

SCIENCE ASSIGNMENT

CLASS – VI

CHAPTER – 1

Food: Where Does It Come From?

1. What is Apiculture?
Rearing of honey bees on large scale is called apiculture.
2. What do you mean by Edible Part?
Eatable parts of a plant are called edible parts. For ex. Fruits
3. What is Nectar?
Sweet juice of flower is called Nectar.
4. What are Sprouted seeds?
Small white structure grows out of the seeds. These seeds are called as sprouted seeds.
5. What do you understand by the term “Food Habit”?
Inclination to eat a particular type of food is called food habit.
6. From where do human obtain their food?
Human obtain their food from plants and animals.
7. Flowers of which plants are used as vegetables?
Flowers of pumpkin plant are used as vegetables.
8. Mention a plant whose seeds and leaves are useful for us.
Seeds of fenugreek plants are used as spices and leaves as vegetable (Methi)
9. What is the food of honey bee?
The honey bee feeds on pollen grains (pollens) and nectar of flowers.
10. How does honey bee help farmers while collecting its food?
Honey bee visits the flowers and it brings about pollination while collecting its food.
11. What are the nutritive constituents of honey?
Honey is rich in sugar, enzymes and minerals.
12. Write different parts of banana plant that are used as food.
The edible parts of Banana are – Flowers, Leaves and stem.
13. Name two ingredients in our food that are not obtained from plants and animals.
Salt and water are not obtained from plants and animals. Salt is obtained from rocks and oceans. Water is obtained from water sources and rain.
14. Why should we avoid wastage of food?
We should avoid wastage of food because
 - a. There are many people, who do not get sufficient food.
 - b. Some people do not have enough money to buy food.
15. If you are given Moong dal grains, how will you make the sprouts from them?
 - a. We will soak a handful of Moong dal in water overnight.
 - b. Next day we will drain out water and wrap seeds in wet cotton cloth for one more day.
 - c. Third day, the seeds will show sprouts which are edible and good source of proteins and minerals.

16. Identify the major ingredients of pizza. Which of the ingredients come from plants and which from animals?

Ingredients of pizza are maida, butter, cheese and vegetables.

- Maida and vegetables are obtained from plants.
- Butter and cheese are animal products.

17. Why do the food culture in different regions of our country is different?

People living in different regions of our country use different methods of cooking food depending upon the availability of food products. For ex. –

- a. In Northern India wheat is grown so people eat chapatti as a staple food.
- b. In South India, people are rice eaters because rice is produced there in large quantity.

18. Differentiate between Food and Ingredients.

Food – Food is any substance consumed to provide nutritional support to an organism.

Ingredients – Materials needed to prepare a dish or any food item. For ex. – potato, bread and salt (toast)

19. What is honey? Why it is so important?

A sweet substance (liquid) prepared by honey bees from the nectar is called honey.

Honey is very nutritious and has medicinal value.

20. Why do honey bee store nectar?

Flowers and their nectar may be available only for a part of the year. So bees store this nectar for their use all through the year.

21. Name a plant which has more than one edible part.

A plant which has two edible parts is mustard.

- a. Seeds of mustard plants give us oil.
- b. Leaves of mustard plants are used as vegetable.

22. How honey is produced?

Honey is produced by Honey Bees. Bees collect nectar from flowers, convert it into honey and store it in their hive.

23. We should not try to test unknown plants. Why?

We should not try to test unknown plants because some plants could be poisonous.

24. Categorize the animals on the basis of their food habit.

On the basis of food habits plants can be categorized as:

Herbivores - Those animals which eat only plants or plants products are called herbivores. For ex. Cow

Carnivores - Those animals which eat only flesh of other animals as food are called carnivores. For ex. Lion

Omnivores - Those animals which eat both plants and animals are called omnivores. For ex. Human Being

25. What is the food of Frog, Rat and Elephant?

- a. Frog - Insects and Worms
- b. Rat – Grains , paper and clothes
- c. Elephant – Grass and green plants

26. Why should we eat cooked food?

We should eat cooked food because:

- Cooking improves the taste of the food.
- Cooked food can be easily digested.
- Cooking kills harmful germs.

27. Why do organisms need food?

Food is needed by organisms for the following reasons:-

- a. Food provides energy to perform various functions of body.
- b. Food protects the body against various diseases and infections.
- c. Food helps in proper growth and development of the body.
- d. It helps to repair the damaged parts of the body.

