**CLASS VI SCIENCE WORKSHEET BY MUKUT BOSE.**

**Chapter 1 - Food: Where Does It Come From?**

### Food: Where does it come from?

##### **Q1. State True or False**

i.             Scavengers help to keep the environment clean. True

ii.            Tiger, giraffe and yak provide us milk. False

iii.          Honey is prepared by honey bees. True

iv.          Lizards eat insects. True

v.           Tomato is a seed of a plant used as vegetable. False

##### **Q2. Fill in the blanks.**

i.             The stem of the lotus flower is consumed as food.

ii.            Sugarcane and sugar beet are used to produce sugar.

iii.          Mushroom is a non-green plant that we consume as food.

iv.          Plants and animals are the two common sources of most of the ingredients of food items that we eat.

v.           We generally eat fruits from most of the plants.

##### **Q3. Write any 3 milk providing animals.**

Ans. Cow, goat and she-camel

##### **Q4. What are the three meals we take daily?**

Ans. Breakfast, lunch, dinner

##### **Q5. Write any 3 milk products you take daily.**

Ans. Cheese, butter and curd

##### **Q6. Name a food item which we can prepared from honey.**

Ans. Honey – Jams and Jellies

##### **Q7. From where do we obtain honey?**

Ans. Honey Comb

##### **Q8. Write one fruit which is found underground and mention the nutrient found in that fruit.**

Ans. Ground nuts and it give us fats.

##### **Q9. From where does baby plant get food?**

Ans. Baby plant or seedling depends upon the food stored in the seed.

##### **Q10. Which food are more nutritious sprouts or pulses?**

Ans. Sprouts contain high levels of fiber, vitamins and protein as compared to pulses. That is why sprouts are more nutritious than pulses.

##### **Q11. Who prepares honey and how?**

Ans. Bees prepares honey. Honey bees collect nectar from the flower and store it in their hives and convert it into honey.

##### **Q12. On skipping breakfast we feel tired and exhausted. Why?**

Ans. Breakfast is the first meal of the day and it is taken after a long period of time. That’s why we feel tired and exhausted if we miss our breakfast.

#####  **Q13. What is honey?**

Ans. Honey is a thick, golden liquid, sugary product produced by honey bees using the nectar of flowering plants.

##### **Q14. What is food?**

Ans. Food is any nutritious substance that people or animals eat in order to maintain life and growth.

##### **Q15. Why do we cook food? Does food loss its nutrition value when they are cooked?**

Ans. We cook food to make it tastier and easy to digest. But while cooking some of the nutrients such as vitamin C get destroyed. That is why we eat some fruits and vegetables without cooking.

##### **Q16. Why is India facing food problem today? How can it be solved?**

Ans. India is facing food problems today because India is not able to produce food to meet the increasing requirement of the growing population.

It can be solved by:

i.             Storing the food properly.

ii.            Growing better crops.

iii.          Better management of left-over food in the parties and functions.

iv.          Avoiding wastage of food.

##### **Q17. Differentiate among the following:**

##### **i)             Herbivores and Carnivores**

|  |  |
| --- | --- |
|             Herbivores |       Carnivores |
|      1.   They eat only plant products. | They eat flesh and meat of other animals. |
|      2.   They have strong grinding teeth. | They have sharp tearing teeth or canines. |
|      3.   Examples: giraffe, goat, cow, deer, etc. | Examples: lion, tiger, hyena, leopard, etc. |

##### **ii)           Carnivores and Omnivores**

|  |  |
| --- | --- |
|            Carnivores |        Omnivores |
|      1.   They eat flesh and meat of other animals. | They eat both meat and plants. |
|      2.   They have sharp tearing teeth or canines. | They have a combination of sharp front teeth and molars for grinding. |
|      3.   Examples: lion, tiger, hyena, leopard, etc. | Examples: human, bear, dog, etc. |

##### **iii)          Parasites and Scavengers**

|  |  |
| --- | --- |
|          Parasites |     Scavengers |
|      1.   They live inside or on the body of the host. | They feed on dead and decaying matter. |
|      2.   Their organ systems are not well developed. | Their organ systems are well developed. |
|      3.   They harm their host. | They clean the environment. |

### Components of Food

##### **Q1. Fill in the blanks.**

i.             Carbohydrates and fats mainly provide energy to our body.

ii.            A balanced diet can prevent deficiency disease.

iii.          Too much fat in the diet may lead to obesity.

iv.          Water helps our body to absorb nutrients from food.

v.           Vitamin C gets easily destroyed by heat during cooking.

vi.          Vitamin K helps in clotting of blood.

vii.        Deficiency of Vitamin D causes rickets.

viii.       Deficiency of vitamin-C causes scurvy.

ix.          Water makes up about 70% of our body weight.

x.           Cooking in too much water destroys nutrients in food.

xi.          Fibre or roughage is important for proper functioning of the digestive system.

xii.        Spinach is rich in iron.

xiii.       An oily patch on paper shows that food item contains fat.

xiv.      Minerals are needed in our body in small amount.

xv.        Dietary fibres are also known as roughage.

