

1

Food: Where Does It Come From?

MULTIPLE CHOICE QUESTIONS

1. Given below are names of some animals:

- | | |
|-----------------|-------------------|
| (i) Goat | (ii) Human beings |
| (iii) Cockroach | (iv) Eagle |

Which of the above animals form a pair of omnivores?

- | | |
|--------------------|--------------------|
| (a) (i) and (ii) | (b) (ii) and (iii) |
| (c) (iii) and (iv) | (d) (ii) and (iv) |

2. Honeybee makes honey from

- | | |
|------------|------------|
| (a) pollen | (b) petals |
| (c) nectar | (d) bud |

3. Below are names of some animals:

- (i) Cow
- (ii) Sheep
- (iii) Horse
- (iv) Ox

Which of the above are sources of milk for human beings?

- | | |
|--------------------|--------------------|
| (a) (i) and (iii) | (b) (i) and (ii) |
| (c) (ii) and (iii) | (d) (iii) and (iv) |

4. Given below is a list of edible plants:

- | | |
|---------------------|--------------|
| (i) Banana | (ii) Pumpkin |
| (iii) Lady's finger | (iv) Brinjal |

Which pair of plants have two or more edible parts?

- (a) (i) and (ii)
- (b) (ii) and (iii)
- (c) (iii) and (iv)
- (d) (i) and (iv)

5. The part of a banana plant not used as food is

- (a) flower
- (b) fruit
- (c) stem
- (d) root

6. Read each set of terms and identify the odd set

- (a) Cow, milk, butter
- (b) Hen, meat, egg
- (c) Goat, milk, meat
- (d) Plant, vegetable, butter milk

VERY SHORT ANSWER QUESTIONS

7. Read the clues and fill up the blanks given below each of them.

- (a) Honeybees suck from flower.

N _ _ _ T _ _ R

- (b) Animals which eat other animals.

_ _ A _ _ N _ _ V _ _ R _ _ S

- (c) Animals which eat only plants and plant products.

H E _ _ B _ _ _ _ _ E _ _

- (d) Animals which eat both plants and animals.

_ _ M N I _ _ O _ _ _ _

8. Why do boiled seeds fail to sprout?
9. Where do bees store honey?
10. Name two ingredients in our food that are not obtained from plants or animals. Mention one source for each ingredient.
11. Given below are jumbled words which are names of parts of a plant. Rearrange them to get the correct words.
 - (a) L I L C H I
 - (b) I T R U F
 - (c) S E A N B O Y A
 - (d) G U R S A
 - (e) R O U N D G U N T

SHORT ANSWER QUESTIONS

12. Identify the animals in the grid given below as Fig. 1.1 and categorise them into herbivore, carnivore and omnivore.

T	A	C	O	W	O	L	F
T	A	R	W	X	G	O	R
N	N	O	L	I	O	N	O
E	T	W	Q	L	A	N	G
H	U	M	A	N	T	W	O

Fig. 1.1

13. Why should we avoid wastage of food?
14. Why do organisms need food? Write two reasons.

15. Match the organisms given in **Column I** with their part/product in **Column II** that is used by human beings as food.

COLUMN I	COLUMN II
(a) Mustard plant	(i) meat
(b) Goat	(ii) fruits and vegetable
(c) Hen	(iii) seed
(d) smoke	(iv) direction of air flow
(e) wind	(v) prevent dust particles

16. Label and colour the different parts of the plant given below in Fig. 1.2:

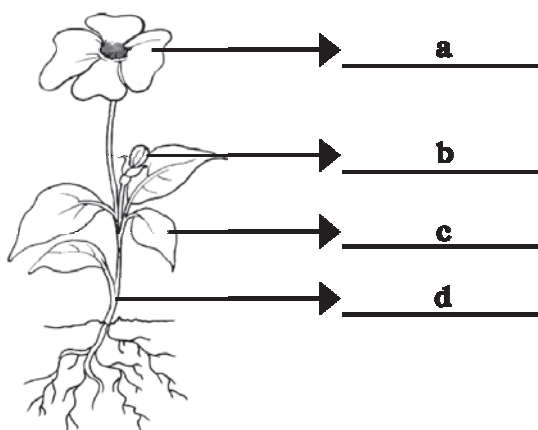


Fig. 1.2

LONG ANSWER QUESTIONS

17. Read the names of animals written in the inner ring of Fig. 1.3. Within the second ring write the types of food they eat and the category to which they belong (based on the eating

habit) in the outermost ring. One example has been worked out for you. Use red, green and blue colours for writing.

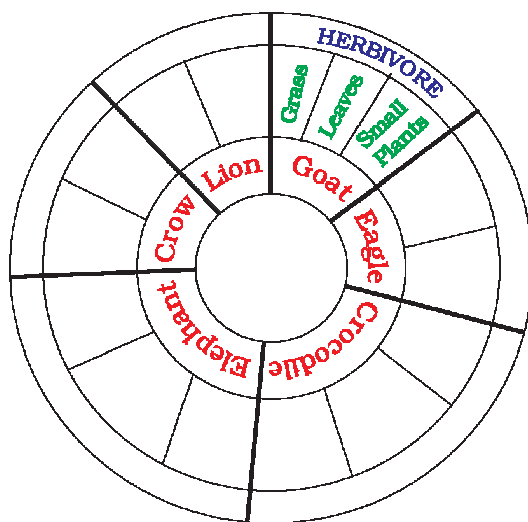


Fig. 1.3

18. Connect the animal with the food it eats by an arrow using different colours in Fig. 1.4. One is done for you.

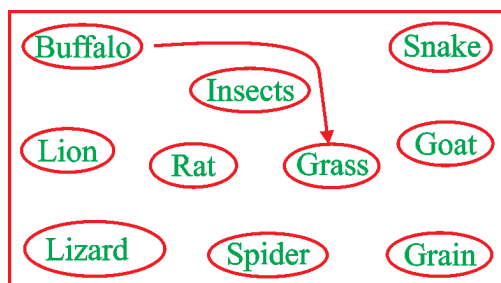


Fig. 1.4

19. List two of your favourite food items and mention their ingredients.

2

Components of Food

MULTIPLE CHOICE QUESTIONS

1. Which one of the following food item does not provide dietary fibre?
 - (a) Whole grains
 - (b) Whole pulses
 - (c) Fruits and vegetables
 - (d) Milk
2. Which of the following sources of protein is different from others?
 - (a) Peas
 - (b) Gram
 - (c) Soyabeans
 - (d) Cottage cheese (paneer)
3. Which of the following nutrients is not present in milk?
 - (a) Protein
 - (b) Vitamin C
 - (d) Calcium
 - (d) Vitamin D
4. Read the food items given below:
 - (i) Wheat
 - (ii) Ghee

- (iii) Iodised salt
- (iv) Spinach (palak)

Which of the above food items are “energy giving foods”?

- (a) (i) and (iv)
- (b) (ii) and (iv)
- (c) (i) and (ii)
- (d) (iii) and (iv)

5. Read the following statements about diseases.

- (i) They are caused by germs.
- (ii) They are caused due to lack of nutrients in our diet.
- (iii) They can be passed on to another person through contact.
- (iv) They can be prevented by taking a balanced diet.

Which pair of statements best describe a deficiency disease?

- (a) (i) and (ii)
- (b) (ii) and (iii)
- (c) (ii) and (iv)
- (d) (i) and (iii)

6. Given below are the steps to test the presence of proteins in a food item:

- (i) Take a small quantity of the food item in a test tube, add 10 drops of water to it and shake it.
- (ii) Make a paste or powder of food to be tested.
- (iii) Add 10 drops of caustic soda solution to the test tube and shake well.
- (iv) Add 2 drops of copper sulphate solution to it.

Which of the following is the correct sequence of the steps?

- (a) i, ii, iv, iii
- (b) ii, i, iv, iii
- (c) ii, i, iii, iv
- (d) iv, ii, i, iii

VERY SHORT ANSWER QUESTIONS

7. Unscramble the following words related to components of food and write them in the space provided.
- (a) reinput _____
 - (b) menliars _____
 - (c) tivanmi _____
 - (d) bocatradhyer _____
 - (e) nitesturn _____
 - (f) tfa _____
8. Which of the following food items does not provide any nutrient?

Milk, Water, Orange juice, Tomato soup

SHORT ANSWER QUESTIONS

9. Fill in the blanks from the list of words given below:
(carbohydrate, fat, protein, starch, sugar, Vitamin A, Vitamin C, roughage, balanced diet, obesity, goitre)
- (a) Egg yolk is rich in _____ and egg albumin is rich in _____.
 - (b) Deficiency diseases can be prevented by taking a _____.
 - (c) Eating too much of fat rich foods may lead to a condition called _____.
 - (d) The component of food that does not provide any nutrient to our body and yet is essential in our food is _____.

(e) The vitamin that gets easily destroyed by heating during cooking is _____.

10. Read the items of food listed below. Classify them into carbohydrate rich, protein rich and fat rich foods and fill them in the given table.

Moong dal, fish, mustard oil, sweet potato, milk, rice, egg, beans, butter, butter milk (chhachh), cottage cheese (paneer), peas, maize, white bread.

Carbohydrate Rich Food Item (A)	Protein Rich Food Item (B)	Fat Rich Food Item (C)
.....
.....
.....
.....
.....

11. Tasty food is not always nutritious and nutritious food may not always be tasty to eat. Comment with examples.
12. While using iodine in the laboratory, some drops of iodine fell on Paheli's socks and some fell on her teacher's saree. The drops of iodine on the saree turned blue black while their colour did not change on the socks. What can be the possible reason?
13. Paheli and Boojho peeled some potatoes and cut them into small pieces. They washed and boiled them in water. They threw away the excess water and fried them in oil adding salt and spices. Although the potato dish tasted very good, its nutrient value was less. Suggest a method of cooking potatoes that will not lower the nutrients in them.

14. Paheli avoids eating vegetables but likes to eat biscuits, noodles and white bread. She frequently complains of stomachache and constipation. What are the food items that she should include in her diet to get rid of the problem? Give reason for your answer.
15.
 - (a) List all those components of food that provide nutrients.
 - (b) Mention two components of food that do not provide nutrients.
16. 'Minerals and vitamins are needed in very small quantities by our body as compared to other components, yet, they are an important part of a balanced diet.' Explain the statement.
17. 'Water does not provide nutrients, yet it is an important component of food.' Explain?

LONG ANSWER QUESTIONS

18. Boojho was having difficulty in seeing things in dim light. The doctor tested his eyesight and prescribed a particular vitamin supplement. He also advised him to include a few food items in his diet.
 - (a) Which deficiency disease is he suffering from?
 - (b) Which food component may be lacking in his diet?
 - (c) Suggest some food items that he should include in his diet. (any four)

19. Solve the cross-word puzzle given as Fig. 2.1 from the clues given below.

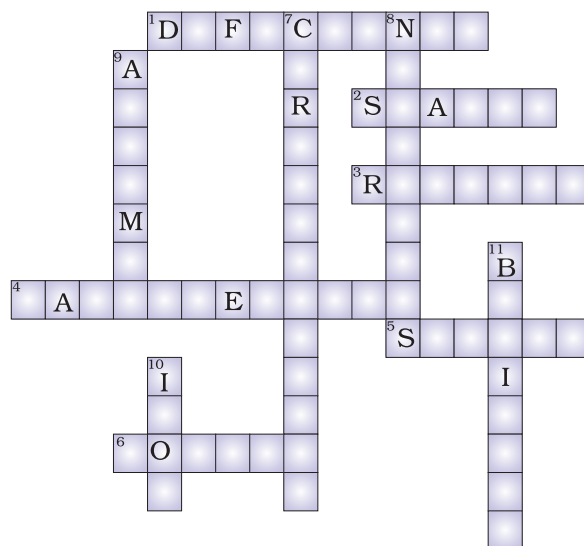


Fig. 2.1

Across

1. Lack of nutrients in our diet over a long period causes these diseases (10)
2. Rice and potato are rich in this type of carbohydrate (6)
3. Deficiency disease in bones making it become soft and bent (7)
4. The diet that provides all the nutrients that our body needs, in right quantities, along with adequate amount of roughage and water (8, 4)
5. Deficiency disease with bleeding gums (6)
6. Disease caused due to deficiency of iodine (6)

Down

7. Starch and sugar in our food are rich in this type of energy giving nutrient (13)
8. The term given to the useful components of food (9)
9. The disease caused by deficiency of iron in diet (7)

10. Green leafy vegetables, liver and apples are rich in this mineral (4)
11. Deficiency disease caused due to lack of Vitamin B₁ in the diet (8)
20. Observe the items given in Fig. 2.2 carefully and answer the questions that follow.



Fig. 2.2

- (a) Food item rich in carbohydrates is ____ (i) ____ .
- (b) Egg is a rich source of protein, the mineral ____ (ii) ____ and vitamin ____ (iii) ____ .
- (c) ____ (iv) ____ is a rich source of fat.
- (d) Milk provides ____ (v) ____, vitamin D and ____ (vi) ____ (mineral)
- (e) ____ (vii) ____ (fruit) is a rich source of vitamin A.
- (f) Spinach is a good source of the mineral ____ (viii) ____ .
- (g) Both eggs and ____ (xi) ____ are rich in ____ (x) ____ .

21. SNAKES AND LADDERS

Make a board-game just like 'snakes and ladders' with 10×10 grid boxes.

The mouth of the snake will represent the faulty food habit or faulty method of cooking. Its tail will represent the deficiency disease caused or loss of any nutrient in food.

Similarly, the box at the base of a ladder will represent healthy food habit or healthy method of cooking. Its upper end will represent the beneficial effect of that habit. An example is given as Fig. 2.3. Complete the board and play with your friends.



Fig. 2.3

3

Fibre to Fabric

MULTIPLE CHOICE QUESTIONS

1. Paheli wants to present her friend a gift made of plant-fibre. Which out of the following will she select?
 - (a) Jute bag
 - (b) Woollen shawl
 - (c) Silk saree
 - (d) Nylon scarf

2. Which statement out of the following is incorrect?
 - (a) Use of Charkha was popularised by Mahatma Gandhi as a part of the Independence Movement.
 - (b) In India, jute is mainly grown in Kerala and Punjab.
 - (c) To make fabric, the fibres are first converted into yarns.
 - (d) Sufi saint Kabir was a weaver.