CLASS – VI

CHAPTER – 2

COMPONENTS OF FOOD

1. What is roughage?
Roughage is the fibrous matter in food which cannot be digested, but is essential for body. For ex. Whole grains and pulses
2. What do you mean by obesity?
Excessive intake of fats leads to a condition called obesity.
3. What are nutrients?
The components of food that are needed by our body are called nutrients. The major nutrients in our food are named as carbohydrates, proteins, fats, vitamins and minerals.
4. What do you mean by diseases?
A disease is a state in which body or part of it, is no longer in a healthy condition.
5. What do you understand by deficiency diseases?
Diseases that occur due to lack of nutrients over a long period are called deficiency diseases. For ex. – Scurvy, Beri-Beri
6. Which vitamin represents a group of vitamins?
Vitamin B complex represents a group of vitamins.
7. Do people of all ages and different professional backgrounds need same type of diet.
No, the people of all ages and different professions require different types of nutrients according to their physical work.
8. Riboflavin is the scientific name of which vitamin?
Vitamin B2 is the scientific name of riboflavin.
9. Name the vitamin which is prepared by our body in the presence of sunlight.
Vitamin D is prepared by our body in the presence of sunlight.
10. Name the water soluble vitamins.
Vitamin B Complex and Vitamin C are water soluble vitamins.
11. Name the simplest form in which carbohydrates breakdown in the body.
Glucose is the simplest form in which carbohydrates breakdown in the body.
12. Which nutrients are responsible for blood clotting?
Vitamin K and calcium both help in blood clotting.
13. Name the disease caused by the deficiency of vitamin C.
Deficiency of vitamin C causes Scurvy.
14. What is the role of carbohydrates in our body?
Carbohydrates mainly provide energy to our body.
15. Which vitamin is destroyed by heat?
Vitamin C is easily destroyed by heat during the cooking of food.
16. Why are proteins called as building blocks of our body?
Proteins are called as building blocks of our body because it helps in maintenance of cells and tissues of our body and support growth.
17. Enlist the problems which occur due to lack of proteins.
Swelling of face, discolouration of hair, skin diseases and diarrhoea.

18. Name two sources of animal fats. From where are they derived?

The two sources of animal fats are – Meat and cheese

Meat from different animals like hens, pigs etc.

Cheese from milk produced by cows, buffaloes etc.

19. What are protective foods? Why are they called so?

Vitamins and Minerals are called protective food. They are called so because they protect us from various diseases.

20. What happens if iodine is not incorporated in our diet?

If iodine is not incorporated in our diet then it will cause swelling of thyroid gland present in the neck. This condition is known as goitre.

21. List the major sources and importance of the following minerals:

Calcium

b. Iron

a. Calcium – The main sources of calcium are milk, cheese, eggs and green vegetables.

- It helps in formation of bones, teeth and blood clotting.

b. Iron – Iron is found in green vegetables and fresh fruits.

- Iron is needed to make haemoglobin present in red blood cells which carry oxygen from the lungs to the body parts.

22. Roughage does not provide any nutrient, yet it is an important component of food.

Explain.

Roughage does not provide any nutrient, yet it is an important component of food and adds to its bulk. This helps our body to get rid of undigested food.

23. Why are minerals needed by our body?

Minerals are needed by our body for proper growth and to maintain good health.

24. How can we test the presence of starch in a given food item like potato?

a. Take a small amount of food ingredient.

b. Put 2-3 drops of dilute iodine solution on it.

c. If potato turns blue-black, then it contains starch.

d. This confirms the presence of starch in the given food item.

25. How can we test the presence of fats in a given food item like almonds?

a. Take a small amount of food item.

b. Put it on the brown paper, then rub over it. Hold this paper towards a source of light.

c. A bright, greasy or translucent patch is seen on the paper.

d. This confirms the presence of fats in the food item.

26. What is tincture iodine?

Tincture of iodine or weak iodine solution is an antiseptic. Tincture solution is characterized by the presence of alcohol.

27. Why does our body need proteins?

Proteins are needed for:-

a. Growth and repair of our body.

b. Muscles building

c. Repairing worn out tissues.

d. For the formation of blood cells.

28. List the major sources and importance of the following vitamins:

- a. Vitamin A
- b. Vitamin D
- b. Vitamin B1
- d. Vitamin C

Vitamin	Sources	Importance
Vitamin A	Carrot , Papaya , Fish oil	Keeps our skin and eyes healthy.
Vitamin D	Milk , egg , Fish , Liver	Help our body to use calcium for bones and teeth.
Vitamin B1	Liver , Cereals , Cheese	Keep our Nerves, Muscles and cells healthy.
Vitamin C	Orange , Lemon , Amla	Helps body to fight against diseases. (Immunity)

29. Water does not provide nutrients, yet it is an important component of food. Explain.

Water does not provide nutrients, yet it is an important component of food because:-

- a. It transports digested food to body cells.
- b. It absorbs nutrients from the food.
- c. It helps to get rid of waste products from the body.
- d. It helps to control and regulate the body temperature.