##### **Q2. State True or False**

i.             Milk does not provide dietary fibre. True

ii.            Fats provide less energy as compared to the same amount of carbohydrates. False

iii.          Lacks of nutrients in our diet over a long period are called deficiency diseases. True

iv.          Rice and potato are rich in protein. False

v.           Egg is rich source of protein, phosphorous and vitamin D. True

vi.          Peas, gram, soya beans and cottage cheese are good source of proteins. True

vii.        A food item may contain more than one nutrient. True

##### **Q3. Match the following:**

|  |  |
| --- | --- |
| Column I | Column II |
| a. Eating of junk food | Goiter **c** |
| b. Lack of iron in diet | Loss of vitamin C **d** |
| c. Lack of iodine | Obesity **a** |
| d. Excessive cooking of food | Kwashiorkor **f** |
| e. Absence of exposure to sunlight leads to  | Anaemia **b** |
| f. Lack of protein  | Rickets **e** |
| g. Lack of vitamin B1 | Constipation **h** |
| h. No fibre in diet | Healthy gums **i** |
| i. Eating Vitamin C rich diet | Beriberi **g** |

##### **Q4.  Which vitamin is not present in milk?**

Ans. Vitamin C

##### **Q5. Write the deficiency disease that causes bleeding gums.**

Ans. Scurvy

##### **Q6. Write the deficiency disease that is caused by deficiency of iron in the diet.**

Ans. Anaemia

##### **Q7. What is the vitamin that represents a group of other vitamins?**

Ans. Vitamin B complex

#####  **Q8. What is obesity?**

Ans. Obesity is the condition of excess body weight due to accumulation of fat in the body.

##### **Q9. Write two foods rich in**

a. Fats – oil and ghee

b. Carbohydrates / starch – bread and potato

c. Proteins – egg and pulses

d. Vitamin A – papaya and carrot

e. Vitamin C – orange and lemon

f. Vitamin B1 – beef and liver

g. Vitamin D – salmon fish and egg yolks

h. Calcium – milk and yogurt

i. Iodine – sea food and iodized salt

##### **Q10. Classify the following food item into carbohydrates, fats and protein.sweet potato, ground nuts, tuar dal, potato, sugarcane, nuts, gram, milk, moong, butter, ghee, soya bean, cream, wheat, paneer,  rice, bajra.**

Ans.

|  |  |  |
| --- | --- | --- |
| Carbohydrates | Fats | Proteins |
| Sweet potatoPotatoSugarcaneWheatRicebajra | Ground nutsNutsMilkButterGheecream | tuar dalgrammoongsoya beanpaneer |

### Components of Food

##### **Q11. Why do we need carbohydrates in our diet?**

Ans. We need carbohydrates in our diet as it provides energy to the body.

##### **Q12. Why do children need more protein in their diet?**

Ans. Proteins are needed for the growth and repair of our body. So, children need more protein to support their growth and development of the body.

##### **Q13. Dia prepared lady fingers that taste yummy. She washed the lady finger after she cut them in small pieces and then fried them in excess oil with lots of spices to make it crunchy and tasty. Was her method of cooking correct?**

Ans. No, her method of cooking would result in loss of nutrients. She should have washed the lady fingers before cutting and should have cooked in less oil.

##### **Q14. What is night blindness? Write its symptoms.**

Ans. Night blindness causes difficulty in vision. The person suffering from night blindness cannot see clearly in dim lights.

##### **Q15. A child has stunted growth, swelling on face, discoloration of hair and skin disease. He was advised to eat protein rich diet. Name the disease child is suffering from?**

Ans. Kwashiorkor

##### **Q16. How can we test presence of fat in food item?**

Ans. Rub a small quantity of food item on a piece of white paper. Oily patch on the piece of white paper indicates that the food items contain fat.

##### **Q17. How diseases are caused?**

Ans. Main causes of diseases are:-

i.             germs

ii.            lack of specific nutrients in the diet

iii.          contact with the sick person

##### **Q18. Write the steps to test the presence of protein in a food item.**

Ans. Steps are:

i.             Make a paste or powder of the food item to be tested.

ii.            Put some of these in test tube and add 10 drops of water to it. Shake the test tube.

iii.          Add 2 drops of solution of copper sulphate and 10 drops of solution of caustic soda to the test tube.

iv.          Shake the test tube and observe the color. A violet color indicates presence of proteins in the food item.