3. Which of the following materials did people use in ancient times for making clothes?
 - (i) Leaves of trees
 - (ii) Newspaper
 - (iii) Metal foils
 - (iv) Animal skins and furs

(a) (i) and (ii)	(b) (i) and (iii)
(c) (ii) and (iii)	(d) (i) and (iv)

4. Which of the following is not a natural fibre?
 - (a) Cotton
 - (b) Jute
 - (c) Nylon
 - (d) Flax

5. Which set of substances is not used for making fibres?
 - (a) Silk, chemicals
 - (b) Yak hair, camel hair
 - (c) Husk, bones
 - (d) Flax, wool

6. Boojho went to a cloth shop. There he found a fabric which was smooth to touch, had vibrant colour and shine. The fabric could be
 - (a) Cotton
 - (b) Wool
 - (c) Silk
 - (d) Jute

7. Which part of the jute plant is used for getting jute fibre?
 - (a) Flower
 - (b) Stem
 - (c) Fruit
 - (d) Leaf

8. Yarn is woven to get fabric using
 - (a) charkha
 - (b) spinning machines

- (c) looms
 - (d) knitting needles
9. Beera is a farmer. His field has black soil and the climate is warm. Which fibre yielding plant should he grow in his field?
- (a) Jute
 - (b) Cotton
 - (c) Coconut
 - (d) Wool
10. The correct sequence to get cloth is :
- (a) fibre → fabric → yarn
 - (b) fibre → yarn → fabric
 - (c) fabric → yarn → fibre
 - (d) yarn → fibre → fabric
11. Boojho wants to make yarn from fibre at home. Which of the following will he use to carry out the task?
- (a) Powerloom
 - (b) Handloom
 - (c) Charkha
 - (d) Knitting needles

VERY SHORT ANSWER QUESTIONS

12. Yarn, fabric and fibres are related to each other. Show the relationship by filling the blanks in the following sentence.
- Fabric of cotton saree is made by weaving cotton_____which in turn is made by spinning thin cotton _____.

13. Some terms related to fabrics are jumbled up and given below. Write them in their correct form.

(a) onttoc (b) sinnping
(c) vingwea (d) bisref

14. State whether the following statements are **true** or **false**. If false, correct them.

(a) Silk is a plant fibre.
(b) Jute is obtained from the leaves of a plant.
(c) Weaving is a process of arranging two sets of yarn together.
(d) Cotton yarn on burning gives an odour similar to that of a burning paper.

15. The following is an answer given by Boojho to a question asked by his teacher— “Cotton, wool, silk and jute are classified as natural fibres whereas nylon and polyester are classified as synthetic fibres.”

Can you tell what question the teacher has asked?

16. Once, Paheli visited a tailor shop and brought home some cuttings of fabric to study their properties. She took two pieces and found that one of the pieces were shrinking when it was burnt with a candle. However the other did not shrink on burning. Can you help her to find out which of the two was a cotton fabric and which a silk fabric?
17. One way of making fabric from yarn is weaving, what is the other?

SHORT ANSWER QUESTIONS

18. Boojho with perfect eyesight was finding it difficult to pass a thread through the eye of a needle. What can be the possible reason for this?
19. In ancient times stitching was not known. People used to simply drape the fabrics around different parts of their body. Even today a number of unstitched fabrics are used by both men and women. Can you give four such examples of clothes?
20. Match the articles given in **Column I** with the articles of **Column II**

COLUMN I	COLUMN II
(a) Sweater	(I) Cotton
(b) Cotton bolls	(ii) Wool
(c) Dhoti	(iii) Ginning
(d) Gunny bags	(iv) Jute

21. Fill in the blanks to complete the life story of cotton fibre.
My parents, cotton plants were grown in _____ soil and _____ climate. The plants bore fruits called _____. I, the cotton fibre was separated from seeds in the cotton bolls by the process of _____. Other cotton fibres and myself were made into yarn by the process of _____. The yarn was _____ to give beautiful colours and then _____ to get cotton fabric.
22. Match the terms given in **Column I** with the statements given in **Column II**.

Column I	Column II
(a) Weaving	(i) A single yarn used to make a fabric
(b) Knitting	(ii) Combing of cotton fibres to remove seeds

- | | |
|--------------|--|
| (c) Spinning | (iii) Yarns are made from these thin strands |
| (d) Ginning | (iv) These are spun from fibres and then used to make fabrics |
| (e) Fibre | (v) Process of arranging two sets of yarns together to make a fabric |
| (f) Yarn | (vi) Process of making yarn from fibres |

23. Fill in the names of useful items made from jute fibres in Fig. 3.1. One such example is given.

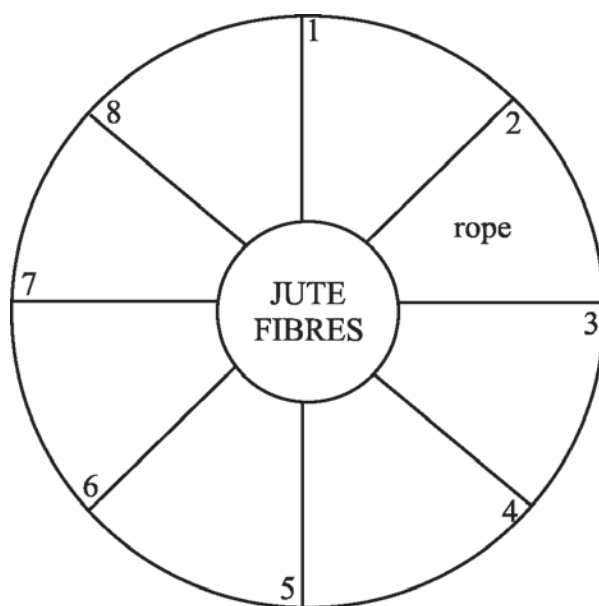


Fig. 3.1

LONG ANSWER QUESTIONS

24. A cotton shirt, before it reaches you, completes a long journey. Elaborate this journey starting from cotton bolls.
25. Describe the two main processes of making fabric from yarn.

4

Sorting Materials and Groups

MULTIPLE CHOICE QUESTIONS

1. An iron nail is kept in each of the following liquids. In which case would it lose its shine and appear dull?
 - (a) Mustard oil
 - (b) Soft drink
 - (c) Coconut oil
 - (d) Kerosene

2. Pick one material from the following which is completely soluble in water.
 - (a) Chalk powder
 - (b) Tea leaves
 - (c) Glucose
 - (d) Saw dust

3. You are provided with the following materials
 - (i) Magnifying glass
 - (ii) Mirror
 - (iii) Stainless steel plate
 - (iv) Glass tumblerWhich of the above materials will you identify as transparent?
 - (a) (i) and (ii)
 - (b) (i) and (iii)
 - (c) (i) and (iv)
 - (d) (iii) and (iv)

4. Boojho found a bag containing the following materials
 - (i) Mirror
 - (ii) Paper stained with oil
 - (iii) Magnet
 - (iv) Glass spectacles

Help Boojho in finding out the material(s) which is/are opaque.

- | | |
|-------------------|-------------------|
| (a) (i) only | (b) (iv) only |
| (c) (i) and (iii) | (d) (ii) and (iv) |

5. While doing an activity in class, the teacher asked Paheli to handover a translucent material. Which among the following materials will Paheli pick and give her teacher?

- | | |
|-------------------|--------------------|
| (a) Glass tumbler | (b) Mirror |
| (c) Muslin cloth | (d) Aluminium foil |

6. Which pair of substances among the following would float in a tumbler half filled with water?

- (a) Cotton thread, thermocol
- (b) Feather, plastic ball
- (c) Pin, oil drops
- (d) Rubber band, coin

7. Which among the following are commonly used for making a safety pin?

- | | |
|-------------------------|-----------------------|
| (a) Wood and glass | (b) Plastic and glass |
| (c) Leather and plastic | (d) Steel and plastic |

8. Which of the following materials is not lustrous?

- | | |
|----------|-------------|
| (a) Gold | (b) Silver |
| (c) Wood | (d) Diamond |

9. Which of the following statements is not true?

- (a) Materials are grouped for convenience.
- (b) Materials are grouped to study their properties.
- (c) Materials are grouped for fun.
- (d) Materials are grouped according to their uses.

10. Find the odd one out from the following
- | | |
|---------------------|------------|
| (a) Tawa | (b) Spade |
| (c) Pressure cooker | (d) Eraser |
11. Which type of the following materials is used for making the front glass (wind screen) of a car?
- (a) Transparent
- (b) Translucent
- (c) Opaque
- (d) All the above

VERY SHORT ANSWER QUESTIONS

12. It was Paheli's birthday. Her grandmother gave her two gifts made of metals, one old dull silver spoon and a pair of lustrous gold earrings. She was surprised to see the difference in the appearance of the two metals. Can you explain the reason for this difference?
13. Mixtures of red chilli powder in water, butter in water, petrol in water, and honey in water were given to Radha, Sudha, Sofia and Raveena, respectively. Whose mixture is in solution form?
14. On a bright sunny day, Shikha was playing hide and seek with her brother. She hid herself behind a glass door. Do you think her brother will be able to locate her. If yes, why? If no, why not?
15. Take a small cotton ball and place it in a tumbler/bowl filled with water. Observe it for atleast 10 minutes. Will it float or sink in water and why?

SHORT ANSWER QUESTIONS

16. Which among the following materials would you identify as soft materials and why?

Ice, rubber band, leaf, eraser, pencil, pearl, a piece of wooden board, cooked rice, pulses and fresh chapati.

17. You are provided with the following materials— turmeric, honey, mustard oil, water, glucose, rice flour, groundnut oil.

Make any three pairs of substances where one substance is soluble in the other and any three pairs of substances where one substance remains insoluble in the other substances.

18. During summer holidays, a group of children collected a lump of salt, green grass, broken glass piece, a small thermocol box, pen, iron nail, glass marbles, hair, naphthalene ball, a piece of sugar candy (mishri) and tried to group them on the basis of properties given in Table 4.1 below. Help them in filling the Table.

Table 4.1

Name of the material	Appearance (Hard/Soft)	Transparency (Transparent/Translucent/Opaque)	Floats/Sinks in water	Soluble/ Insoluble in water

19. Arrange the jumbled words to arrive at the appropriate names of materials and also write two uses of each.

- (a) milaunuim
- (b) tcaslpi
- (c) soekrnee
- (d) gavnier

20. Match the objects given in **Column I** with the materials given in **Column II**.

COLUMN I	COLUMN II
(a) Surgical Instruments	(i) Plastic
(b) Newspaper	(ii) Animal product
(c) Electrical switches	(iii) Steel
(d) Wool	(iv) Plant product

21. Pick five objects from the word box given as Fig. 4.1 which are opaque and would sink in water.

O	S	T	P	L	E
A	T	L	E	E	R
C	O	I	N	A	A
O	N	K	C	F	S
A	E	E	I	W	E
L	L	Y	L	R	R

Fig. 4.1

LONG ANSWER QUESTIONS

22. Chalk, iron nail, wood, aluminium, candle, cotton usually look different from each other. Give some properties by which we can prove that these materials are different.
23. Why do you think oxygen dissolved in water is important for the survival of aquatic animals and plants?

24. Differentiate among opaque, translucent and transparent materials, giving one example of each.
25. Sugar, salt, mustard oil, sand, sawdust, honey, chalk powder, petals of flower, soil, copper sulphate crystals, glucose, wheat flour are some substances given to Paheli. She wants to know whether these substances are soluble in water or not. Help her in identifying soluble and insoluble substances in water.

5

Separation of Substances

MULTIPLE CHOICE QUESTIONS

1. Paheli bought some vegetables such as french beans, lady's finger, green chillies, brinjals and potatoes all mixed in a bag. Which of the following methods of separation would be most appropriate for her to separate them?
 - (a) Winnowing
 - (b) Sieving
 - (c) Threshing
 - (d) Hand picking
2. Boojho's grandmother is suffering from diabetes. Her doctor advised her to take '*Lassi*' with less fat content. Which of the following methods would be most appropriate for Boojho to prepare it?
 - (a) Filtration
 - (b) Decantation
 - (c) Churning
 - (d) Winnowing
3. Which of the following mixtures would you be able to separate using the method of filtration?
 - (a) Oil in water
 - (b) Cornflakes in milk
 - (c) Salt in water
 - (d) Sugar in milk

4. Which amongst the following methods would be most appropriate to separate grains from bundles of stalks?
- (a) Hand picking
 - (b) Winnowing
 - (c) Sieving
 - (d) Threshing
5. Four mixtures are given below
- (i) Kidney beans and chick peas
 - (ii) Pulses and rice
 - (iii) Rice flakes and corn
 - (iv) Potato wafers and biscuits
- Which of these can be separated by the method of winnowing?
- (a) (i) and (ii)
 - (b) (ii) and (iii)
 - (c) (i) and (iii)
 - (d) (iii) and (iv)
6. While preparing chapatis, Paheli found that the flour to be used was mixed with wheat grains. Which out of the following is the most suitable method to separate the grains from the flour?
- (a) Threshing
 - (b) Sieving
 - (c) Winnowing
 - (d) Filtration
7. You might have observed the preparation of ghee from butter and cream at home. Which method(s) can be used to separate ghee from the residue?
- (i) Evaporation
 - (ii) Decantation

(iii) Filtration

(iv) Churning

Which of the following combination is the correct answer?

(a) (i) and (ii) (b) (ii) and (iii)

(c) (ii) and (iv) (d) (iv) only

8. In an activity, a teacher dissolved a small amount of solid copper sulphate in a tumbler half filled with water. Which method would you use to get back solid copper sulphate from the solution?

(a) Decantation
(b) Evaporation
(c) Sedimentation
(d) Condensation

9. During summer, Boojho carries water in a transparent plastic bottle to his school. One day he left his bottle in the school. The bottle still had some water left in it. The following day, he observed some water droplets on the inner surface of the empty portion of the bottle. These droplets of water were formed due to

(a) boiling and condensation.
(b) evaporation and saturation.
(c) evaporation and condensation.
(d) condensation and saturation.

10. Paheli asked for a glass of water from Boojho. He gave her a glass of ice cold water. Paheli observed some water droplets on the outer surface of the glass and asked Boojho how these droplets of water were formed? Which of the following should be Boojho's answer?

(a) Evaporation of water from the glass.
(b) Water that seeped out from the glass.

- (c) Evaporation of atmospheric water vapour.
- (d) Condensation of atmospheric water vapour.

VERY SHORT ANSWER QUESTIONS

11. Sheela, Saima and Ravi have to dissolve maximum amount of sugar in the same amount of milk so as to win in a game. Ravi took hot boiling milk while Saima took ice cold milk. Sheela managed to get milk at room temperature. Whom do you think would win the game and why?
12. Fill in the blanks with appropriate words:
- (i) Small pieces of stone can be removed from rice by _____.
 - (ii) _____ are obtained from stalks by threshing.
 - (iii) Husk from wheat flour is generally removed by _____.
 - (iv) The process of settling of heavier particles is called _____.
 - (iv) Filtration is helpful in separating an insoluble _____ from a _____.
13. State whether the following statements are **true** or **false**.
- (a) A mixture of oil and water can be separated by filtration.
 - (b) Water can be separated from salt by evaporation.
 - (c) A mixture of wheat grains and wheat flour can be separated by sieving.
 - (d) A mixture of iron filings and rice flour can be separated by magnet.
 - (e) A mixture of wheat grains and rice flakes can be separated by winnowing.

- (f) A mixture of tea leaves and milk can be separated by decantation.