30. What is the role of fats in our body?

Fats are needed to:-

- a. Protect our delicate organs.
- b. Insulate our body against cold.
- c. Add flavor to the food.

31. What is a balanced diet? What does it ensures?

A diet that contains all the nutrients in adequate amount along with water and roughage is called a balanced diet.

Balanced diet ensures:-

- a. A normal mental and physical growth.
- b. An increased level of working ability.
- c. An increased level of resistance against diseases.

32. What are the correct methods of cooking?

The correct methods of cooking are:-

- a. Vegetables and fruits should be washed before cutting.
- b. Never use excess of water during cooking.
- c. Never overcook the food.
- d. Avoid repeated washing of rice and pulses.

33. What is the role of roughage (Dietary Fibres) in our body?

Roughage is needed to:-

- a. Retain water in our body.
- b. Reduce acidity.
- c. Get rid of undigested food.
- d. Prevent constipation.
- e. Ensure proper bowel movement.

34. How can we test the presence of proteins in a given food item?
- Take a small amount of food item like pulses in the form of paste or powder.
 - Put this paste or powder in a clean test tube and add few drops of water to it.
 - Add a few drops of copper sulphate solution to it.
 - Add a few drops of sodium hydroxide solution.
 - If the solution becomes purple, it shows the presence of proteins.
35. How can we prepare dilute solution of the following:
- Iodine
 - Copper sulphate
 - Caustic Soda
- Iodine – A dilute solution of iodine can be prepared by adding a few drops of tincture iodine to a test tube half filled with water.
 - Copper sulphate - A dilute solution of copper sulphate can be prepared by dissolving 2 gram of Copper sulphate in 100 ml of water.
 - Caustic Soda - A dilute solution of Caustic Soda can be prepared by dissolving 10 gram of Caustic Soda in 100 ml of water.

CLASS – VI

Chapter – 3

Fibre to Fabric

1. What is fabric?

Fabric means a woven material, textile or other material resembling woven cloth.

2. What is fibre? How many types of fibres are there?

The thin strands of thread that are made up of still thinner strands are called fibres.

There are two types of fibres:

- a. Natural Fibres
- b. Synthetic Fibres

3. Define natural and synthetic fibre.

- The fibres obtained from plants and animals are called natural fibres. For ex. – silk from cocoon of silkworm
- The fibres which are made from chemical substances or which are not obtained from the plant and animal sources are called synthetic fibres. For Ex. – Polyester , Nylon.

4. What is ginning?

The process of separating fibres from the seeds of cotton is called ginning of cotton.

5. What is spinning?

The process of making yarns from fibres is called spinning.

6. What is weaving?

The process of arranging two sets of yarns together to make a fabric is called weaving.

7. What is knitting?

The process in which a single yarn is used to make a piece of fabric is called knitting.

8. What are yarns made of?

Yarns are made up of thin strands called fibres.

9. Name two natural and two synthetic fibres.

- Natural Fibres - Cotton, Jute
- Synthetic Fibres – Polyester, Nylon

10. Name the material which is used for making wicks for oil lamps.

Cotton wool is used for making wicks for oil lamps.

11. What are fruits of cotton plants called?

Fruits of cotton plants are called cotton bolls.

12. What type of soil is used to grow cotton plants?

Black soil is used to grow cotton plants.

13. What is jute?

Jute is a fibre obtained from the stem of a jute plant.

14. Name the states where jute plants are mainly grown in India.

West Bengal, Bihar and Assam

15. Name two hand- operated devices used for spinning.

Hand- operated devices used for spinning are takli and charkha.

16. Name the process used to prepare fabrics from yarn.

The processes used to prepare fabrics from yarn are weaving and knitting.

17. Where were the cotton and flax plants cultivated in ancient Egypt?

Cotton and flax plants were cultivated near the river Nile in ancient Egypt.

18. What is Flax?

Flax is a plant that gives natural fibre.

19. What are looms?

The device on which weaving of fabrics takes place are called looms. The looms are either hand operated or power operated.

20. What were the materials used by people in ancient time in place of clothes?

People in ancient time used the bark and big leaves of trees or animal skin and fur in place of clothes.

21. Why do we get the smell of burning hair when we burn wool?

Wool is obtained from the fleece (hair) of Sheep, Goat, Yak etc. This is the reason why burning of wool resembles the burning of hair.

22. Enlist some uses of cotton wool.

The cotton wool is used for filling mattresses, making wicks for oil lamps, quilts or pillows.