##### **Q19. What is a balanced diet? Is it same for everyone?**

Ans. A balanced diet is a diet that consists of variety of different types of food which provides all the nutrients in adequate amount for the proper functioning of the body. Balanced diet is not same for everyone as it depends on age, gender and occupation of a person.

##### **Q20. How can we cure anemia?**

Ans. To treat anemia we should eat iron rich food such as red meat, beans, dark green leafy vegetables (such as spinach), raisins, apple, tomatoes, plums, bananas, lemons, grapes, figs, carrots etc.

##### **Q21. On adding 2-3 drops of dilute iodine solution in a food item, it turns blue black. What does it indicate?**

Ans. It indicates that it contains starch.

##### **Q22. Why sunlight is important for our health?**

Ans. Sunlight helps our body to make vitamin D. Vitamin D is essential for bone health so we need sunlight for good health.

##### **Q23. Differentiate between Marasmus and Kwashiorkor.**

Ans.

|  |  |
| --- | --- |
| **Marasmus** | **Kwashiorkor** |
|      1.   It occurs due to deficiency of proteins, carbohydrates and fats in the diet. | It is primarily caused due to insufficient intake of proteins. |
|      2.   It occurs in children below the age of 1 year. | It occurs in children in the age group 1-5 years. |
|      3.   Body is reduced to skin and bones. | Body swells due to retention of fluids. |
|      4.   Skin color does not change. | Skin color changes. |

### Components of Food

##### **Q24. What are deficiency diseases? Write four deficiency diseases and the associated nutrients.**

Ans. Diseases caused due to lack of specific nutrients in our diet are called deficiency diseases.

|  |  |
| --- | --- |
| **Disease** | **Associated Nutrient** |
| Goitre | Iodine |
| Scurvy | Vitamin C |
| Anaemia | Iron |
| Night Blindness | Vitamin A |

##### **Q25. Identify the disease a person is suffering from?**

    

    Ans.  Goitre

#####       **a.   Write the symptoms of the disease.**

 Ans. Symptoms are:

i.             Swelling at the base of neck

ii.            Tight sensation in the throat and the neck.

iii.          A large goiter may cause difficulty in swallowing and breathing.

#####       **b.    Suggest what kind of diet should be taken to avoid such disease.**

 Ans. By using iodized table salt simple goitre can prevented.

##### **Q26. A plate full of colorful food items is a healthy plate? Comment**

Ans. A plate full of colorful items is considered healthy when it is colorful due to varieties of fruits and vegetables. Color due to synthetic colors is unhealthy and such food items should be avoided.

##### **Q27. Junk food taste good but are not healthy and nutritious food are healthy but not always taste good. Comment**

Ans. Our tongue craves for junk food as they taste food. But we know that junk food contains only calories and lack other important nutrients and hence they are not good for our health. Healthy food sometimes does not taste good but contain nutrients that our body needs to function well.

#####  **Q28. Why should we drink 6-8 glasses of water every day even when water does not provide any energy?**

Ans. We should drink 6-8 glasses of water every day because

                        i.        It is important for proper digestion and absorption of nutrients.

                       ii.        It also flushes out toxins and waste from our body.

                      iii.        It regulates body temperature.

##### **Q29. While showing experiment to the children in the laboratory, few drops of iodine fell on teacher’s sari. The drops of iodine on the sari turned blue black. State the possible reason for change of color.**

Ans. A blue-black color results if starch is present. Sari might have been starched and starch always gives blue black color with iodine.

##### **Q30. Ravi did not eat vegetables but likes to eat ice-cream, pizza, biscuits, noodles and sandwich. He always complains about stomach ache and constipation. Suggest him food item that he should include in his diet to get rid of the problem.**

Ans. Junk food does not contain roughage. He may be suffering from stomach ache due to lack of roughage in his diet. He should take diet that includes whole grains, pulses, fruits and vegetables. Roughage helps to get rid of waste material easily and hence cure constipation.

##### **Q31. Write all components of food that provide nutrients required by our body.**

Ans. Carbohydrates, fats, proteins, vitamins and minerals

##### **Q32. Write the component of food which does not provide any nutrients but are very important for proper functioning of our body.**

Ans. Roughage and water

##### **Q33. Why do nursing mothers need more protein in their diet?**

Ans. Nursing mother needs extra protein because the milk that is fed to the baby should be rich in protein and the mother's body needs lot of proteins to form milk.

