes up, falls back to the ground because of it.
2. It is an opposite force which acts on the movement of an object. It is produced when two bodies come in contact. It depends upon the nature of surface.
3. We get energy from the sun by using solar panels which convert sunlight into electricity. And we get energy from water by building dams on whose turbines the water falls from the height. Turbines then rotate and produce electricity.
4. Energy from wind is called wind energy. It is found in any object which moves. It is captured by wind mills which produce electricity.

Hots

1. Because then there is no friction and friction is necessary for us to move the lid.

2. Because when we sleep or think or stand at a place, we still remain at that position so no work is done in terms of science, as we don't move.

12. Air, Water and Weather

A. Tick (✓) the correct answer.

1. (b) 2. (c) 3. (b) 4. (b) 5. (a) 6. (a)

B. Fill in the blanks.

1. evaporation 2. breeze 3. dew
4. air 5. evaporates

C. Match the following.

- | | | |
|--------------------------|---|-------------------------------------|
| 1. Rotation of the earth | — | (a) drinking |
| 2. Land breeze | — | (b) water vapour changes into water |
| 3. Use of water | — | (c) day · night |
| 4. Condensation | — | (d) kills germs |
| 5. Boiling | — | (e) at nights |

D. Write 'T' for true statements and 'F' for false statements.

1. T 2. F 3. F 4. T 5. F 6. T

E. Answer in a sentence or two.

1. On sunny days, the water in the wet clothes evaporates quickly.
2. Boiling of water.
3. It is the change of water into water vapour on heating.
4. Clouds are formed by condensation.

F. Answer in brief.

1. It is the condition of a particular place at a particular time. Its elements are wind, air pressure, moisture, temperature and clouds.
2. (i) Morning and evening feel cool as then the sun's rays are slanting.
(ii) Revolution of earth around sun causes seasons and rotation of earth causes day and night.
(iii) Wind blows due to the sun.
(iv) Sun changes the water into its 3 states.

3. Land breeze is a coastal breeze blowing from the land towards the sea. It occurs at night.

Sea breeze is a coastal breeze blowing from the sea towards the land. It occurs at day.

4. The ground water gets evaporated from lakes, ponds, rivers, oceans and other water bodies. It condenses and falls as rain, snow, etc. in the water bodies again. This whole process is called water cycle.

5. **Filtration** : It is the process in which water is cleaned by passing it through a filter paper.

Chlorination : In this method, chlorine is added to water to kill germs.

Boiling : Boiling for 10 to 15 mins kills the germs in the water.

Sedimentation : It is the settling down of the impurities.

Decantation : It is the process of pouring out the clean water at the top to another vessels.

14. Keeping The Earth Clean

A. Tick (✓) the correct answer.

1. (c) 2. (b) 3. (a) 4. (b) 5. (c)

B. Fill in the blanks.

1. biotic components 2. breathing 3. germs
4. soil 5. oxygen

C. Write 'T' for true and 'F' for false statements.

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

D. Answer in a sentence or two.

1. they purify the air.
2. It is the cutting down of trees in large numbers.
3. 22 March 4. 5 June

E. Answer in brief.

1. It refers to the natural surroundings in which we live.
2. It refers to the change of water vapour into water by cooling.
3. It is caused by the poisonous gases emitted by the vehicles and factories and also the bursting of firecrackers.
4. Biodegradable waste are those which get mixed with the soil and decompose easily.
Non-biodegradable wastes are those which do not mix with the soil or do not decompose easily.

Hots

1. Yes, because disposal of plastics is the major problem in the conservation of environment.
2. Chalk and duster and pencils.

Model Test Paper -1

A. Short answer type questions.

1. It is a diet which contains a proper amount of all the nutrients, roughage and water in right proportions.
2. They are very small organisms visible to us only through microscope.
3. Because they make us feel good and they reveal our personality before others.
4. They are the smallest substances of matter. They have many arrangements which make solid, liquid and gas.
5. It is the growing of different types of crops in the same field to maintain the fertility of soil.

B. Long answer type questions.

1. (i) More and more trees should be planted.
(ii) Crop rotation should be followed.
(iii) Dams should be built to prevent floods.
2. (i) It helps plants to breathe through stomata.
(ii) It gives shape and colour to the plant.
(iii) Some have medicinal properties.
3. (i) They give out oxygen.
(ii) They are the main source of food.

- (iii) They are used to make medicines.
 - (iv) They are used to decorate our houses.
4. The oxygen given by the plants during the process of photosynthesis is used by human beings and animals for breathing.

C. Tick (✓) the correct answer.

1. (a) 2. (a) 3. (c) 4. (b)

D. Match the following.

- | | | |
|----------------|---|------------------------------------|
| 1. Solid | — | (a) green pigment in leaves |
| 2. Gas | — | (b) stored food of plants |
| 3. Chlorophyll | — | (c) loosely packed |
| 4. Starch | — | (d) neither very cold nor very hot |
| 5. Moderate | — | (e) hard |

Model Test Paper -2

A. Short answer type questions.

1. It refers to the process in which the mother animal sits on her eggs to keep them warm.
2. It is a place in which an animal lives.
3. It is the change of the body colour to the colour of the surroundings.
4. Heart, Blood, Blood vessels.
5. Frictional Force, Gravitational Force.

B. Long answer type questions.

1. Land breeze blows from the land towards the sea. It occurs at night. Sea breeze blows from the sea towards the land. It occurs at day.
2. It is a group of the sun, the eight planets and their satellites and other heavenly bodies.
Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.
3. Earth has two movements-

Rotation and Revolution.

Rotation : It is the spinning of the earth on its own axis. It causes day and night.

Revolution : It is the movement of the earth around the sun. It causes different seasons in a year.

C. Fill in the blanks.

1. oxygen 2. constellation 3. breeze 4. faster, easier 5. Force

D. Define the following.

1. They are tools which helps us to do works are hard.
2. It is an organ system which helps in getting rid of wastes formed inside our body.
3. They eat dead animals as their food.
4. The sitting of the female bird on its eggs to keep them warm is called incubation.