23. Describe the process of formation of yarn from cotton wool.

The cotton wool is obtained from cotton plants. The fruits of cotton plants are called cotton bolls. After maturing, the cotton bolls burst open. From the cotton bolls cotton fibres are picked by hands. Fibres are then separated from the seeds by combing. This process is called ginning of cotton. It is done by hand or by machines. These fibres are then converted into yarn.

24. List the steps involved in the preparation of fabric.

Steps involved in the preparation of fabric are:-

- a. Obtaining Fibre (Natural or Synthetic)
- b. Preparation of yarn from fibres by spinning.
- c. Preparation of fabric from yarn by weaving or knitting.

25. Explain how jute is obtained from the jute plant?

The Jute plant is normally harvested at flowering stage. The stems of harvested plants are bundled and immersed in water for 10 to 15 days. The stems rot (retting) and fibres are separated by hands. These fibres are converted into yarns to make fabrics.

26. What happened when people began to settle in agricultural communities?

When people began to settle in agricultural communities then they learn to weave twigs and grass into mats and baskets. Animal fleece or hairs were twisted together into long strands. These strands were woven into fabrics.

CLASS – VI

Chapter – 4

Sorting Materials into Groups

1. Matter :- Anything which has mass and occupies space is called matter.
2. Material :- The matter of which an object is made is called material.
3. Soft materials :- Materials which can be compressed or scratched easily are called soft material. For ex. – Sponge.
4. Hard materials:- Materials which are difficult to compressed or scratched are called hard material. For ex. – Iron.
5. Soluble materials:- Materials which completely dissolve or disappear in water are called soluble material. For ex. – Sugar
6. Insoluble Material:- Materials which do not dissolve or disappear in water are called insoluble material. For ex. – Sand.
7. Floating Materials:- Materials that float to the surface of water are called floating materials. For ex. – dried leaves
8. Sinking Materials:- Heavy materials that sink easily to the bottom of the tumbler are called sinking materials. For ex. – Stone
9. Transparent Materials:- The substances or materials through which an object can be seen clearly and which allow light to pass through them are called transparent materials. For ex. – Glass and water
10. Translucent Materials:- The substances or materials through which an object can be seen but not clearly and which allow light to pass through them partially are called translucent materials. For ex.- Oil paper.
11. Opaque Materials:- The substances or materials through which an object cannot be seen and which do not allow light to pass through them are called opaque materials.
For ex. – Cardboard, metals
12. What is the basis for sorting materials?
Materials are grouped on the basis of similarities or dissimilarities in their properties.
13. What is common between salt and sand.
Salt and sand both have mass and are in solid state.
14. List three liquids which are transparent.
Water , Alcohol , and Acetone / Benzene
15. Which is more hard , Sponge or iron?
Iron is harder than sponge.
16. Write two gases which are soluble in water.
Oxygen and Carbon dioxide.
17. Write two gases which are insoluble in water.
Hydrogen and Nitrogen.
18. Name two objects which are made from opaque materials.

Wooden doors , Blackboard , Steel Plate.

19. Why is water called a universal solvent?

Water dissolve a large number of substances in it.

20. Name two objects which are made from leather.

Belt and shoes are made from leather.

21. Write any four properties of materials.

Appearance

Hardness

Solubility

Transparency

22. Why is a tumbler not made with a piece of cloth?

We use tumblers made of glass , plastic and metal to keep a liquid. These substances can hold a liquid. A tumbler made of cloth cannot hold a liquid because cloth piece has very minute pores through which the liquid comes out.

23. What are the similarities between iron , copper and aluminium?

Similarities between iron , copper and aluminium are:-

They all have luster.

They are all metals.

They are hard.

24. Why is water important for our body?

Water can dissolve a large number of substances, so it is needed by the body.

Water is a major part of our body cell.

25. What is the reason for grouping materials?

Materials are grouped for

Convenience to study their properties.

To describe their properties.

To observe any pattern in their properties.

26. Why do metal articles become dull and loose their shine?

Metals when exposed to air react with moisture and gases present in it, thereby forming a dull layer of some other compound on it. That's why metal articles become dull and loose their shine.

27. Kerosene, Mustard oil form two different layers when dissolve in water, Why.

The molecules of water do not mix with the molecules of oil. The space between the molecules of water is not taken by oil, so they are immiscible in water.

28. Why do a shopkeeper prefers to keep biscuits and sweets in a glass or plastic container?

Due to transparent nature of glass or plastic container, biscuits, sweets etc. can be seen easily by buyers, so shopkeeper prefers to keep biscuits and sweets in a glass or plastic container.