##### **Q34. Why do we need Vitamin C in our diet?**

Ans. We need vitamin C in our diet because:

i.             Lack of Vitamin C may result in delay in wound healing.

ii.            It is needed for skin formation.

iii.          It improves immunity and helps us to fight against disease.

iv.          It is important for protein metabolism in the body.

##### **Q35. Our body need minerals and vitamins in very small quantities, still they are important. Why?**

Ans. They are important as

i.             they help body to fight against many diseases

ii.            for proper growth of the body

iii.          for maintaining good health

##### **Q36.What is the function of food in our body?**

Ans. Food provides essential nutrients for proper functioning of our body.

##### **Q37. Why is roughage important in our diet?**

Ans. Roughage is important because it provides bulk in our intestines and helps us to get rid of undigested waste and cleans our digestive system.

##### **Q38. What are the three types of carbohydrates?**

Ans. The three types of carbohydrates are sugar, starch and cellulose.

### Chapter 3 - Fibre to Fabric - 1

### Fibre to Fabric

##### **Q1. State True/False**

i.             Raincoat is not made from fibre. True

ii.            Synthetic fibres are biodegradable. False

iii.          Nylon is a synthetic fibre. True

iv.          The threads or yarns are made from thin fluffy strands called fibres. True.

v.           Synthetic fibres are obtained from animals. False

vi.          Synthetic fibres are costlier than natural fibres. False

vii.        Angora wool is obtained from a species of rabbit. True

viii.       Polyester is a natural fibre. False

ix.          Fabrics can be made from yarns by weaving or knitting. True

x.           Cotton clothes are less comfortable than polyester clothes. False

xi.          Wool and silk are animal fibres. True

xii.        All fabrics are obtained from plants. False

##### **Q2. Fill in the blanks.**

i.             The process of removing seeds from the cotton fibre is called ginning.

ii.            The jute fibres are less durable as compared to rayon fibres.

iii.          The cotton plant bears large leaves and bears white or yellow fruits.

iv.          We should wear cotton fabrics while burning crackers.

v.           Natural fibres do not damage the ecosystem as they are biodegradable.

vi.          A cloth is made of thousands of criss - crossing threads forming a network.

vii.        Silk is warm to wear during winters and cool in summer.

viii.       Silkworms are fed on mulberry leaves.

ix.          Silk is an expensive fabric.

x.           Yarn is made from fibre.

xi.          Spinning is the twisting together of drawn out strands of fibers to form yarn.

xii.        Plant fibres are obtained from fruits and stems.

##### **Q3. From which part of the plant jute fibre is obtained?**

Ans. Jute fibre is obtained from stem of the jute plants.

##### **Q4. What is fabric?**

Ans. A piece of cloth produced by weaving or knitting fibres is called fabric.

##### **Q5. Write few items that are made from coconut fibre.**

Ans. Ropes, basket, door mat, Mattress etc.

##### **Q6. What is oil lamps wick made of?**

Ans. Cotton wool

##### **Q7. What are the fruits of cotton plants called?**

Ans. Cotton bolls

##### **Q8. How is spinning done on large scale?**

Ans. Spinning is done on large scale with the help of spinning machines.

##### **Q9. From which part of the plant cotton fibre is obtained?**

Ans. Cotton fibre is obtained from fruit of the cotton plants.

##### **Q10. Give some name of fabrics from your surroundings.**

Ans. Blankets, bed sheets, table-cloth, towels, shawl and curtains etc.

##### **Q11. From where do we get silk?**

Ans. We get silk from the cocoons of silkworms.

##### **Q12. Where jute is grown in India?**

Ans. Jute is grown in West Bengal, Assam, Orissa and Bihar.

##### **Q13. Which state is the largest producer of jute in India?**

Ans. West Bengal

##### **Q14. Write the names of unstitched cloth worn by people in India?**

Ans. Sari, dhoti, lungi and turban

##### **Q15. What is sericulture?**

Ans. Rearing of silkworms for production of silk is called sericulture.

##### **Q16. Which synthetic fibre is known as artificial silk?**

Ans. Rayon

##### **Q17. Which type of wool we get from a species of goat found in Kashmir?**

Ans. Cashmere

##### **Q18. Which type of climate is needed for the cultivation of cotton plants?**

Ans. Hot and humid climate is needed for the cultivation of cotton plants.

##### **Q19. Write any four fibres that are used to make clothes.**

Ans. Cotton, silk, nylon, wool

##### **Q20. Name two materials that are not fibres but are used to make clothes.**

Ans. Leather and fur

### Fibre to Fabric

##### **Q21. What type of climate is needed to grow jute?**

Ans. Warm and humid climate is needed to grow jute.

##### **Q22. Why cotton fabrics are preferred for moping in the household cleaning?**

Ans. Cotton fabrics can soak water and are coarse and rough. Thus they clean the floor very well.