SHORT ANSWER QUESTIONS

14. Name and describe briefly a method which can be helpful in separating a mixture of husk from grains. What is the principle of this method?
15. Match the mixtures in **Column I** with their method of separation in **Column II**.

COLUMN I	COLUMN II
(a) Oil mixed in water	(i) Sieving
(b) Iron powder mixed with flour	(ii) Hand picking
(c) Salt mixed with water	(iii) Decantation
(d) Lady's finger mixed with french beans	(iv) Magnet
(e) Rice flour mixed with kidney beans	(v) Evaporation

LONG ANSWER QUESTIONS

16. Both Sarika and Mohan were asked to make salt solution. Sarika was given a teaspoonful of salt and half a glass of water, whereas Mohan was given twenty teaspoons full of salt and half a glass of water.
- (a) How would they make salt solutions?
- (b) Who would be able to prepare saturated solution?
17. Paheli was feeling thirsty but there was only a pot of water at home which was muddy and unfit for drinking. How do you

think Paheli would have made this water fit for drinking if the following materials were available to her.

Alum, tub, muslin cloth, gas stove, thread, pan and lid.

18. Read the story titled “WISE FARMER” and tick the correct option to complete the story.

A farmer was **sad/happy** to see his healthy wheat crop ready for harvest. He harvested the crops and left it under the **sun/rain** to dry the stalks. To separate the seeds from the bundles of the stalk he **handpicked/threshed** them. After gathering the seed grains he wanted to separate the stones and husk from it. His wife **winnowed/threshed** them to separate the husk and later **sieved/hand picked** to remove stones from it. She ground the wheat grains and **sieved/filtered** the flour. The wise farmer and his wife got a good price for the flour. Can you tell why?

19. You are provided with a mixture of salt, sand, oil and water. Write the steps involved for the separation of salt, sand and oil from the mixture by giving an activity along with the diagram.
20. A mixture of iron nails, salt, oil and water is provided to you. Give stepwise methods to separate each component from this mixture?

6

Changes Around Us

MULTIPLE CHOICE QUESTIONS

1. Pick the change that can be reversed from the following
 - (a) Cutting of trees
 - (b) Melting of ghee
 - (c) Burning of candle
 - (d) Blooming of flower
2. Which of the following change cannot be reversed?
 - (a) Hardening of cement
 - (b) Freezing of ice cream
 - (c) Opening a door
 - (d) Melting of chocolate
3. An iron ring is heated. Which of the following statement about it is incorrect?
 - (a) The ring expands.
 - (b) The ring almost comes to the same size on cooling.
 - (c) The change in this case is reversed.
 - (d) The ring changes its shape and the change cannot be reversed.
4. While lighting a candle, Paheli observed the following changes
 - (i) Wax was melting.
 - (ii) Candle was burning.
 - (iii) Size of the candle was reducing.
 - (iv) Melted wax was getting solidified.

Of the above, the changes that can be reversed are

- (a) (i) and (ii)
 - (b) (ii) and (iii)
 - (c) (iii) and (iv)
 - (d) (i) and (iv)
5. Salt can be separated from its solution (salt dissolved in water), because
- (a) mixing of salt in water is a change that can be reversed by heating and melting of salt.
 - (b) mixing of salt in water is a change that cannot be reversed.
 - (c) mixing of salt in water is a permanent change.
 - (d) mixing of salt in water is a change that can be reversed by evaporation.
6. Rolling of chapati and baking of chapati are the changes that
- (a) can be reversed.
 - (b) cannot be reversed.
 - (c) can be reversed and cannot be reversed, respectively.
 - (d) cannot be reversed and can be reversed, respectively.
7. Iron rim is made slightly smaller than the wooden wheel. The rim is usually heated before fixing into the wooden wheel, because on heating the iron rim
- (a) expands and fits onto the wooden wheel.
 - (b) contracts and fits onto the wooden wheel.
 - (c) no change in the size takes place.
 - (d) expands first, then on cooling contracts and fits onto the wooden wheel.

VERY SHORT ANSWER QUESTIONS

8. Look at Fig. 6.1 which shows three situations (a) a burning candle (b) an extinguished candle (c) melting wax.

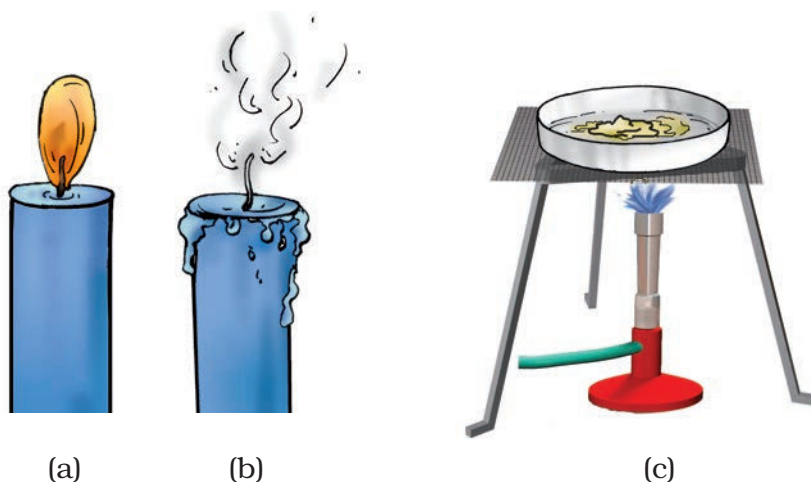


Fig. 6.1

Which of these shows a reversible change and why?

9. A piece of iron is heated till it becomes red-hot. It then becomes soft and is beaten to a desired shape. What kind of changes are observed in this process— reversible or irreversible?
10. Paheli had bought a new bottle of pickle from the market. She tried to open the metal cap to taste it but could not do so. She then took a bowl of hot water and immersed the upper end of the bottle in it for five minutes. She could easily open the bottle now. Can you give the reason for this?

SHORT ANSWER QUESTIONS

11. Can we reverse the following changes? If yes, suggest the name of the method.
- (a) Water into water vapour
 - (b) Water vapour into water.

- (c) Ice into water.
 - (d) Curd into milk.
12. Which of the following changes cannot be reversed?
- (a) Blowing of a balloon
 - (b) Folding a paper to make a toy aeroplane
 - (c) Rolling a ball of dough to make *roti*
 - (d) Baking cake in an oven
 - (e) Drying a wet cloth
 - (f) Making biogas from cow dung
 - (g) Burning of a candle
13. Boojho's sister broke a white dove, a symbol of peace, made of Plaster of Paris (POP). Boojho tried to reconstruct the toy by making a powder of the broken pieces and then making a paste by mixing water. Will he be successful in his effort? Justify your answer.
14. Tearing of paper is said to be a change that cannot be reversed. What about paper recycling?

LONG ANSWER QUESTIONS

15. Give one example in each case
- (a) Change which occurs on heating but can be reversed.
 - (b) Change which occurs on heating but cannot be reversed.
 - (c) Change which occurs on cooling but can be reversed.
 - (d) Change which occurs on mixing two substances, but can be reversed.
 - (e) Change which occurs on mixing two substances, but cannot be reversed.

16. A potter working on his wheel shaped a lump of clay into a pot. He then baked the pot in an oven. Do these two acts lead to the same kind of changes or different? Give your opinion and justify your answer.
17. Conversion of ice into water and water into ice is an example of change which can be reversed. Give four more examples where you can say that the changes can be reversed.
18. Change of a bud into a flower is a change which cannot be reversed. Give four more such example.
19. Paheli mixed flour and water and (i) made a dough, (ii) rolled the dough to make a chapati, (iii) baked the chapati on a pan, (iv) dried the chapati and ground it in a grinder to make powder. Identify the changes (i) to (iv) as the changes that can be reversed or that cannot be reversed.
20. It was Paheli's birthday, her brother Simba was helping her to decorate the house for the birthday party and their parents were also busy making other arrangements. Following were the activities going on at Paheli's home:
 - (i) Simba blew balloons and put them on the wall.
 - (ii) Some of the balloons got burst.
 - (iii) Paheli cut colourful strips of paper and put them on the wall with the help of tape.
 - (iv) She also made some flowers by origami (paper folding) to decorate the house.
 - (v) Her father made dough balls.
 - (vi) Mother rolled the dough balls to make *puries*.
 - (vii) Mother heated oil in a pan.
 - (viii) Father fried the *puries* in hot oil.

Identify the activities at Paheli's home as those that can be reversed and those which cannot be reversed.

7

Getting to Know Plants

MULTIPLE CHOICE QUESTIONS

1. Which of the following combination of features would you observe in grass?
 - (a) Parallel venation and fibrous root
 - (b) Parallel venation and tap root
 - (c) Reticulate venation and fibrous root
 - (d) Reticulate venation and tap root
2. Which of the following is the correct match between the characteristics of stem and the category of plant?
 - (a) weak stem which cannot stand upright : Creeper
 - (b) green tender stem : Shrub
 - (c) thick, hard stem with branching near the base : Tree
 - (d) thick, hard stem with branches high on the plant : Herb
3. Which of the following is not the primary function of stem?
 - (a) Conduction of water
 - (b) Photosynthesis
 - (c) Formation of branches
 - (d) Bears flowers and fruits
4. Which of the following is not a correct match?
 - (a) Petiole : attaches leaf to stem

- (b) Lamina : green flat part of leaf
 - (c) Margin : gives shape to the leaf
 - (d) Veins : transpiration
5. Read the following sentences about photosynthesis:
- (i) Sunlight, carbon dioxide, chlorophyll and water are necessary.
 - (ii) Oxygen is absorbed.
 - (iii) Leaves carry out photosynthesis.
 - (iv) Proteins are made during photosynthesis.
- Choose the correct pair of sentences that are true to photosynthesis
- (a) (iii) and (iv)
 - (b) (i) and (iii)
 - (c) (ii) and (iv)
 - (d) (i) and (iv)
6. Which of the following terms constitute the female part of the flower.
- (a) sepals, petal and stamen
 - (b) stigma, style and ovary
 - (c) ovary, stamen and stigma
 - (d) ovary, style and stamen

VERY SHORT ANSWER QUESTIONS

7. Fill in the blanks:
- (a) The small green leaves at the base of flowers are known as -----.
 - (b) The swollen basal part of the pistil is the ----- which bears the -----.

- (c) Stamen has two parts called ----- and -----.
- (d) The young unopened flower is termed as -----.
8. Solve the riddles given below:
- (a) "I have a green tender stem and I am much shorter than you. Who am I?"
- (b) I come out first from the seed when it is soaked in water. I provide anchorage to plants. Who am I? Write another function that I perform.

SHORT ANSWER QUESTIONS

9. Match the parts of plant given in **Column I** with their function in **Column II**

COLUMN I	COLUMN II
(a) Flower	(I) Excretion
(b) Leaf	(ii) Photosynthesis
(c) Stem	(iii) Reproduction
(d) Root	(iv) Bears branches
	(v) Anchorage

10. Boojho wanted to test the presence of starch in leaves. He performed the following steps.
- (1) He took a leaf and boiled it in water,
- (2) He placed the leaf in a petri dish and poured some iodine over it.

He did not get the expected result. Which step did he miss? Explain.

11. Will a leaf taken from a potted plant kept in a dark room for a few days turn blue black when tested for starch? Give reasons for your answer.
12. Can the stem of a plant be compared with a street with two-way traffic? Give reason.

LONG ANSWER QUESTIONS

13. Read the function of parts of a plant given below:
 - (a) fixes plant to the soil
 - (b) prepares starch
 - (c) takes part in reproduction
 - (d) supports branches and bears flowers

In the diagram given in Fig. 7.1, write the names of the parts whose functions you have just read at the appropriate space.



Fig. 7.1

14. Draw the veins of leaves given in Fig. 7.2 below and write the type of venation.

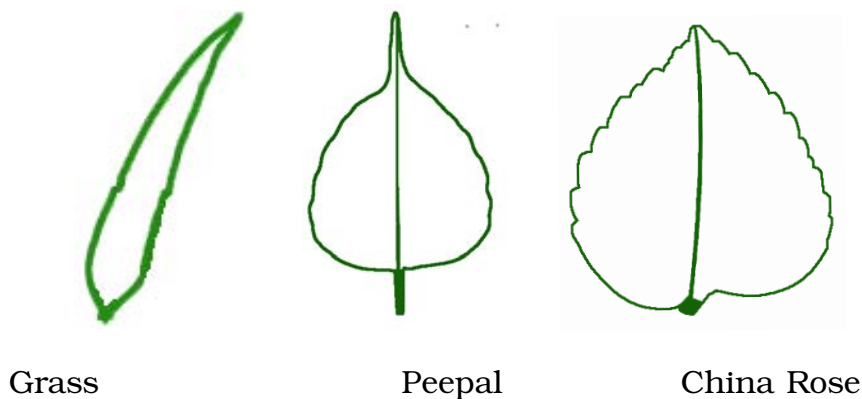


Fig. 7.2

15. Observe Fig. 7.3 and attempt the questions that follow it.

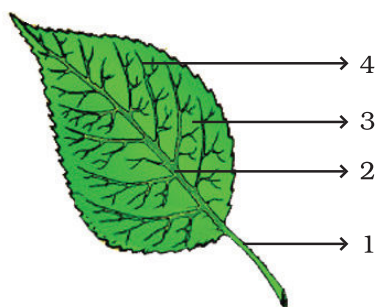


Fig. 7.3

- (a) Label the parts 1, 2, 3 and 4 in the diagram.
(b) What type of venation does the leaf has?
(c) What type of venation is seen in grass leaves?
16. Observe the picture of an activity given as Fig. 7.4 carried out with leaves of plants and polythene bag.



Fig. 7.4

Now answer the following:

- (a) Which process is demonstrated in the activity?
 - (b) When will this activity show better results – on a bright sunny day or a cloudy day?
 - (c) What will you observe in the polythene bag after a few hours of setting up the activity?
 - (d) Mention any one precaution you must take while performing this activity.
17. Identify the wrong statements and correct them.
- (a) Anther is a part of the pistil.
 - (b) The visible parts of a bud are the petals.
 - (c) Lateral roots are present in a tap root.
 - (d) Leaves perform the function of transpiration only.
18. Solve the crossword given in Fig. 7.5 as per the clues given below it:

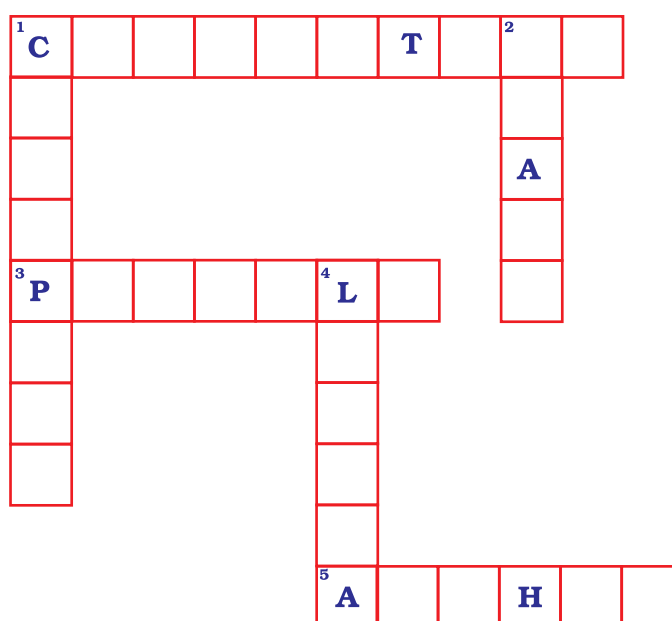


Fig. 7.5

Across

1. The term that describes upward movement of water in a stem.
3. The part of leaf which is attached to the stem.
5. This part is attached to the tip of filament.