29. Name the following:-

Naturally occurring hardest substance. - Diamond

Metal that exist in liquid state. - Mercury

Metal that is soft and can be cut with knife. – Sodium and Potassium

A non- metal that has lustre – Iodine

30. Grouping of objects helps the shopkeeper: justify the statement.

Proper grouping of objects helps shopkeeper in the following ways:

To locate the required object easily and quickly.

Easily come to know what stocks are going to finish.

Saves time and energy.

31. Write an experiment to show that our palm is translucent.

Cover the glass of a torch with your palm at a dark place. Switch on the torch and observe from the other side of palm. We see that light of torch passes through palm but not clearly. This experiments shows that our palm is translucent.

32. Why do you think oxygen dissolved in water is important for the survival of aquatic animals and plants?

Oxygen gas dissolved in water, i.e. oxygen gas is soluble in water. The plants and animals which live in water use the oxygen dissolved in water for respiration. Thus, oxygen gas dissolved in water is very important for the survival of animals and plants that live in water.

33. List some materials that are used for making more than one type of an object.

- a. Materials that are used for making more than one type of an object are:-
- b. Wood – Chair, Table, Plough, Wheels.
- c. Paper – Books, Notebooks, Newspaper
- d. Leather – Shoes, Belts, Wallets
- e. Plastic – Buckets, Lunch boxes, Toys and pipes.

34. Why are handles of utensils made from wood or plastics?

The handles of utensils are made from wood or plastics because wood and plastics are bad conductors of heat. They do not allow the heat transmission through them. So that our hand does not burn while handling these utensils when they are hot.

35. Enlist three common characteristics of materials.

The three common characteristics of materials are:-

- a. All materials occupy space.
- b. All materials possess mass.
- c. All materials can be felt by one or more of our sense organs.

36. Why do we separate substances?

- a. To separate two different but useful components. For ex. – Churning milk to obtain butter.
- b. To remove non-useful components. For ex. – Separates tea leaves.
- c. To remove impurities or harmful components. Separate stones from rice.

Chapter – 5

Separation of Substances

Assignment

1. Name the method used to separate:-

a. Cream from Curd.

Centrifugation

b. Mixture of Mango and Apple

Handpicking

c. Pieces of stone from grain

Handpicking

d. Grains from stalk

Threshing

e. Heavier and lighter components

Winnowing

f. Solid materials of different sizes

Sieving

g. Salt from ocean water.

Evaporation

2. What is a strainer?

Strainer is a kind of sieve which is used to separate a liquid from solid.

3. What is evaporation?

The process of conversion of liquid into vapour is called evaporation. For ex.

Water changes into water vapour on heating.

4. Define condensation.

The process of conversion of vapour into liquid is called condensation. For ex.

Water vapour changes into water on cooling

5. What is a mixture?

When two or more than two substances are mixed together in any ratio then it is called as a mixture. For ex. – Mixture of rice and dal.

6. Write various methods of separation of components from their mixture.

Various methods of separation of components from their mixture are:-

a. Handpicking

e. Condensation

b. Winnowing

f. Sedimentation

c. Threshing

g. Decantation

d. Evaporation

h. Filtration

7. Define the following terms:-

a. Handpicking - The process used to separate slightly larger particles from a mixture by hand is called handpicking. For Ex. Stone pieces can be separated from wheat or rice by handpicking.

b. Threshing - Threshing is a process in which we separate grain from stalks. This process is used by farmers to separate gram, wheat, rice, mustard seeds in his field.

c. Winnowing – The process which is used to separate components from a mixture in which one component is heavier or lighter than other is called winnowing. Winnowing is done with the help of wind or by blowing air.

d. Sieving – Sieving allows the fine flour particles to pass through the holes of the sieve while the bigger particles or impurities remain on the sieve. For example, in a flour mill, impurities like husk and stone are removed from weed before grinding it.

e. Decantation - Decantation is the process of separation of insoluble solids from liquids. The suspension of solid particles in liquid is allowed to stand for some time. The solid particles then settle down at the bottom of the container and clean water goes up. Without disturbing the settled particles the clean water is transferred into other container.

f. Saturated solution- The solution in which no more solute can be added is called a saturated solution.

g. Filtration- Process of separation of solid from fluids by passing the same through a porous medium (filter paper)that retains the solid but allows the fluid to pass through.

8. How will you separate oil and water from their mixture?

Oil, being lighter than water, will float on it. Two distinct layers are formed and slowly oil is allowed to flow into another container and is separated from water. Separating funnel can also be used to separate oil and water.

9. Where is decantation used? Give two examples.

Decantation is used to separate insoluble solids from liquid. Mixture of mud and water can be separated by decantation.