##### **Q23. Write two method of knitting.**

Ans. i. by hands

       ii. by machines.

##### **Q24. What will happen if we pull the yarn from torn pair of socks? State the reason.**

Ans. A single yarn gets pulled out continuously as the fabric gets unraveled. This happen because they are made of knitted fabric.

##### **Q25. Why we spin the fibres in order to make yarn?**

Ans. Fibres are very thin and weak. We twist them together to make them strong, thick and long.

##### **Q26. Write the following fibres as natural or synthetic: wool, nylon, cotton, silk, polyester, jute, linen, coir, and acrylic.**

Ans.   Natural fibres: cotton, silk, jute, linen, coir.

Synthetic fibres: nylon, polyester, acrylic.

##### **Q27. Write cotton producing state of India?**

Ans. Some of the cotton producing states are: Punjab, Gujarat, Maharashtra, Madhya Pradesh, and Karnataka.

#####  **Q28. What are looms?**

Ans. Looms are the devices for weaving cloth. Looms are either hand operated i.e. handlooms or power operated i.e. power looms.

##### **Q29. How silk is obtained from silkworm?**

Ans. The cocoons are boiled in water to loosen the fibre and then spun into yarn which is woven to form silk fabric.

#####  **Q30. Why should we wear cotton clothes in summer?**

Ans. In summer we sweat a lot. Cotton clothes absorb sweat well and let it evaporate. Thus they keep our body cool.

##### **Q31. Which material is used for making gunny bags and why?**

Ans. Jute fibres are used for making gunny bags because they are strong and can holds heavy loads.

##### **Q32. Give one point of difference each for the following:**

Ans.

##### Ginning and Retting

|  |  |
| --- | --- |
| **Ginning** | **Retting** |
| It is the process of removing cotton seeds from cotton fiber by combing them. | It is the process of soaking the tied bundles of jute stalks in water for few days so that they rot and fibers are separated from them.  |

##### Yarn and Fabric

|  |  |
| --- | --- |
| **Yarn** | **Fabric** |
| Yarn is a strand made by twisting fibres together. | Fabric is made by weaving or knitting the yarns. |

##### Fibre and Fabric

|  |  |
| --- | --- |
| **Fibre** | **Fabric** |
| These are twisted together to make yarns. | Yarns are weaved or knitted to make fabrics. |

##### **Q33. Why seeds are removed from cotton balls?**

Ans. Cotton seeds are removed from cotton balls to make an even and uniform fabric.

##### **Q34. How is wool obtained?**

Ans. Wool is the fibre obtained from the fleece of sheep, goat, rabbit, yak and camels. Hair of these animals is sheared to get wool fibres.

##### **Q35. Why jute fibres are not used for making cloth?**

Ans. Jute fibres are not used for making cloth because they are coarse and rough. Thus are not suitable for our body.

##### **Q36. Why synthetic fibres are more durable than natural fibres?**

Ans. Synthetic fibres are more durable than natural fibres because they are made up of chemicals.

##### **Q37. One day Dia saw sweeper burning two heaps of garbage: one of waste paper and another of old discarded linen clothes. She observed that both heaps produced similar odor on burning and turned into greyish ash. Why?**

Ans. This happened because both paper and linen are natural plant fibers. They are made up of cellulose.

##### **Q38. Can we use synthetic fibre for making kitchen towel?**

Ans. No, we cannot use synthetic fibre for making kitchen towel because synthetic fibres melt on heating.

##### **Q39. How did people cover their bodies before clothes were invented?**

Ans. People use to cover their bodies before clothes were invented by using fur, leather, leaves and grasses.

##### **Q40. Why cotton clothes are normally preferred in India?**

Ans. The climate of India is hot and humid. Cotton clothes absorb sweat easily. Hence, people in India prefer to wear cotton clothes.

##### **Q41. Why synthetic clothes are normally not preferred in hot and humid climate?**

Ans. Synthetic fibers such as nylon and polyester do not absorb sweat. Hence, synthetic clothes are normally not preferred in hot and humid climate.

##### **Q42. Why don’t we prefer to wear nylon clothes on hot summer day?**

Ans. We sweat a lot in summer. Nylon cloths absorb less water and are not good for our skin. That is why we do not prefer nylon cloth on hot summer day.

##### **Q43. How yarn is made from fibre? Explain.**

Ans. The process of making yarn from fibre is called spinning. The fibres are first drawn out from cotton bolls and then twisted into yarn. Takli and charkha are used in spinning.