Down

1. Plants that are weak and spread on the ground.
 2. Ovules are present in this part of flower.
 4. Is the broad part of leaf.
19. Fill in the blanks with the terms that are listed below:

anther, male, ovary, ovule, petals, pistil, stamen, filament.

Sepals, _____(a)_____, stamens and _____(b)_____ are the parts of a flower. Stamen is made up of _____(c)_____ and _____(d)_____ and it represents the _____(e)_____ part of the flower. The female part of the flower is called the _____(f)_____. The basal, swollen part of the pistil is called the _____(g)_____ which contains the _____(h)_____.

8

Body Movement

MULTIPLE CHOICE QUESTIONS

1. Which of the following parts of our body help us in movement?

- (i) Bones
- (ii) Skin
- (iii) Muscles
- (iv) Organs

Choose the correct answer from the option below.

- | | |
|-------------------|--------------------|
| (a) (i) and (iii) | (b) (ii) and (iv) |
| (c) (i) and (iv) | (d) (iii) and (ii) |

2. Which of the following joints is immovable?

- (a) Shoulder and arm
- (b) Knee and joint
- (c) Upper jaw and skull
- (d) Lower jaw and upper jaw

3. Which of the following organisms does not have both muscles and skeleton for movement?

- (a) dog
- (b) snail
- (c) earthworm
- (d) human being

4. Underwater divers wear fin-like flippers on their feet to
 - (a) swim easily in water.
 - (b) look like a fish.
 - (c) walk on water surface.
 - (d) walk over the bottom of the sea (sea bed).
5. Snail moves with the help of its
 - (a) shell
 - (b) bone
 - (c) muscular foot
 - (d) whole body
6. How many muscles work together to move a bone?
 - (a) One
 - (b) Two
 - (c) Three
 - (d) Four

VERY SHORT ANSWER QUESTIONS

7. Name the type of joint of your hand which help you to grasp a badminton racquet.
8. What would have happened if our backbone was made of one single bone?
9. Provide one word answers to the statements given below.
 1. Joint which allows movement in all directions.
 2. Hard structure that forms the skeleton.

3. Part of the body with a fixed joint.
 4. Help in the movement of body by contraction and relaxation.
 5. Bones that join with chest bone at one end and to the backbone at the other end.
 6. Framework of bones which gives shape to our body.
 7. Bones which enclose the organs of our body that lie below the abdomen.
 8. Joint where our neck joins the head.
 9. Part of the skeleton that forms the earlobe.
10. Write the type of joint which is used for each of the following movements:
- (a) A cricket bowler bowls the ball.
 - (b) A girl moves her head in right and left direction.
 - (c) A person lifts weights to build up his biceps.

SHORT ANSWER QUESTIONS

11. Match the name of the animals given in **Column I** with its body parts used for movement given in **Column II**.

COLUMN I	COLUMN II
(a) Humanbeing	(i) Fins
(b) Cow	(ii) Wings
(c) Snake	(iii) Legs
(d) Eagle	(iv) Whole body
(e) Fish	(v) Limbs

12. Given below is a list of different types of movements in animals.

Running, Jumping, Walking, Slithering,
Crawling, Flying, Swimming, Creeping

Write the types of movements seen in each animal.

- | | |
|------------------|---------------|
| (a) Duck | (b) Horse |
| (c) Kangaroo | (d) Snail |
| (e) Snake | (f) Fish |
| (g) Human beings | (h) Cockroach |
13. Boojho fell off a tree and hurt his ankle. On examination the doctor confirmed that the ankle was fractured. How was it detected?
14. Bones are hard structures and cannot be bent. But, we can still bend our elbow, knee, etc. How is this possible?
15. Which type of movement would have been possible if
- | | |
|----------------------------------|--|
| (a) our elbow had a fixed joint. | (b) we were to have a ball and socket joint between our neck and head. |
|----------------------------------|--|
16. Earthworms are known as ‘farmer’s friends’. Why?

LONG ANSWER QUESTIONS

17. (a) Unscramble the jumbled words and write them in the blank spaces provided.
- | | |
|-------------------------|----------------------------|
| (i) neosb | (v) arctigeal |
| (ii) tnemevom | (vi) epahs |
| (iii) iontcaronct | (vii) sangro inerlan |
| (iv) lsecsum | (viii) laxaeriont |

(b) Read the following paragraph and fill in the blanks using the words you unscrambled.

_____ (a) _____ and _____ (b) _____ form the skeleton of the human body. They provide the framework, give _____ (c) _____ to the body and help in _____ (d) _____. They protect the _____ (e) _____. The bones are moved by alternate _____ (f) _____ and _____ (g) _____ of two sets of _____ (h) _____ attached to them.

18. How is the skeleton of a bird well-suited for flying?
19. In Fig. 8.2 there are two snakes of the same size slithering on sand. Can you identify which of them would move faster and why?

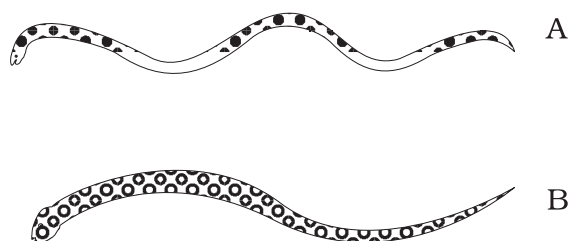


Fig. 8.2

9

The Living Organisms and their Surroundings

MULTIPLE CHOICE QUESTIONS

1. Which of the following cannot be called a habitat?
 - (a) A desert with camels.
 - (b) A pond with fishes.
 - (c) A jungle with wild animals.
 - (d) Cultivated land with grazing cattle.
2. Following are some features of plants
 - (i) They lose a lot of water through transpiration.
 - (ii) Their leaves are always broad and flat.
 - (iii) They lose very little water through transpiration.
 - (iv) Their roots grow very deep into the soil.

Which of the combination of above features are typical of desert plants?

- | | |
|--------------------|--------------------|
| (a) (i) and (ii) | (b) (ii) and (iv) |
| (c) (ii) and (iii) | (d) (iii) and (iv) |
3. Boojho comes across an animal having a stream-lined and slippery body. What is the habitat of the animal?
 - (a) Water
 - (b) Desert
 - (c) Grassland
 - (d) Mountain

4. Which of the following are characteristics of living beings ?

- (i) Respiration
- (ii) Reproduction
- (iii) Adaptation
- (iv) Excretion

Choose the correct answer from the options below:

- (a) (i), (ii) and (iv) only
- (b) (i) and (ii) only
- (c) (ii) and (iv) only
- (d) (i), (ii), (iii) and (iv)

5. Earthworms breathe through their

- (a) skin
- (b) gills
- (c) lungs
- (d) stomata

6. Which of the following is not an example of response to stimulus?

- (a) Watering in mouth when we see delicious food items.
- (b) Closing of leaves of mimosa plant when touched.
- (c) Shutting our eyes when an object is suddenly thrown in our direction.
- (d) A chick hatching out of an egg.

7. Which of the following is correct for respiration in plants?

- (a) Respiration takes place only during day time.
- (b) Respiration takes place only during night.
- (c) Respiration takes place both during day and night.
- (d) Respiration takes place only when plants are not making food.

8. Which of the following is an incorrect statement about excretion?
- (a) Excretion takes place in plants.
 - (b) Excretion takes place both in plants and animals.
 - (c) Excretion is the process of getting rid of excess water only.
 - (d) Secretion is one method of excretion.
9. Choose the set that represents only the biotic components of a habitat.
- (a) Tiger, Deer, Grass, Soil
 - (b) Rocks, Soil, Plants, Air
 - (c) Sand, Turtle, Crab, Rocks
 - (d) Aquatic plant, Fish, Frog, Insect
10. Which one of the following is not associated with reproduction?
- (a) A new leaf coming out of a tree branch.
 - (b) A dog giving birth to puppy.
 - (c) A seed growing into a plant.
 - (d) Chick hatching from an egg.
11. Choose the odd one out from below with respect to reproduction.
- (a) Eggs of hen
 - (b) Seeds of plants
 - (c) Buds of potato
 - (d) Roots of mango tree

12. Although organisms die, their kind continue to live on earth. Which characteristic of living organisms makes this possible?
- (a) Respiration.
 - (b) Reproduction.
 - (c) Excretion.
 - (d) Movement.
13. If you happen to go to a desert, what changes do you expect to observe in the urine you excrete? You would
- (i) excrete small amount of urine.
 - (ii) excrete large amount of urine.
 - (iii) excrete concentrated urine.
 - (iv) excrete very dilute urine.
- Which of the above would hold true?
- (a) (i) and (iii)
 - (b) (ii) and (iv)
 - (c) (i) and (iv)
 - (d) (i) and (ii)

VERY SHORT ANSWER QUESTIONS

14. Unscramble the given words below to get the correct word using the clues given against them.
- (a) SATPADAOINT specific features or certain habits which enable a living being to live in its surroundings
 - (b) RETECOXNI Waste products are removed by this process
 - (c) LUMISIT All living things respond to these
 - (d) ROUCDPRENTOI Because of this we find organisms of the same kind

15. Using the following words, write the habitat of each animal given in Fig. 9.1 (a to d).

Grassland, Mountain, Desert, Pond, River



(a)



(b)



(c)



(d)

Fig. 9.1

16. Classify the following habitats into terrestrial and aquatic types.

Grassland, Pond, Ocean, Rice field

17. Why is reproduction important for organisms?
18. Fill in the blanks:
- (a) Saline water, hot air and sand are components of a habitat.
 - (b) The habitat of plants and animals that live in is called the aquatic habitat.

- (c) enable a plant or an animal to live in its surroundings.
- (d) Plants and animals that live on land are said to live in habitats.

SHORT ANSWER QUESTIONS

- 19. Paheli has a rose plant in her garden. How can she increase the number of rose plants in the garden?
- 20. Why do desert snakes burrow deep into the sand during the day?
- 21. Write the adaptation in aquatic plants due to which
 - (a) submerged leaves can bend in the flowing water.
 - (b) leaves can float on the surface of water.
- 22. Mention one adaptation present in the following animals:
 - (a) In camels to keep their bodies away from the heat of sand.
 - (b) In frogs to enable them to swim.
 - (c) In dolphins and whales to breathe in air when they swim near the surface of water.
- 23. Some desert plants have very small leaves whereas some others have only spines. How does this benefit the plants?
- 24. What are the specific features present in a deer that helps it to detect the presence of predators like lion?
- 25. Read the features of plants given below:
 - (a) Thick waxy stem
 - (b) Short roots

- (c) Cone shaped plants
- (d) Sloping branches
- (e) Small or spine-like leaves
- (f) Hollow stem

Choose the type of plant for every feature given in a, b, c, d, e and f from the list given below:

Aquatic plant, Desert plant, Mountainous plant

LONG ANSWER QUESTIONS

26. Like many animals although a car also moves it is not considered as a living organism. Give 2-3 reasons.
27. What are the adaptive features of a lion that helps it in hunting?

10

Motion and Measurement of Distances

MULTIPLE CHOICE QUESTIONS

1. The distance between Delhi and Mumbai is usually expressed in units of
 - (a) decametre
 - (b) metre
 - (c) centimetre
 - (d) kilometre
2. Which of the following does not express a time interval?
 - (a) A day
 - (b) A second
 - (c) A school period
 - (d) Time of the first bell in the school
3. Fig. 10.1 shows a measuring scale which is usually supplied with a geometry box. Which of the following distance cannot be measured with this scale by using it only once?

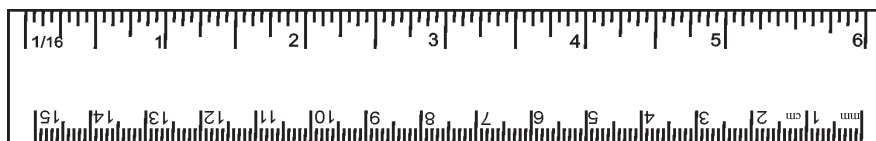


Fig. 10.1

- (a) 0.1 m
- (b) 0.15 m
- (c) 0.2 m
- (d) 0.05 m

4. A piece of ribbon folded five times is placed along a 30 cm long measuring scale as shown in Fig. 10.2.



Fig. 10.2

The length of the ribbon is between

- (a) 1.15 m - 1.25 m
 - (b) 1.25 m - 1.35 m
 - (c) 1.50 m - 1.60 m
 - (d) 1.60 m - 1.70 m
5. Paheli moves on a straight road from point A to point C. She takes 20 minutes to cover a certain distance AB and 30 minutes to cover the rest of distance BC. She then turns back and takes 30 minutes to cover the distance CB and 20 minutes to cover the rest of the distance to her starting point. She makes 5 rounds on the road the same way. Paheli concludes that her motion is
- (a) only rectilinear motion.
 - (b) only periodic motion.
 - (c) rectilinear and periodic both.
 - (d) neither rectilinear nor periodic.
6. Bholu and Golu are playing in a ground. They start running from the same point A in the ground and reach point B at the same time by following the paths marked 1 and 2 respectively as shown in Fig. 10.3. Which of the following is/are true for the given situation.