10. Describe the method to obtain salt from sea water.

Sea water contains many salts mixed in it. One of them is common salt. When sea water is allowed to stand in shallow pits, water gets evaporated by sunlight and slowly turns into water vapour. In a few days, the water evaporates completely leaving behind the solid salts. Common salt is then obtained from this mixture of salts by further purification.

11. Explain the method that can be used for separating the following mixture:

a. Sand and Husk - Winnowing

b. Wheat, sugar and stalk – For separating wheat and stalk - Winnowing

For separating wheat and sugar - Sieving

c. Water and petrol – Petrol does not dissolve in water, so it can be separated by the use of separating funnel.

d. Rice and salt - Sieving

12. Explain the process of filtration with diagram.

Muddy water can be separated by filter paper that has even smaller pores. The steps involved in the process of filtration are:-

1. A filter paper is folded in the form of a cone and fixed into a funnel.

2. The mixture is then poured on the filter paper.

3. Mud particles do not pass through it and remain on the filter paper as residue.

4. Clear water or filtrate can be obtained from beaker.

13. How can we separate grains from stalks?

Grains from stalks can be separated by threshing. In this process, the stalks are beaten to free the grain seeds. Threshing can be done with the help of bullocks and machines.

Chapter – 6
Changes Around Us
Assignment

1. Give two examples of:-

- a. Slow change – Growing of plants, ripening of fruits
- b. Fast change – Blowing of balloon, rolling out roti from dough ball
- c. Reversible changes – Drying of wet clothes, heating of milk
- d. Irreversible changes – Cooking of food, formation of curd
- e. Physical changes – Boiling of water, freezing of water
- f. Chemical changes – Rusting of iron, formation of curd

2. Classify the following as slow or fast change:-

- a. Burning of paper – Fast change
- b. Melting of wax – Slow change
- c. Curdling of milk – Slow change
- d. Cooking of food – Fast change
- e. Change of seasons – Slow change
- f. Weathering of rocks. – Slow change

3. Can you say deforestation is an irreversible or reversible change?

It is an irreversible change.

4. Why does a blacksmith heat the metal rim to fix it on a cart wheel?

Ans: A blacksmith heats the metal rim to fix it on a cart wheel because a metal rim is made slightly smaller. On heating, the rim expands and fits onto the wheel. Then on cooling, rim contracts and fits tightly onto the wheel.

5. What are slow and fast changes? Give examples.

Ans: The changes which take place in long period of time are called slow changes whereas the changes that take place in short period of time are called fast changes.

Examples:

(a)Rusting of iron, formation of day and night, ripening of fruits and growing of trees are slow changes.

(b)Burning of paper, stretching of rubber band, blowing of balloons and bursting of crackers are fast changes.

6. Write some changes happening in our body.

- a. Our nails grow
- b. Our hair grow
- c. We grow taller
- d. Our weight increases

7. What is a physical change? Explain with example.

The change in which only physical properties of substances are changed and no new substance is formed is called physical change. For example- cutting of wood, breaking of glass.

8. What is a chemical change? Explain with example.

The change in which new substance with new chemical properties are formed is called chemical change. For example: burning of paper.

9. What happens when sugar is heated?

When sugar is heated continuously then a black powdery substance is formed called charred sugar.

10. Explain how a metal rim, slightly smaller than a wooden wheel, can be fixed on it.

The metal rim is always made slightly smaller than the wooden wheel. The metal rim is heated. On heating, the rim expands and fits onto the wheel. Cold water is then poured over the rim. Due to cooling, the metal rim contracts and fits tightly onto the wheel.

11. How does curd being set? Is this change reversible?

A small quantity of curd is added to warm milk. The milk is stirred and is set aside undisturbed for a few hours at a warm place. In a few hours, the milk changes into curd. Curd formed from the milk cannot be changed into milk again. So this is an irreversible change.

12. Define the process of expansion and contraction with example.

Expansion - An increase in the volume of a substance while its mass remains the same. Expansion occurs usually due to heating.

Contraction - A decrease in the size of a substance due to cooling.

For ex. - A blacksmith heats the metal rim to fix it on a cart wheel because a metal rim is made slightly smaller. On heating, the rim expands and fits onto the wheel. Then on cooling, rim contracts and fits tightly onto the wheel.

13. (a) How does a blacksmith change a piece of iron into different tools?

A piece of iron is heated till it becomes red hot. It then becomes soft and is beaten into the desired shape.

13 (b) How is the iron blade fixed to the wooden handle of the tools?