##### **Q44. Why we wear different type of cloths in different seasons?**

Ans. We wear different types of cloths in different seasons in order to adjust with the changing atmospheric conditions due to change in seasons. For example we wear cotton clothes in summer as they absorb sweat and woolen in winter season as they do not allows heat to escape to the cold surrounding.

##### **Q45. Why synthetic fibre is used for making swimwear?**

Ans. Swimsuits are made of synthetic fibre such as Polyester, Nylon etc. These materials absorb less water and therefore dry very quickly. They are flexible and conform to the body.

##### **Q46. Write the steps of making cotton fabric from fibre.**

Ans. Steps:

      1.   Cotton fibres are removed from cotton bolls.

      2.   Seeds are separated from cotton fibres.

      3.   Thin strands of cotton fibre are drawn from cotton wool and twisted to form a yarn.

      4.   The yarn is then woven to form cotton fabric.

##### **Q47. Write the burning test for cotton, silk, wool, jute and nylon.**

Ans.

|  |  |  |
| --- | --- | --- |
| **Fibre** | **Odour** | **Observation** |
| cotton | burning paper | burns |
| silk | burning hair | only shrink |
| wool | burning hair | only shrink |
| jute | burning paper | burns |
| nylon | burning plastic | melt and shrink |

##### **Q48. Write two advantages of natural fibre and synthetic fibre.**

Ans. Natural Fibre

      1.   Natural fibres absorb more water.

      2.   They are biodegradable.

   Synthetic Fibre

      1.   They are durable.

      2.   They are wrinkle free. They are used to make spacesuits, swimsuits and fire resistant suits.

##### **Q49. Write two disadvantages of natural fibre and synthetic fibre.**

Ans. Natural Fibre

1.   Natural fibre are less durable

2.   Natural fibres are costlier.

   Synthetic Fibre

          1.   They are non-biodegradable.

          2.   They do not absorb sweat.

##### **Q50. Differentiate between natural fibres and synthetic fibres.**

Ans.

|  |  |
| --- | --- |
| **Natural Fiber** | **Synthetic Fiber** |
|      1.   The fibers which we get from nature are called natural fiber. | 1. The fibers which are developed by man are called synthetic fiber. |
|      2.   They are less durable. | 2. They are more durable. |
|      3.   They are called environment friendly. | 3. They are not environment friendly. |
|      4.   It is expensive. | 4. It is cheaper. |
|      5.   The fabric made from natural fiber is comfortable and good for health. | 5. Synthetic fiber is not comfortable and not good for health. |
|      6.   Examples: wool, cotton and silk | 6. Examples: polyester, nylon and acrylic |

##### **Q51. Why do we wear woolen clothes in winter?**

Ans. Woolen fibers trap the air in between. This air prevents the flow of heat from our body to the cold surroundings. That’s why we wear woolen clothes to keep ourselves warm in winter.

### Chapter 10 - Motion and Measurement of Distances - 1

##### **Q1. Fill in the blanks.**

                        i.        Measurement is the comparison of an unknown quantity with some fixed quantity.

                       ii.        1 km = 1000 m.

                      iii.        Standard unit of length is metre.

                      iv.        The length of curved line can be measured using a thread.

                      v.        Length is the distance between two points or ends of an object.

                     vi.        Motion means the change in position of an object with time.

##### **Q2. True/False**

                       i.        The choice of device used for the measurement depends on the type of measurement to be made. True

                      ii.        Our senses are reliable for accurate measurement. False

                     iii.        1m = 100cm. True

                     iv.        5km = 5000cm. False

                      v.        Motion of a child on a swing is periodic motion. True

                     vi.        Motion of a wheel of a cycle is random motion. False

##### **Q3. Which measuring device can be used to measure the girth of a tree?**

Ans. Measuring tape

##### **Q4. Write the type of motion in which a body moves along a straight path.**

Ans. Rectilinear or linear motion

##### **Q5. Which unit of length is used to measure a large distance?**

Ans. Kilometre

#####  **Q6. Write one example of circular motion.**

Ans. Motion of hands of a clock

##### **Q7. Write one example of rectilinear motion.**

Ans. Motion of an apple falling from a tree

#####  **Q8. Write one example of periodic motion.**

Ans. A bouncing ball

##### **Q9. Name the type of motion in which a body moves along a curved path.**

Ans. Circular or Rotational motion

##### **Q10. Name the type of motion in which motion repeats after equal time interval.**

Ans. Periodic motion

##### **Q11. The distance between Ria’s house and temple is 1340 m. Express this distance in kilometre.**

Ans. 1km = 1000m

1340/1000 = 1.340 km

#####  **Q12. Find the length of square in mm.**



Ans. Each side = 5 x 10 = 50mm (All sides of square are equal)

##### **Q13. Define ‘unit’.**

Ans. The fixed quantity with which we compare an unknown quantity is called unit.