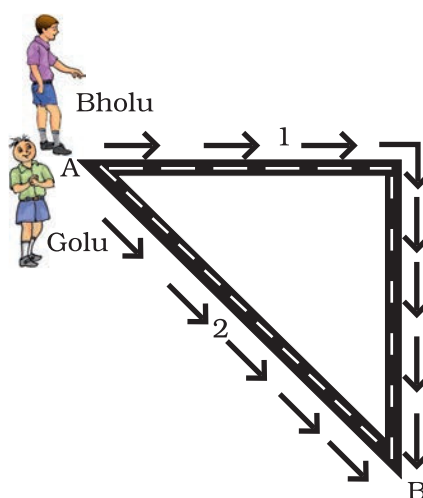


Fig. 10.3

As compared to Golu, Bholu covers a

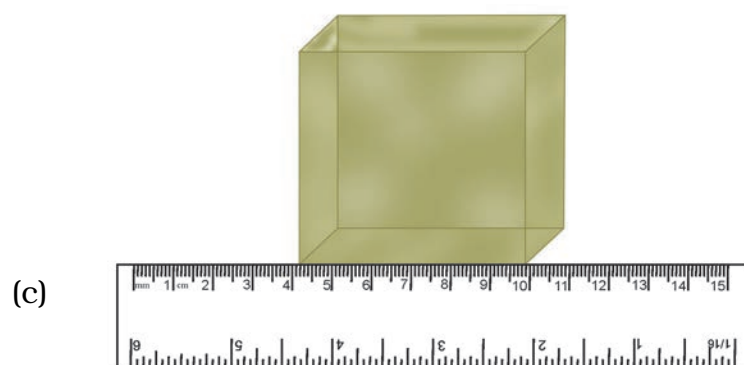
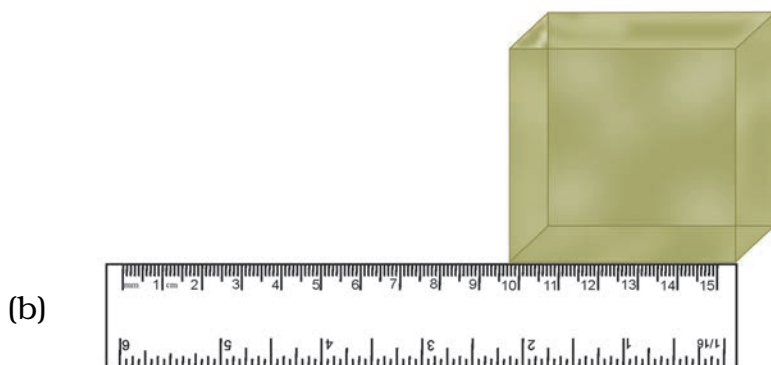
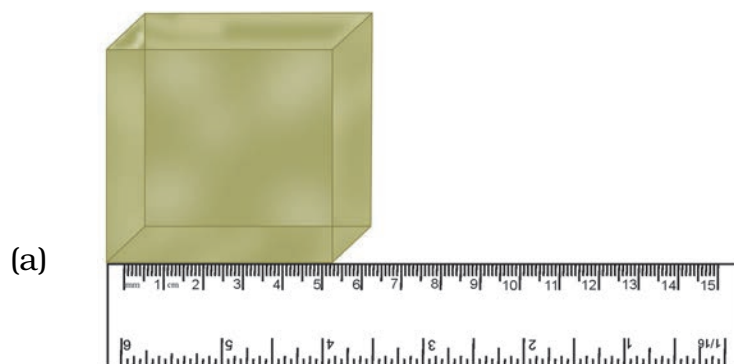
- (a) longer distance but with a lower speed.
 - (b) longer distance with a higher speed.
 - (c) shorter distance with a lower speed.
 - (d) shorter distance with a higher speed.
7. Four pieces of wooden sticks A,B,C and D are placed along the length of 30 cm long scale as shown in Fig. 10.4. Which one of them is 3.4 cm in length?

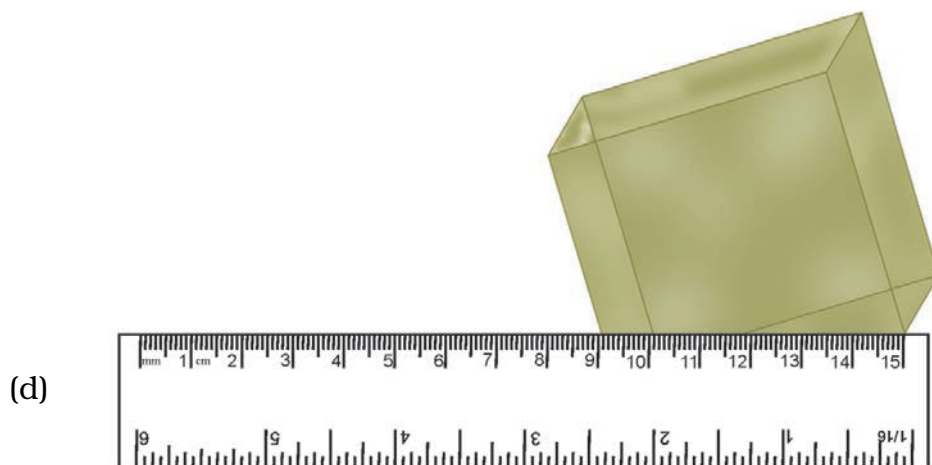


Fig. 10.4

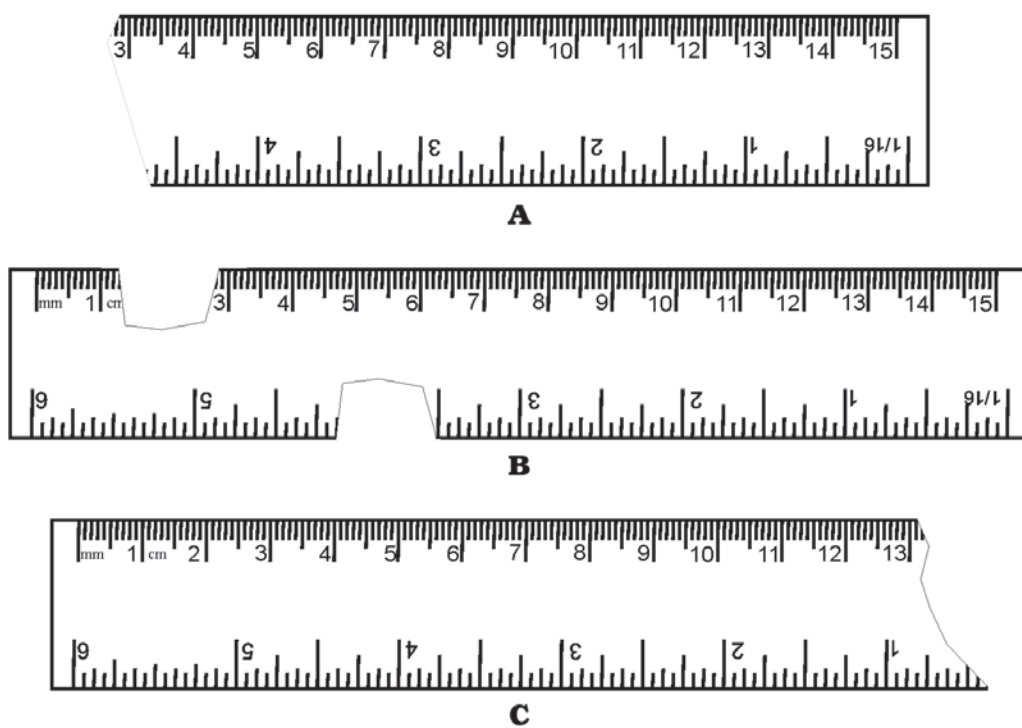
- (a) A
- (b) B
- (c) C
- (d) D

8. Which of the following figure shows the correct placement of a block along a scale for measuring its length?



**Fig. 10.5**

9. You are provided three scales A, B and C as shown in Fig. 10.6 to measure a length of 10 cm.

**Fig. 10.6**

For the correct measurement of the length you will use the scale

- (a) A only
- (b) B only.
- (c) C only.
- (d) Any of the three scales.

VERY SHORT ANSWER QUESTIONS

10. Correct the following.

- (i) The motion of a swing is an example of rectilinear motion.
- (ii) $1\text{ m} = 1000\text{ cm}$

11. Fill in the blanks

- (i) Motion of an object or a part of it around a fixed point is known as motion.
- (ii) A body repeating its motion after certain interval of time is in motion.
- (iii) In rectilinear motion, object moves..... a line.
- (iv) SI unit of length is

12. Write one example for each of the following type of motion.

- (i) Rectilinear
- (ii) Circular
- (iii) Periodic
- (iv) Circular and periodic

SHORT ANSWER QUESTIONS

13.

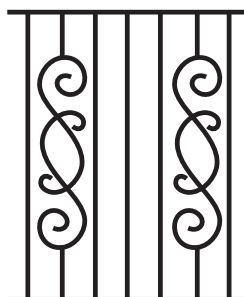


Fig. 10.7

The photograph given as Fig. 10.7 shows a section of a grille made up of straight and curved iron bars. How would you measure the length of the bars of this section, so that the payment could be made to the contractor?

14. Identify the different types of motion in the following word diagram given as Fig. 10.8.

Y	O	U	N	G	C	C	N	T	E	R
L	E	V	E	L	P	I	E	E	A	R
A	L	L	O	T	O	P	P	E	A	I
N	O	T	E	P	A	D	N	E	C	K
O	W	O	N	E	W	I	Y	Z	S	E
I	E	V	O	R	L	O	A	D	W	P
T	R	G	N	I	C	E	D	R	I	L
A	Z	H	T	O	N	G	U	E	N	A
T	X	C	R	D	E	P	T	H	G	R
O	E	Y	C	I	R	C	U	L	A	R
R	T	L	C	C	O	P	P	E	R	T

Fig. 10.8

15. Four children measure the length of a table which was about 2 m. Each of them used different ways to measure it.
- Sam measured it with a half metre long thread.
 - Gurmeet measured it with a 15 cm scale from her geometry box.

- (iii) Reena measured it using her hand span.
- (iv) Salim measured it using a 5 m long measuring tape.

Which one of them would get the most accurate length? Give reason for your answer.

16. Match the events related to motion in **Column I** with the types of motions given in **Column II**.

COLUMN I	COLUMN II
(a) A moving wheel of a sewing machine	(i) Circular motion
(b) Movement of tip of the minute hand of a clock in one hour	(ii) Rotational motion
(c) A moving swing	(iii) Periodic motion

LONG ANSWER QUESTIONS

- 17. While travelling in a train, it appears that the trees near the track are moving whereas co-passengers appear to be stationary. Explain the reason.
- 18. How are the motions of a wheel of a moving bicycle and a mark on the blade of a moving electric fan different? Explain.
- 19. Three students measured the length of a corridor and reported their measurements. The values of their measurements were different. What could be the reason for difference in their measurements? (Mention any three)
- 20. Boojho was riding in his bicycle along a straight road. He classified the motion of various parts of the bicycle as (i) rectilinear motion, (ii) circular motion and (iii) both rectilinear as well as circular motion. Can you list one part of the bicycle for each type of motion? Support your answer with reason.

11

Light

MULTIPLE CHOICE QUESTIONS

1. Observe the picture given in Fig. 11.1 carefully.

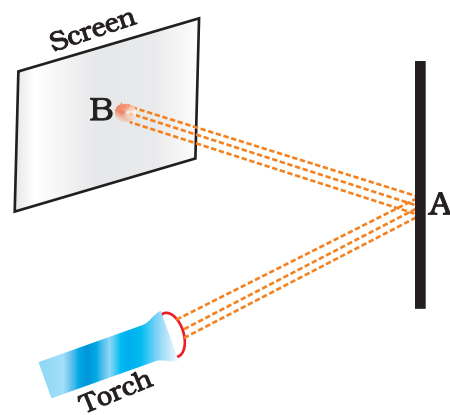


Fig. 11.1

A patch of light is obtained at B, when the torch is lighted as shown. Which of the following is kept at position A to get this patch of light?

- (a) A wooden board
- (b) A glass sheet
- (c) A mirror
- (d) A sheet of white paper,

- 2.



Fig. 11.2

A student observes a tree given in Fig. 11.2 through a pin hole camera. Which of the diagrams given in Fig. 11.3 (a) to (d), depicts the image seen by her correctly?

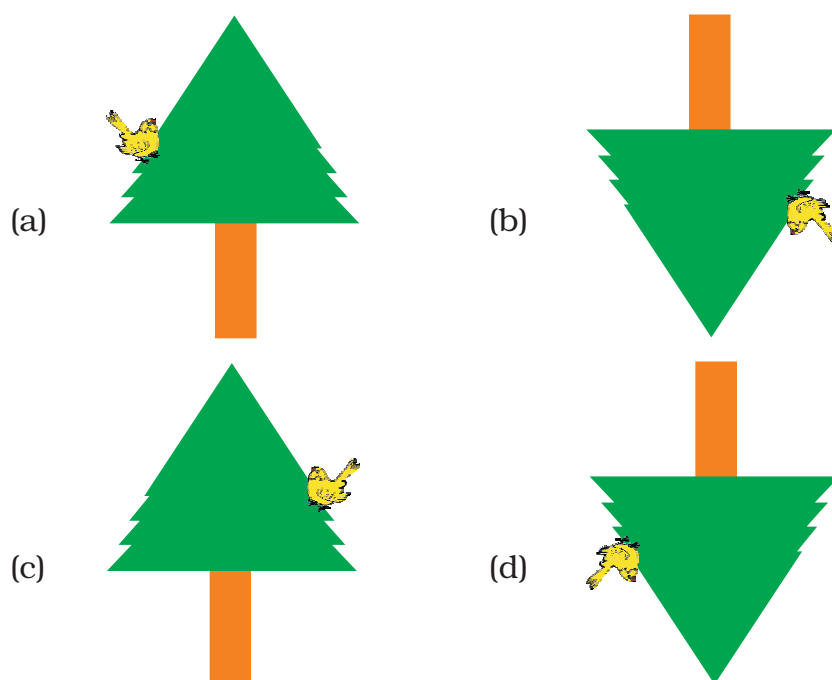


Fig. 11.3

3. Four students A, B, C and D looked through pipes of different shapes to see a candle flame as shown in Fig. 11.4.

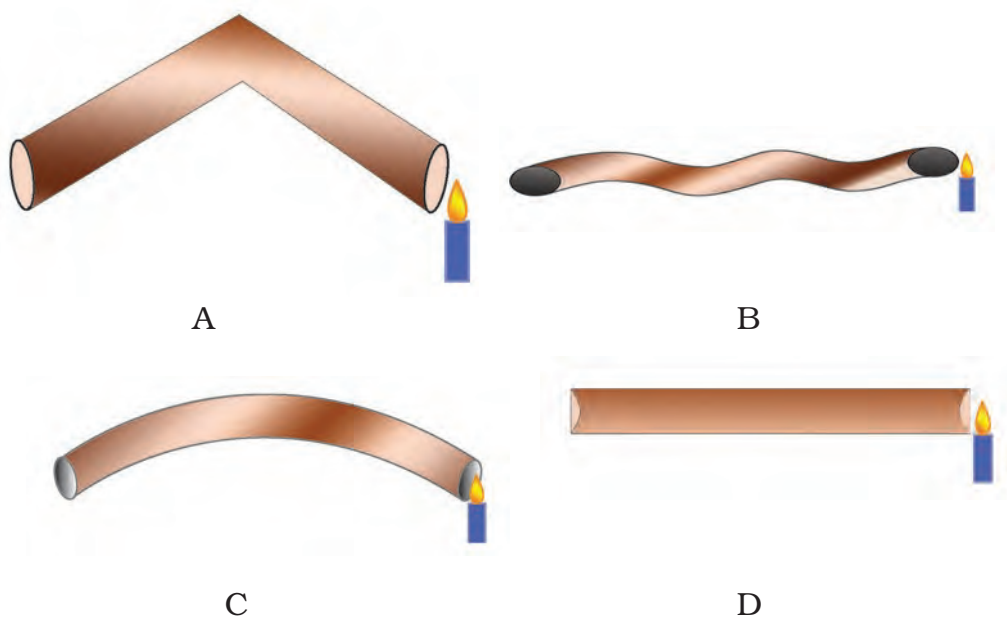


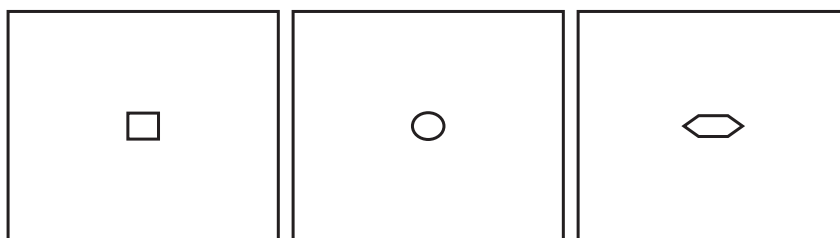
Fig. 11.4

Who will be able to see the candle flame clearly?