The iron blade in the tools has a ring in which the wooden handle is fixed. Normally the ring is slightly smaller in size than the wooden handle. To fix the handle the ring is heated and it becomes slightly larger in size (expands). Now the handle easily fits into the ring. When the ring cools down it contracts and fits tightly on to the handle.

Chapter – 7

Getting To Know Plants

1. What is leaf venation?

The design made by veins in a leaf is called leaf venation.

2. What are the raw materials required by leaves for photosynthesis?

Sunlight, Water, Carbon dioxide, Chlorophyll

3. What are lateral roots?

The smaller roots that grow on the main tap root are called lateral roots.

4. What are fibrous roots?

The roots which do not have any main root but all the roots are similar are called fibrous roots.

5. What are weeds?

The unwanted plants that grow in the fields with the main crops or in their surroundings are called weeds. Weeds are the plants which are not grown by farmers. For example, Grass.

6. What are creepers? Give example.

The plants with weak stem that cannot stand upright and spread on the ground are called creepers. Various types of grasses are the examples of creepers.

7. What are climbers?

The plants that take support of neighbouring structures and climb up are called climbers. They have weak stem. For example, Grapes, Money plant, beans.

8. Write an activity to show that stem conducts water and other substances.

Take some water in a glass. Add few drops of red ink to the water. Cut the stem of herb plant from its base. Put it in the glass. We will see that some parts of the stem become red. This activity shows that stem conducts water.

9. What are sepals? What are their functions?

The small green coloured leaf – like structures present in a flower are called sepals. They protect flower when it is in stage of bud.

10. What are petals? Why they are generally coloured?

The coloured big – leaf structures present in a flower are called petals. Petals are coloured so as to attract insects for pollination.

11. What are stamens and pistil?

- Stamens are the male part of the flower.
- The innermost part of a flower is called pistil. These are the female part of the flower.

12. Name the prominent parts of a flower.

The prominent parts of a flower are petals, sepals, stamens and pistil.

13. Explain the important functions of roots.

The important functions of roots are:-

1. They help to absorb water from the soil.
2. The roots help in holding the plants firmly in the soil.

14. Explain the main functions of a leaf.

Two main functions of a leaf are:-

Transpiration:- The water comes out of the leaves in the form of vapour. This process is called transpiration.

Photosynthesis –The process by which leaves prepare their food from water and carbon dioxide, in the presence of sunlight and a green coloured substance, is called photosynthesis.

15. What are unisexual and bisexual flowers?

Unisexual Flowers - Unisexual Flower has either male (stamen) or female (pistil) parts. For ex. - papaya and cucumber.

Bisexual Flowers - Bisexual Flowers have both male and female whorl in the flowers, i.e. they have both stamen and pistil. For ex. - rose and brinjal.

16. Explain various types of leaf venation with examples.

(1) Reticulate venation- If the design of veins make a net like structure on both the sides of midrib then it is called reticulate venation. For example - mango leaf, gram leaf.

(2) Parallel venation- If the veins are parallel to each other or to midrib then such type of venation is called parallel venation. For example - Wheat leaf, Barley leaf.

17. Explain the structure of a typical flower with the help of a diagram.

A typical flower contains the following parts:

(1) Stalk- The part by which a flower is attached to the branch is called stalk.

(2) Sepals- The small green leaf-like structures of the flower are called sepals.

(3) Petals- The big coloured leaf like structures are called petals. Different flowers have petals of different colours.

(4) Stamen- It is the male part of flower. It has two parts (a) Filament (b) Anther

(5) Pistil- The innermost part of a flower is called pistil. It has three parts (a) stigma (b) Style (c) Ovary. It is the female part of the flower.

18. How many kinds of plants are there? Define them with examples.

There are three kinds of plants.

- Herbs - The plants with green and tender stems are called herbs. They are usually short and may have no or less branches. For example - tomato, potato.
- Shrubs - The plants which have a hard but not a very thick stem are called shrubs. Such plants have the stem branching out near the base. For example - Lemon, Rose plant

- Trees - The plants which are very tall and have hard and thick brown stem are called trees. The stems have branches in upper part and much above the ground. For example - Mango, neem

19. Explain an activity to test the presence of starch in a leaf.

Take a leaf in the test tube and pour spirit till it completely covers the leaf. Now put the test tube in a beaker having water. Heat the beaker till all the green colour from the leaf comes out into the spirit. Take out the leaf and wash it with water. Put it on a plate and pour some iodine solution over it. The leaf will turn blue-black. This confirms the presence of starch in the leaf.

20. Differentiate between tap root and fibrous root.

Tap root

1. Tap root has only one main and long root. The smaller roots that grow from the main root are called lateral roots.
2. Tap root goes deep into the soil.
3. Tap roots are found in plants which has reticulate venation.