#####  **Q14. When object is said to be in rest?**

Ans. If the position of an object does not change with time, it is said to be at rest.

#####  **Q15. What do you understand by ‘measurement’?**

Ans. Measurement means the comparison of some unknown quantity with a known fixed quantity of same kind.

##### **Q16. What is the common in between hand span, pace, angul and fist?**

Ans. All of these are non-standard units of measurement that changes from person to person.

##### **Q17. When object is said to be in motion?**

Ans. When an object changes its position with time with respect to another object, it is said to be in motion.

##### **Q18. Why is the hand span not considered as a reliable unit for measuring the length?**

Ans. Hand span is not considered as a reliable unit for measuring the length because length of hand span varies from person to person.

##### **Q19. What do you understand by standard unit of measurement?**

Ans. The unit which is acceptable to the majority of people as a basic unit of measurement is called standard unit of measurement.

### Motion and Measurement of distances

##### **Q20. Why can't hand span and cubit be used as standard units?**

Ans. Hand span and cubit cannot be used as standard units because everyone's body parts could be of slightly different sizes which cause confusion in measurement.

##### **Q21. Why we should not use an elastic tape for measuring the length?**

Ans. We should not use an elastic tape for measuring the length because elastic measuring tape is stretchable and the length of the tape may change on stretching. Thus, an elastic tape gives wrong measurement.

##### **Q22. State the 3 precautions which should be taken while using a metre scale to measure length.**

Ans. In taking measurement of a length, we need to take care of the following:

      i.     Place the scale in contact with the object along its length.

      ii.    Avoid taking measurements using broken scale.

      iii.  Eye must be exactly in front of the point where the measurement is to be taken.

##### **Q23. How people travelled from one place to another in earlier times before the discovery of wheel?**

Ans.  Long ago people used to move only on foot and carry goods on their back or using animals. For transport along water routes, boats were used from ancient times.

##### **Q24. Write the steps to measure the length of objects using measuring tape.**

Ans. Steps to measure the length of objects using measuring tape:

      i.     Place the measuring tape in contact with the object along its length.

      ii.    Take the measurements from the zero mark of the measuring tape.

      iii.  Note the reading at the other end of the object.

      iv.  This gives the measure of the length of the object.

##### **Q25. Write the unit for measuring the following:**

                         i.        Distance between Noida and Gurugram - Kilometre

                        ii.        Thickness of compact disc (CD) - Millimetre

                       iii.        Length of a sharpener - Centimetre

                       iv.        Length of a tie – Centimetre

                       v.        Length of a sari – Metre

##### **Q26. Name the device used to measure the following:**

                       i.        Size of shoulder – Measuring tape

                      ii.        Size of waist – Measuring tape

                     iii.        Height of a pole – Measuring tape

                     iv.        Weight of an object – Weighing balance

                      v.        Fabric for a dress – Measuring tape or Metre scale

                     vi.        Circum ference of a round platform – A long thread or Measuring tape

##### **Q27. “Pace or footstep cannot be used as standard unit of length”. Comment**

Ans. The size of foot varies from one person to another. Length measured by footsteps of two different persons may not be equal. Thus foot step is not a fixed quantity as it differs from person to person. Hence, it cannot be used as standard unit of length.

##### **Q28. Distance between Ayush’s home and his office is 14.5 km. How much time will he take to reach his workplace if he is travelling by a car with a speed of 30,000 m/hr.?**

Ans. 14.5 km = 14.5 x 1000 = 14500m

Car covers 30,000m in 1 hr.

Car covers 1m in 1/30,000 hr.

Car covers 14500m in 1/30,000 x 14500 = 0.4833 hrs.

= 0.4833 x 60 = 29 minutes

##### **Q29. How invention of wheel made a great change in modes of transport?**

Ans. The invention of wheel brought in a great change in the modes of transport. People employed carts and chariots to travel from one place to another. It made the transportation of goods and people much easier. Modern means of transport such as cars, buses, trains and airplanes allow us to travel faster than those used in earlier times.

##### **Q30. What is the need of measurement?**

Ans. It is difficult to make correct judgment about an object without making actual measurement. It is not always easy to find out the measurement of different objects just by looking at them. Guessing may lead to incorrect measurement. Therefore, to make measurement more reliable, accurate, actual measurement is taken.

##### **Q31. Why a tailor uses a tape whereas a cloth merchant uses a metre rod for measurement?**

Ans. A tailor uses a tape, whereas a cloth merchant uses a metre rod because for measuring the length of an object, we must choose a suitable device. Tailor cannot measure the size of your chest using a metre scale, for instance. He needs a flexible device for this. That’s why Measuring tape is more suitable for this kind of measurement.