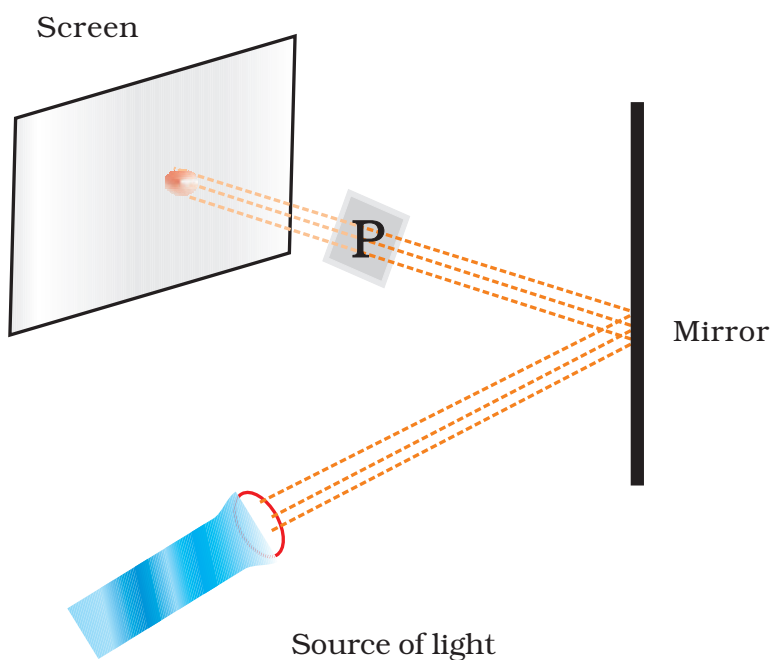
- (a) A (b) B
(c) C (d) D
4. Which of the following is/are not always necessary to observe a shadow?
- (a) Sun (b) Screen
(c) Source of light (d) Opaque object
5. Paheli observed the shadow of a tree at 8:00 a.m., 12:00 noon and 3:00 p.m. Which of the following statements is closest to her observation about the shape and size of the shadow?
- (a) The shape of the shadow of the tree changes but the size remains the same.
(b) The size of the shadow of the tree changes but the shape remains the same.
(c) Both the size and shape of the shadow of the tree change.
(d) Neither the shape nor the size of the shadow changes.
6. Which of the following can never form a circular shadow?
- (a) A ball
(b) A flat disc
(c) A shoe box
(d) An ice cream cone
7. Two students while sitting across a table looked down on to its top surface. They noticed that they could see their own and each other's image. The table top is likely to be made of:
- (a) unpolished wood
(b) red stone
(c) glass sheet
(d) wood top covered with cloth

VERY SHORT ANSWER QUESTIONS

8. You have 3 opaque strips with very small holes of different shapes as shown in Fig. 11.5. If you obtain an image of the sun on a wall through these holes, will the image formed by these holes be the same or different?

**Fig. 11.5**

9. Observe the picture given in Fig. 11.6. A sheet of some material is placed at position 'P', still the patch of light is obtained on the screen. What is the type of material of this sheet?

**Fig. 11.6**

10. Three torches A, B and C shown in Fig. 11.7 are switched on one by one. The light from which of the torches will not form a shadow of the ball on the screen.

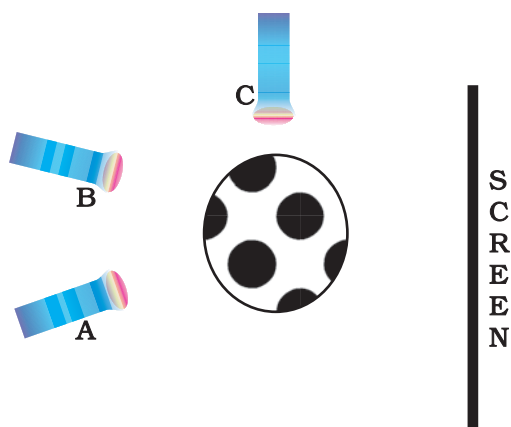


Fig. 11.7

11. Look at the figure given in Fig. 11.8.

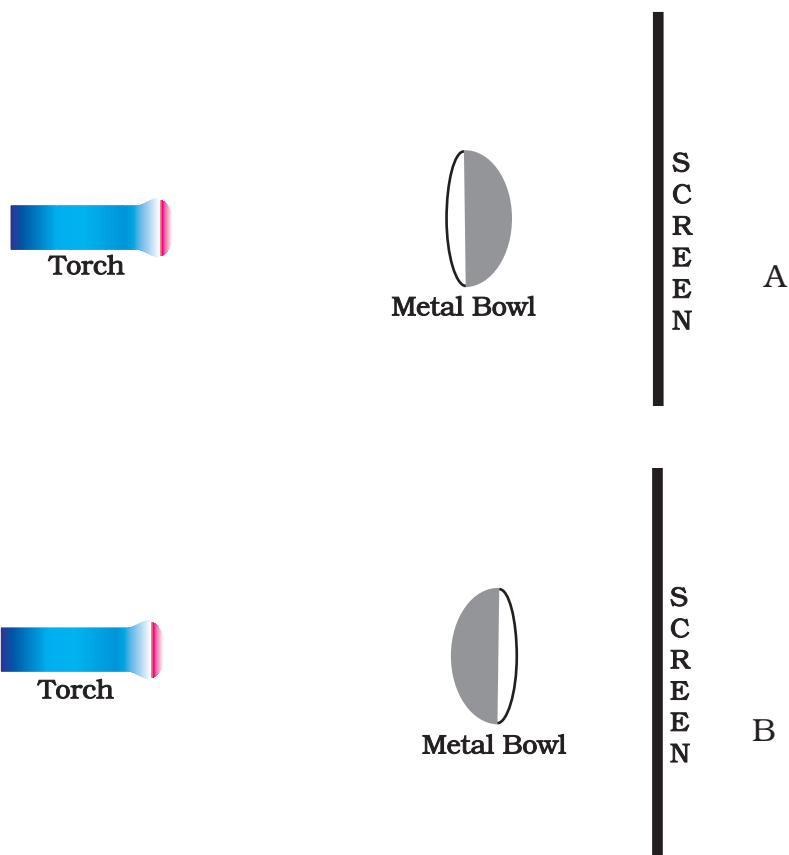


Fig. 11.8

Will there be any difference in the shadow formed on the screen in A and B.

SHORT ANSWER QUESTIONS

12. Correct the following statements.
 - (i) The colour of the shadow of an object depends on its colour of the object.
 - (ii) Transparent objects allow light to pass through them partially.
13. Suggest a situation where we obtain more than one shadow of an object at a time.
14. On a sunny day, does a bird or an aeroplane flying high in the sky cast its shadow on the ground? Under what circumstances can we see their shadow on the ground?
15. You are given a transparent glass sheet. Suggest any two ways to make it translucent without breaking it.
16. A torch is placed at two different positions A and B, one by one, as shown in Fig. 11.9.

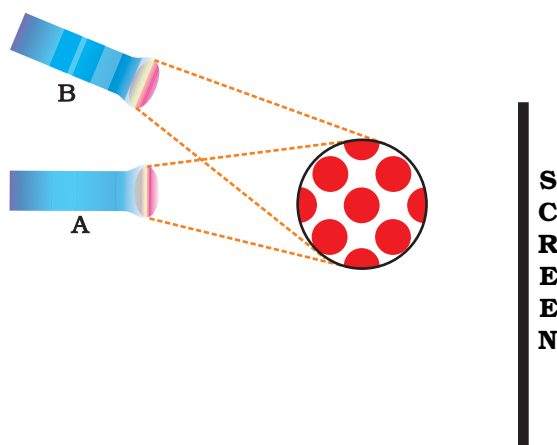


Fig. 11.9

The shape of the shadow obtained in two positions is shown in Fig. 11.10.

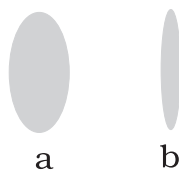


Fig. 11.10

Match the position of the torch and shape of the shadow of the ball.

17. A student covered a torch with red cellophane sheet to obtain red light. Using the red light she obtains a shadow of an opaque object. She repeats this activity with green and blue light. Will the colour of the light affect the shadow ? Explain.
18. Is air around us always transparent? Discuss.
19. Three identical towels of red, blue and green colour are hanging on a clothes line in the sun. What would be the colour of shadows of these towels?
20. Using a pinhole camera a student observes the image of two of his friends, standing in sunlight, wearing yellow and red shirt respectively. What will be the colours of the shirts in the image?
21. In Fig. 11.11, a flower made of thick coloured paper has been pasted on the transparent glass sheet. What will be the shape and colour of shadow seen on the screen?

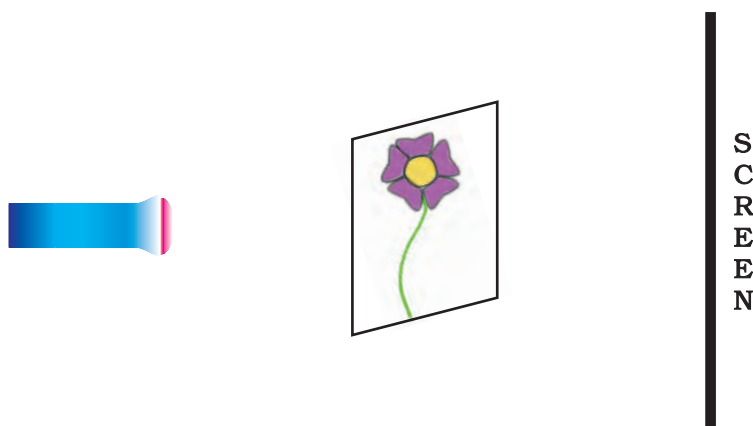
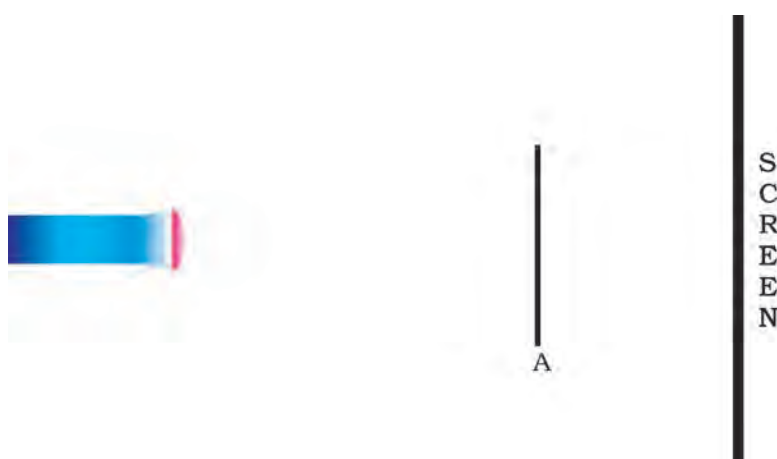


Fig. 11.11

LONG ANSWER QUESTIONS

22. A football match is being played at night in a stadium with flood lights ON. You can see the shadow of a football kept at the ground but cannot see its shadow when it is kicked high in the air. Explain.
23. A student had a ball, a screen and a torch in working condition. He tried to form a shadow of the ball on the screen by placing them at different positions. Sometimes the shadow was not obtained. Explain.
24. A sheet of plywood, a piece of muslin cloth and that of a transparent glass, all of the same size and shape were placed at A one by one in the arrangement shown in Fig. 11.12. Will the shadow be formed in each case. If yes, how will the shadow on the screen be different in each case? Give reasons for your answer.

**Fig. 11.12**

12

Electricity and Circuits

MULTIPLE CHOICE QUESTIONS

1. Choose from the options a, b, c and d given in Fig. 12.1 the figure which shows the correct direction of current.

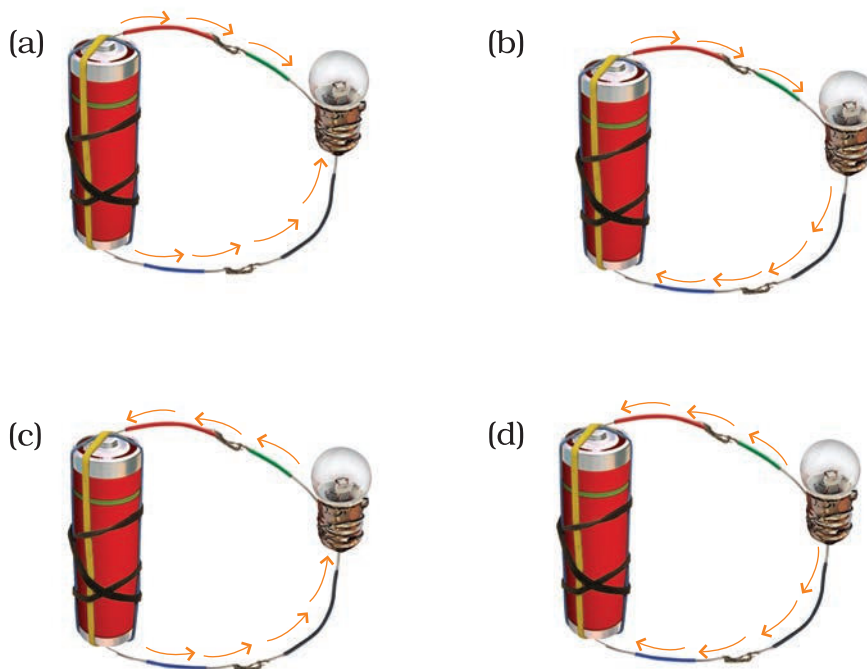


Fig. 12.1

2. Choose the incorrect statement.
- (a) A switch is the source of electric current in a circuit.
 - (b) A switch help to complete or break the circuit.
 - (c) A switch helps us to use electricity as per our requirement.
 - (d) When the switch is open there is an air gap between its terminals.