Fibrous root

1. Fibrous roots do not have a main root. All roots seem similar.
2. They do not go deep into the soil.
3. Fibrous roots are found in plants which has parallel venation.

21. Define the following terms:-

- a. Petiole – The part (stalk) of a leaf by which it is attached to the stem is called petiole.
- b. Lamina – The broad green flat part of leaf is called lamina.
- c. Veins – The lines on the leaf are called veins.
- d. Midrib – A thick vein in the middle of the leaf is called midrib.

CHAPTER – 8

BODY MOVEMENTS

1. What do you mean by movement?

The changing position of the body or any part of the body is called movement.

2. What are joints? Write the names of various types of joints.

Ans: The places where two parts of the body seem to be joined together are called joints. There are following types of joints.

Ball and socket joints

Pivotal joints

Hinge joints

Fixed joints

Gliding joints

3. What is skeleton?

Ans: The bones in our body form a framework to give shape to the body. This framework is known as skeleton.

4. Write two ways through which we may know the shape of human skeleton.

Ans: (i) We can know the shape of skeleton by feeling.

(ii) We could know the shape by X-ray images of human body.

5. Write the difference between bones and cartilage.

Ans: Bones

(1) They are hard.

(2) They cannot bend.

(3) They are used to make framework of the body.

Cartilage

(1) They are soft.

(2) They can bend.

(3) They help to make some parts of the body.

6. Differentiate between shoulder bones and pelvic bones.

Shoulder bones:- The shoulder bones are formed by the collar bone and the shoulder blade. It connects the upper part of the chest and bones of the arm.

Pelvic bones:- The bones which enclose the body part below the stomach are called pelvic bones.

7. What are cartilages?

Some additional part of the skeleton which are not as hard as bones and are elastic in nature and can be bent are called cartilages, e.g. cartilage of ear.

8. What do you mean by streamlined?

If the body tapers at both the ends then such shape of the body is said to be streamlined. For ex. Fish.

9. Why are fractured bones plastered?

Plaster keeps broken bones at their right place so that they grow and join properly.

10. Why do we need two muscles together to move a bone?

A muscle can only pull, it cannot push. Thus two muscles are required to move a bone. When one muscle contracts, the bone is pulled. When another muscle of the pair pulls, it brings the bone in its original position.

11. How do the muscles work?

Ans: The muscles work in pairs:-

a. When one of them contracts, the bone is pulled in that direction, the other muscle of the pair relaxes.

b. To move the bone in the opposite direction, the relaxed muscle contracts to pull the bone towards its original position, while the first relaxes.

c. A muscle can only pull. It cannot push.

12. How does earthworm move?

Ans: Earthworm does not have bones. It has muscles. During the movement, it first extends front part of the body keeping the rear portion fixed to the ground. Then it fixes the front and releases the rear end. It then shortens the body and pulls the rear end forward. In this way by repeating such muscular expansions and contractions earthworm moves.

13. How does the snail move?

Ans: The rounded structure on the back of the snail is called a shell. It is the exoskeleton of snail. When it starts moving a thick structure and the head of the snail may come out of an opening in the shell. The thick structure is called foot, which is made up of strong muscles. It helps the snail in moving.

14. How does fish move in water?

Ans: The body of fish is streamlined. The streamlined shape helps the fish to move in water. The skeleton of fish is covered with muscles which make the front part of the body to curve to one side and the tail part swings towards the opposite side. This makes a jerk and pushes the body forward. In this way it moves in water.

15. How many types of joints are there? Name them and give examples of each.

There are two types of joints:

1. Fixed Joints: Ex. The joints of skull
2. Movable Joints : Ex.:-
 - a. Ball and socket joint – Joint of upper arm and shoulder
 - b. Hinge joint- Joint in fingers
 - c. Pivot joint – Joint of skull with backbone
 - d. Gliding joint – The joint in backbone

16. Explain various types of joints found in our body and give example of each.

There are five types of joints in our body.

(1) Fixed joints- The joints which do not allow movement are called as fixed joints.

(2) Movable joint- The joints which allow movement are called as movable joints.

- a. Ball and socket joint- This joint allows movement in all directions. The rounded end of one bone fits into the hollow space of other bone. For ex. joint between upper arm and shoulder
- b. Pivotal joint- This type of joint allow movement in all planes i.e. up and down, side and other planes. For ex. Head
- c. Hinge joint- The joint allows movement only in one plane is called hinge joint. For ex. fingers, knees
- d. Gliding joint- These joints allow only a limited amount of movement of sliding nature of cartilage. For ex. the joints of backbone