##### **Q32. Write two examples where objects undergo combinations of different types of motion.**

Ans.  Examples:

     i.     The ball is rolling on the ground – rotating as well as moving forward on the ground. Thus, the ball undergoes a rectilinear motion as well as rotational motion.

     ii.    In sewing machine, its wheel moves in a circular motion and its needle moves up and down continuously, as long as the wheel rotates in a periodic motion.

##### **Q33. Write the similarity and dissimilarity between motion of a bicycle and a ceiling fan that has been switched on.**

Ans.

|  |
| --- |
| **Similarity** |
| Bicycle | Ceiling fan |
| 1. Wheels have circular motion about their respective fixed point.  | 1. Blades have circular motion about their respective fixed point. |
| **Dissimilarity** |
| 1. Bicycle has linear/rectilinear motion. | 1. Ceiling fan do not have linear /rectilinear motion. It is fixed at one place. |

##### **Q34. How can we measure the length of a curved line?**

Ans. We can use a thread to measure the length of a curved line.

Steps to measure the length of a curved line

      i.     Put a knot on the thread near one of its ends and place this knot on the one of its ends.

     ii.    Now, holding the thread at one end with one hand, place the thread along the curved line, keeping it taut using your fingers and thumb.

     iii.  Now make a mark on the thread where it reaches the other end.

iv.  Finally, place the thread along a metre scale and measure the length between the knot and the marked point. This gives the length of the curved line.

##### **Q35. Diya is using a scale which is broken at one end. She is not able to see the zero mark. What precaution should she take while measuring the length of a book using this scale?**

Ans. When one of the ends of the scale is broken and zero mark is not clearly visible. In such case, she can use any other full mark of the scale and subtract the reading of this mark from the reading at the other end.

For example, the reading at one end is 1.0 cm and at the other end it is 15 cm. Therefore, the length of the object is (15-1.0) cm = 14 cm.

##### **Q36. Write a note on ancient method of measurement.**

Ans. In ancient times, the length of a foot, the width of a finger, hand span (the length from tip of the thumb to the tip of the little finger), cubit (the length from the elbow to the finger tips), an angul (finger) or a mutthi (fist), length of fore arm and the distance of a step were commonly used as different units of measurements.

##### **Q37. What is the need of common system of measurement?**

Ans. Everyone's body parts could be of slightly different sizes. So, non-standard units such as cubit, hand span, foot etc. causes confusion in measurement. That’s why for the sake of uniformity, scientists all over the world have accepted a set of standard units of measurement. The system of units now used is known as the International System of Units (SI units).

##### **Q38. Explain different types of motion. Write few example of each.**

Ans. Types of motion:

Rectilinear motion – Motion along a straight path is called rectilinear motion. Example - motion of a vehicle on a straight road, march-past of soldiers in a parade or the falling of a stone.

Circular or Rotational motion – Motion along a curved path is called circular or rotational motion. Example: The motion of a point marked on the blade of an electric fan or the hands of a clock, moving wheel of a moving car.

Periodic motion – Motion that repeats after equal time interval is called periodic motion. Example: Motion of a pendulum, a branch of a tree moving to and fro, motion of a child on a swing, strings of a guitar or the surface of drums (tabla) being played.

##### **Q39. What type of motion do the following objects have?**

                         i.        the galloping of a horse – Linear motion/Rectilinear motion

                        ii.        the needle of sewing machine – Periodic motion

                       iii.        child sitting in a moving giant wheel – Circular and Periodic motion

                       iv.        surface of a drum being played - Periodic motion

                        v.        an artificial satellite orbiting the Earth at a constant height - Circular motion

                       vi.        soldiers in a march past - Linear motion/Rectilinear motion

         vii.        an athlete on a circular track with a uniform speed - Circular motion

         viii.        a rocking chair - Periodic motion

                       ix.        a stone which is tied to a rope and is being swung in circles - Circular motion

                        x.        a bouncing ball - Periodic motion

                       xi.        a girl walking on a straight road - Linear motion/Rectilinear motion

         xii.        rotating blades of a helicopter - Circular motion

         xiii.        the movements of a mosquito – Random motion

         xiv.        the blades of an electric fan – Circular motion

         xv.        a swing in motion - Periodic motion

         xvi.        wheels of a moving car – Linear and Rotational motion

        xvii.        movement of a marry-go round - Circular motion

        xviii.        smoke from chimney – Random motion

         xix.        a vibrating tuning fork - Periodic motion

         xx.        bullet train on a straight track - Linear motion/Rectilinear motion

         xxi.        motion of earth around sun - Circular and Periodic motion

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