3. In an electric bulb, light is produced due to the glowing of
- (a) the glass case of the bulb.
 - (b) the thin filament.
 - (c) the thick wires supporting the filament.
 - (d) gases inside glass case of the bulb.
4. In the following arrangement shown in Fig. 12.2, the bulb will not glow if the ends A and B are connected with

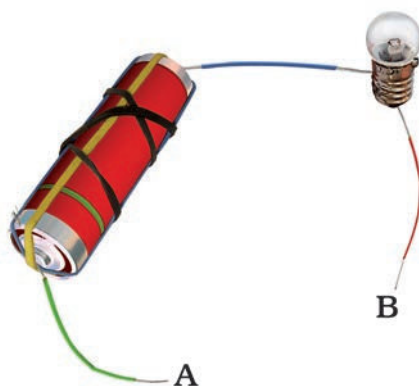


Fig. 12.2

- (a) A steel spoon
 - (b) A metal clip
 - (c) A plastic clip
 - (d) A copper wire
5. In the circuit shown in Fig. 12.3, when the switch is moved to 'ON' position,

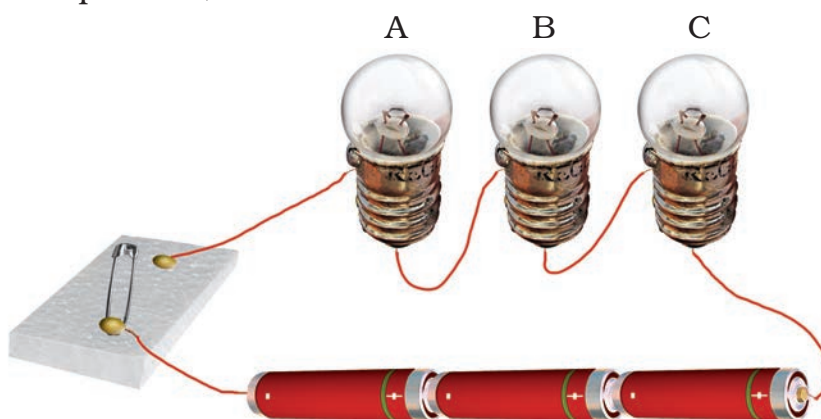


Fig. 12.3

- (a) the bulb A will glow first.
 - (b) the bulb B will glow first.
 - (c) the bulb C will glow first.
 - (d) all bulbs will glow together.
6. Filament of a torch bulb is
- (a) a metal case.
 - (b) metal tip at the centre of the base.
 - (c) two thick wires.
 - (d) a thin wire.
7. Paheli is running short of connecting wires. To complete an electric circuit, she may use a
- (a) glass bangle.
 - (b) thick thread.
 - (c) rubber pipe.
 - (d) steel spoon.

VERY SHORT ANSWER QUESTIONS

8. In which of the following circuits A, B and C given in Fig. 12.4, the cell will be used up very rapidly?

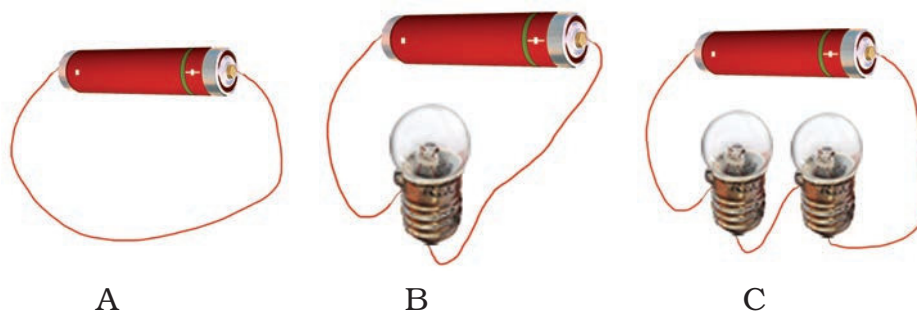


Fig. 12.4

9. Fig. 12.5 shows a bulb with its different parts marked as 1, 2, 3, 4 and 5. Which of them label the terminals of the bulb?

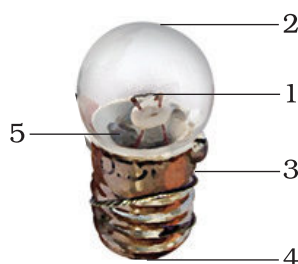


Fig. 12.5

SHORT ANSWER QUESTIONS

10. You are provided with a bulb, a cell, a switch and some connecting wires. Draw a diagram to show the connections between them to make the bulb glow.
11. Will the bulb glow in the circuit shown in Fig. 12.6? Explain.

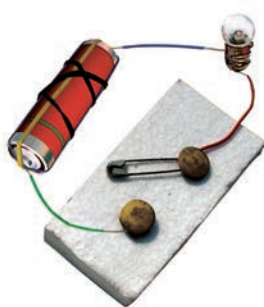


Fig. 12.6

12. An electric bulb is connected to a cell through a switch as shown in Fig. 12.7. When the switch is brought in 'ON' position, the bulb does not glow. What could be the possible reason/s for it? Mention any two of them.

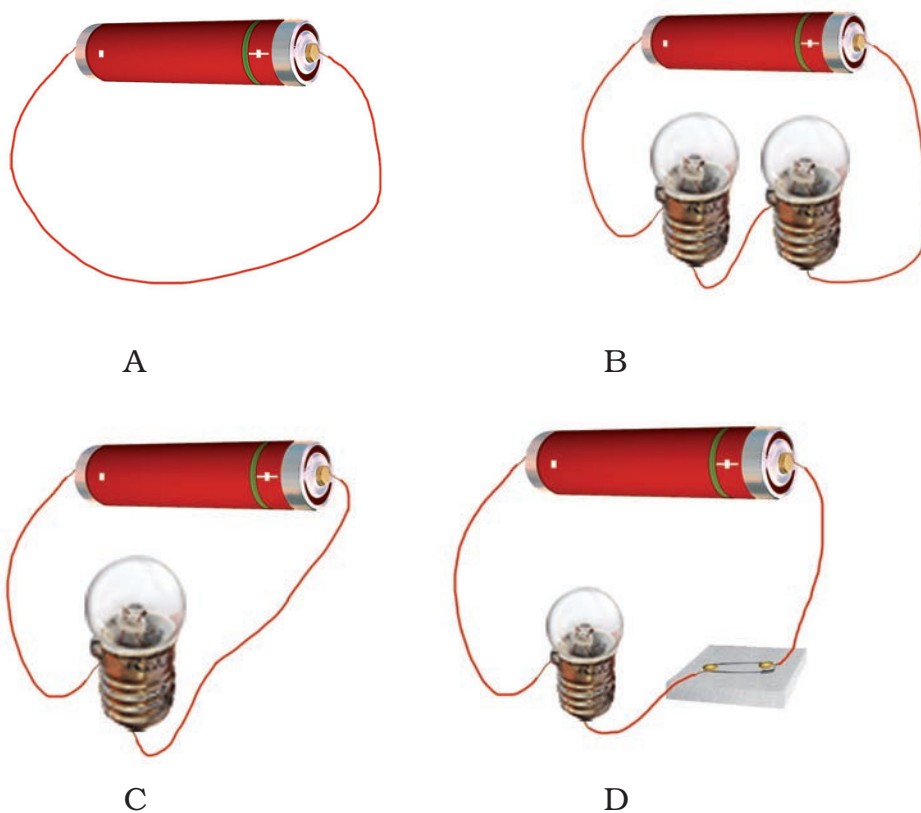
**Fig. 12.7**

13. A torch requires 3 cells. Show the arrangement of the cells, with a diagram, inside the torch so that the bulb glows.
14. When the chemicals in the electric cell are used up, the electric cell stops producing electricity. The electric cell is then replaced with a new one. In case of rechargeable batteries (such as the type used in mobile phones, camera and inverters), they are used again and again. How?
15. Paheli connected two bulbs to a cell as shown in Fig. 12.8.

**Fig. 12.8**

She found that filament of bulb B is broken. Will the bulb A glow in this circuit? Give reason.

16. Why do bulbs have two terminals?
17. Which of the following arrangement A, B, C and D given in Fig. 12.9 should not be set up? Explain, why.

**Fig. 12.9**

18. A fused bulb does not glow. Why?
19. Paheli wanted to glow a torch bulb using a cell. She could not get connecting wires, instead, she got two strips of aluminium foil. Will she succeed? Explain, how?

LONG ANSWER QUESTIONS

20. Boojho has a cell and a single piece of connecting wire. Without cutting the wire in two, will he be able to make the bulb glow? Explain with the help of a circuit diagram.
21. Fig. 12.10 A and B, show a bulb connected to a cell in two different ways.



Fig. 12.10

- (i) What will be the direction of the current through the bulb in both the cases. (Q to P or P to Q)
 - (ii) Will the bulb glow in both the cases?
 - (iii) Does the brightness of the glowing bulb depend on the direction of current through it?
22. Think of six activities which use electric current. Also name the devices used to perform the activity.

Activity you perform	Device
Example : Get light	Torch
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

23. A torch is not functioning, though contact points in the torch are in working condition. What can be the possible reasons for this? Mention any three.

13

Fun with Magnets

MULTIPLE CHOICE QUESTIONS

1. Observe the pictures A and B given in Fig. 13.1 carefully.

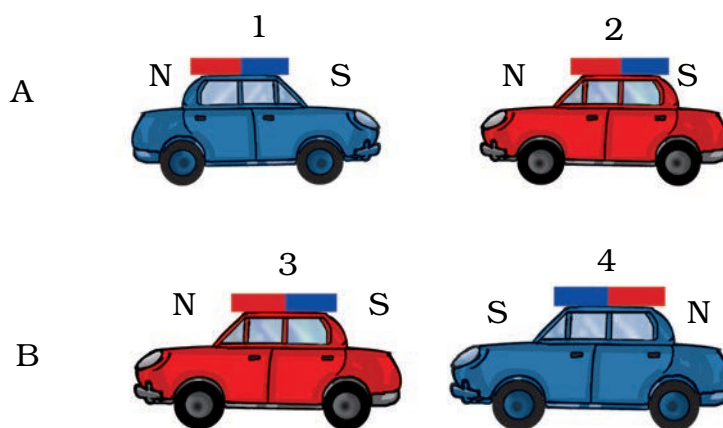
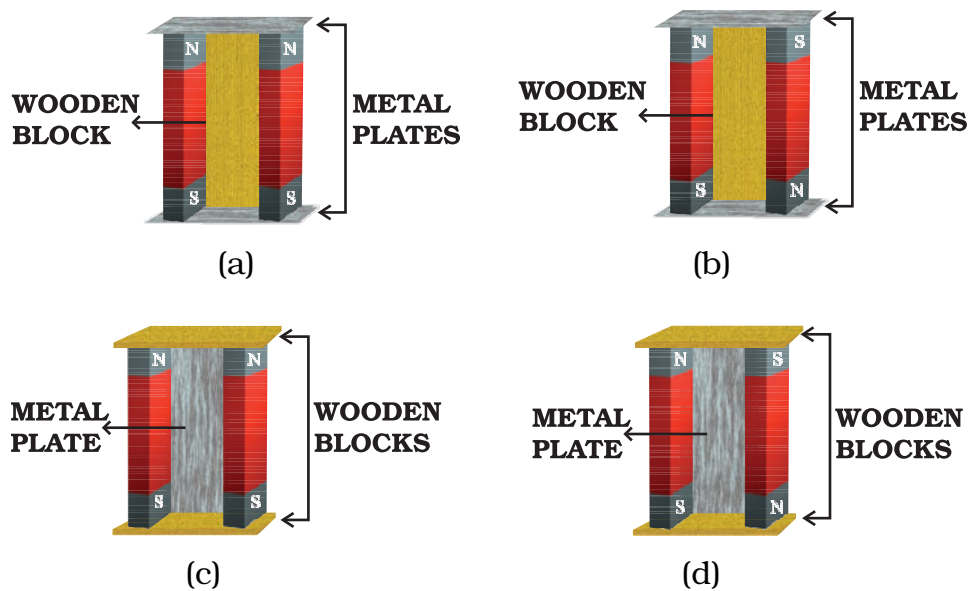


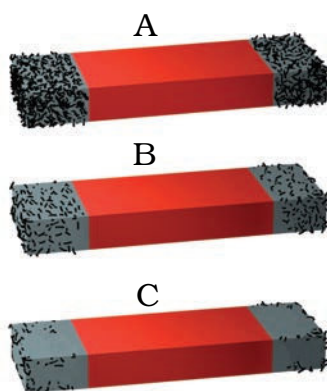
Fig. 13.1

Which of the following statement is correct for the above given pictures?

- (a) In A, cars 1 and 2 will come closer and in B, cars 3 and 4 will come closer.
 - (b) In A, cars 1 and 2 will move away from each other and in B, cars 3 and 4 will move away.
 - (c) In A, cars 1 and 2 will move away and in B, 3 and 4 will come closer to each other.
 - (d) In A, cars 1 and 2 will come closer to each other and in B, 3 and 4 will move away from each other.
2. The arrangement to store two magnets is shown by figures (a), (b), (c) and (d) in Fig. 13.2. Which one of them is the correct arrangement?

**Fig. 13.2**

3. Three magnets A, B and C were dipped one by one in a heap of iron filing. Fig. 13.3 shows the amount of the iron filing sticking to them.

**Fig. 13.3**

The strength of these magnets will be

- (a) $A > B > C$
- (b) $A < B < C$
- (c) $A = B = C$
- (d) $A < B > C$

4. North pole of a magnet can be identified by
 - (a) Another magnet having its poles marked as North pole and South pole.
 - (b) Another magnet no matter whether the poles are marked or not.
 - (c) Using an iron bar.
 - (d) Using iron filings.
5. A bar magnet is immersed in a heap of iron filings and pulled out. The amount of iron filling clinging to the
 - (a) North pole is almost equal to the south pole.
 - (b) North pole is much more than the south pole.
 - (c) North pole is much less than the south pole.
 - (d) Magnet will be same all along its length.

VERY SHORT ANSWER QUESTIONS

6. Fill in the blanks
 - (i) When a bar magnet is broken; each of the broken part will have pole/poles.
 - (ii) In a bar magnet, magnetic attraction is near its ends.
7. Paheli and her friends were decorating the class bulletin board. She dropped the box of stainless steel pins by mistake. She tried to collect the pins using a magnet. She could not succeed. What could be the reason for this?
8. How will you test that 'tea dust' is not adulterated with iron powder?

9. Boojho dipped a bar magnet in a heap of iron filings and pulled it out. He found that iron filings got stuck to the magnet as shown in Fig. 13.4.



Fig. 13.4

- (i) Which regions of the magnet have more iron filings sticking to it?
- (ii) What are these regions called?

SHORT ANSWER QUESTIONS

10. Four identical iron bars were dipped in a heap of iron filings one by one. Fig. 13.5 shows the amount of iron filings sticking to each of them.

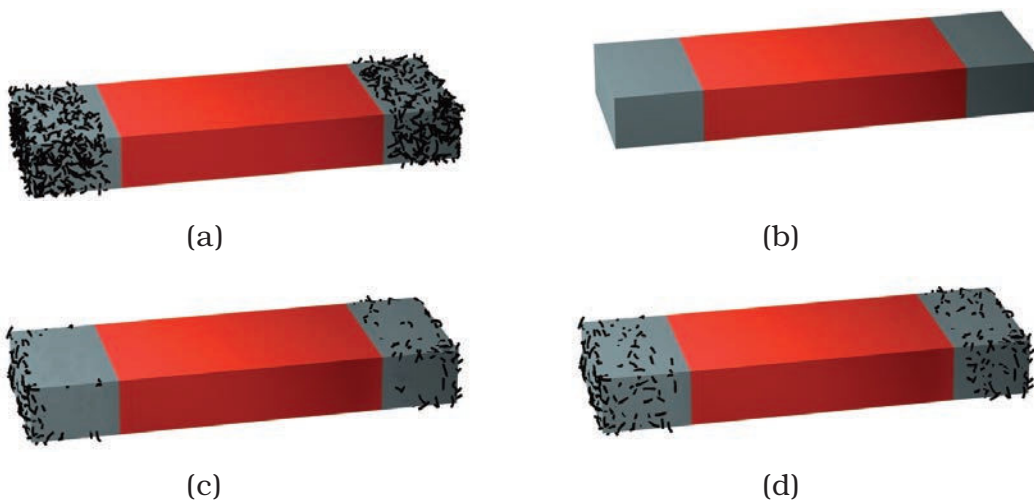


Fig. 13.5

- (a) Which of the iron bar is likely to be the strongest magnet?
- (b) Which of the iron bars is not a magnet? Justify your answer.
11. A toy car has a bar magnet laid hidden inside its body along its length. Using another magnet how will you find out which pole of the magnet is facing the front of the car?
12. Match **Column I** with **Column II** (One option of A can match with more than one option of B)

COLUMN I	COLUMN II
(a) Magnet attracts	(i) rests along a particular direction
(b) Magnet can be repelled	(ii) iron
(c) Magnet if suspended freely	(iii) by another magnet
(d) Poles of the magnet can be identified by	(iv) iron filings

13. You are provided with two identical metal bars. One out of the two is a magnet. Suggest two ways to identify the magnet.

LONG ANSWER QUESTIONS

14. Three identical iron bars are kept on a table. Two out of three bars are magnets. In one of the magnet the North-South poles are marked. How will you find out which of the other two bars is a magnet? Identify the poles of this magnet.
15. Describe the steps involved in magnetising an iron strip with the help of a magnet.

16.

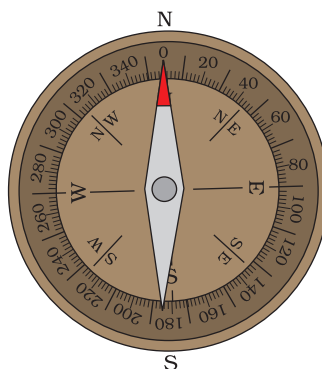
**Fig. 13.6**

Fig. 13.6 shows a magnetic compass. What will happen to the position of its needle if you bring a bar magnet near it? Draw a diagram to show the effect on the needle on bringing the bar magnet near it. Also draw the diagram to show the effect when the other end of the bar magnet is brought near it.

17. Suggest an activity to prepare a magnetic compass by using an iron needle and a bar magnet.
18. Boojho kept a magnet close to an ordinary iron bar. He observed that the iron bar attracts a pin as shown in Fig. 13.7.

**Fig. 13.7**

What inference could he draw from this observation? Explain.

19. A bar magnet is cut into two pieces A and B, from the middle, as shown in Fig. 13.8.

**Fig. 13.8**

Will the two pieces act as individual magnets? Mark the poles of these two pieces. Suggest an activity to verify your answer.

20. Suggest an arrangement to store a U shaped magnet. How is this different from storing a pair of bar magnets?

14

Water

MULTIPLE CHOICE QUESTIONS

1. Which of the following activity does not involve use of water?
 - (a) Washing clothes
 - (b) Bathing
 - (c) Cleaning utensils
 - (d) Drying wet clothes
2. In which of the following activities will you use minimum amount of water?
 - (a) Bathing
 - (b) Brushing teeth
 - (c) Washing clothes
 - (d) Mopping a room
3. The quantity of water required to produce one page of your book is
 - (a) one bucket
 - (b) ten buckets
 - (c) two glasses
 - (d) few drops
4. Water in our tap comes from a
 - (a) river
 - (b) lake
 - (c) well
 - (d) river, lake or well

5. In which of the following case evaporation of water will be slowest?
 - (a) A tray of water kept in sunlight.
 - (b) A kettle of water kept on a burner.
 - (c) A glass of water kept in a room.
 - (d) A bucket of water kept on rooftop.
6. Transpiration is a process in which plants
 - (a) receive water from soil.
 - (b) absorb water vapour from air.
 - (c) prepare food from water.
 - (d) release water vapour.
7. Clouds are
 - (a) tiny drops of water floating in air.
 - (b) mixture of dust and water vapour.
 - (c) particles of water vapour.
 - (d) rain drops in air.
8. Wells are fed by
 - (a) pond water.
 - (b) lake water.
 - (c) rain water.
 - (d) ground water.
9. Floods cause extensive damage to
 - (a) crops.
 - (b) property and human life.
 - (c) domestic animals.
 - (d) all of the above.

10. “Catch water where it falls” is the basic idea behind
- (a) recycling of water.
 - (b) making dams to store water.
 - (c) rain water harvesting.
 - (d) condensation of water vapour.

VERY SHORT ANSWER QUESTIONS

11. Look at Fig. 14.1.



Fig. 14.1

Write down activities shown in this figure in which water is being used.

12. Write any two activities which require more than a bucket of water.
13. Write any two activities which require less than one bucket of water.

SHORT ANSWER QUESTIONS

14. Why do wet clothes placed on a clothes line get dry after some time? Explain.
15. Water kept in sunlight gets heat from sun and is evaporated. But how does water kept under the shade of a tree also gets evaporated? Explain.
16. How do the areas covered with concrete affect the availability of ground water?
17. Why is there a need for conserving water? Give two reasons.
18. Fill in the blanks selecting words from the following list
snow, rain, clouds, vapour, evaporation, transpiration.

Water, as _____ goes into atmosphere by the processes of _____ and _____ and forms _____, which on condensation fall in the form of _____ and _____.

LONG ANSWER QUESTIONS

19. Most of the water that falls on the land as rain and snow, sooner or later goes back to a sea or an ocean. Explain how it happens?
20. Draw a diagram to show how sea water reaches a lake or pond.
21. Dissolve two spoons of common salt in half a cup of water. Now if you want to get the salt back, what will you do?
22. Explain the process of rooftop rain water harvesting with the help of a suitable diagram.

15

Air Around Us

MULTIPLE CHOICE QUESTIONS

1. Which of the following statements is incorrect?
 - (a) All living things require air to breathe.
 - (b) We can feel air but we cannot see it.
 - (c) Moving air makes it possible to fly a kite.
 - (d) Air is present everywhere but not in soil.
2. Wind does not help in the movement of which of the following?
 - (a) Firki
 - (b) Weather cock
 - (c) Ceiling fan
 - (d) Sailing yacht
3. What is not true about air?
 - (a) It makes the windmill rotate.
 - (b) It helps in the movements of aeroplanes.
 - (c) Birds can fly due to presence of air.
 - (d) It has no role in water cycle.
4. Mountaineers carry oxygen cylinders with them because
 - (a) there is no oxygen on high mountains.
 - (b) there is deficiency of oxygen on mountains at high altitude.
 - (c) oxygen is used for cooking.
 - (d) oxygen keeps them warm at low temperature.

5. Boojho took an empty plastic bottle, turned it upside down and dipped its open mouth into a bucket filled with water. He then tilted the bottle slightly and made the following observations.
- (i) Bubbles of air came out from the bottle.
 - (ii) Some water entered the bottle.
 - (iii) Nitrogen gas came out in the form of bubbles and oxygen got dissolved in water.
 - (iv) No bubbles formed, only water entered the bottle.

Which observations is/are correct?

- (a) (i) and (ii)
 - (b) (iv) only
 - (c) (iii) and (iv)
 - (d) (i) only
6. Which of the following components of air is present in the largest amount in the atmosphere?
- (a) Nitrogen
 - (b) Oxygen
 - (c) Water vapour
 - (d) Carbon dioxide
7. The components of air which are harmful to living beings are
- (a) nitrogen and carbon dioxide.
 - (b) dust and water vapour.
 - (c) dust and smoke.
 - (d) smoke and water vapour.
8. Usha took a lump of dry soil in a glass and added water to it till it was completely immersed. She observed bubbles coming out. The bubbles contain
- (a) water vapour
 - (b) only oxygen gas
 - (c) air
 - (d) none of these

VERY SHORT ANSWER QUESTIONS

9. State whether the following statements are **true** or **false**. If false, correct them.
- (a) Plants consume oxygen for respiration.
 - (b) Plants produce oxygen during the process of making their own food.
 - (c) Air helps in the movements of sailing yachts and glider but plays no role in the flight of birds and aeroplanes.
 - (d) Air does not occupy any space.
10. In a number of musical instruments, air plays an important role. Can you name some such instruments?
11. In the boxes of **Column I** the letters of some words got jumbled. Arrange them in proper form in the boxes given in **Column II**

Column I(a)

D	I	L	L	M	W	I	N
---	---	---	---	---	---	---	---

(b)

Y	N	O	G	X	E
---	---	---	---	---	---

(c)

M	E	S	K	O
---	---	---	---	---

(d)

T	U	D	S
---	---	---	---

Column II(a)

--	--	--	--	--	--	--	--

(b)

--	--	--	--	--	--

(c)

--	--	--	--	--

(d)

--	--	--

12. Make sentences using the given set of words.
- (a) 99%, oxygen, nitrogen, air, together
 - (b) Respiration, dissolved, animals, air, aquatic
 - (c) Air, wind, motion, called

SHORT ANSWER QUESTIONS

13. A list of words is given in a box. Use appropriate words to fill up the blanks in the following statements

Air, oxygen, wind, water vapour, mixture, combination, direction, road, bottles, cylinders.

- (a) The _____ makes the windmill rotate.
 - (b) Air is a _____ of some gases.
 - (c) A weather cock shows the _____ in which the air is moving at that place.
 - (d) Mountaineers carry oxygen _____ with them, while climbing high mountains.
14. Observe the picture given in Fig. 15.1 carefully and answer the following questions.



Fig. 15.1

- (a) What is covering the nose and mouth of the police man?
- (b) Why is he putting a cover on his nose?
- (c) Can you comment on air quality of the place shown in the Fig.15.1?

15. Garima observed that when she left her tightly capped bottle full of water in the open sunlight, tiny bubbles were formed all around inside the bottle. Help Garima to know why it so happened?
16. Match the items of **Column I** with the items of **Column II**

COLUMN I	COLUMN II
(a) weather cock	(i) gases and fine dust particles
(b) mountaineers	(ii) sailing yacht
(c) fine hair inside the nose	(iii) oxygen cylinders
(d) smoke	(iv) direction of air flow
(e) wind	(v) prevent dust particles

LONG ANSWER QUESTIONS

17. Explain the following observations very briefly
- (a) A firki does not rotate in a closed area.
 - (b) The arrow of weather cock points towards a particular direction at a particular moment.
 - (c) An empty glass in fact is not empty.
 - (d) Breathing through mouth may harm you.
18. Write just a few sentences for an imaginary situation if any of the following gases disappear from the atmosphere
- (a) oxygen
 - (b) nitrogen
 - (c) carbon dioxide

19. Paheli kept some water in a beaker for heating. She observed that tiny bubbles appeared before the water started to boil. She boiled the water for about 5 minutes and filled it in a bottle up to the brim and kept the bottle air tight till it cooled down to room temperature.
- (a) Why did the tiny bubbles appeared?
 - (b) Do you think tiny bubbles will appear on heating the water taken out from the bottle? Justify your answer.
20. On a Sunday morning Paheli's friend visited her home. She wanted to see some flowering plants in the nearby garden. Both of them went to the garden. While returning from the garden they also observed some flowering plants on the road side. But to their surprise they found that the leaves and flowers of these roadside plants were comparatively very dull. Can you help them to know why?

16

Garbage in, Garbage out

MULTIPLE CHOICE QUESTIONS

1. The method of preparing compost with the help of earthworms is called
 - (a) composting
 - (b) vermicomposting
 - (c) manuring
 - (d) decomposing
2. If you dump kitchen waste in a pit, it may, after sometime
 - (a) convert into compost.
 - (b) convert into vermicompost.
 - (c) remain as such.
 - (d) remain forever in its dried form.
3. Which of the following activities does not reflect responsible behaviour with regard to waste disposal?
 - (a) Goods carried in paper bags or cloth bags.
 - (b) Waste collected in polythene bags for disposal.
 - (c) Waste separated into those that degrade and those that do not.
 - (d) Making handicrafts with used up notebooks.
4. Paheli gave the following ill effects of the practice of burning dried leaves and other plant parts
 - (i) Burning degrades the soil.
 - (ii) Burning produces harmful gases/fumes.
 - (iii) Precious raw materials to obtain manure at low cost is lost.

(iv) Lot of heat is generated unnecessarily.

The correct reasons of why we should not burn leaves are

- (a) i, ii and iv only
- (b) i, ii, iii, and iv
- (c) ii and iii only
- (d) ii, iii, and iv only

5. A garbage collector separate items mentioned below in the garbage into red, green and blue containers for their transfer to landfill, composting pit, and recycling unit respectively.

Items:

- (i) Plastic bags
- (ii) Newspaper and journals
- (iii) Screw and nuts
- (iv) Vegetable peels
- (v) Metal chips
- (vi) Egg shells

Which item were transferred to which bin?

	RED	GREEN	BLUE
(a)	(i) and (iv)	(ii) and (iii)	(v) and (vi)
(b)	(i) and (iii)	(ii) and (v)	(iv) and (vi)
(c)	(i), (iii) and (v)	(iv) and (vi)	(ii) only
(d)	(i) and (v)	(ii) and (iv)	(iii) only

6. The steps required for conversion of kitchen garbage into manure are given below in a jumbled form.

- (i) Put garbage in a pit
- (ii) Cover the bottom of the pit with sand
- (iii) Cover the pit loosely with a gunny bag or grass
- (iv) Add worms

Which of the following shows the correct sequence of the above steps?

- (a) (ii); (i); (iii); (iv) (b) (i); (ii); (iii); (iv)
(c) (ii); (iv); (i); (iii) (d) (iv); (i); (ii); (iii)

VERY SHORT ANSWER QUESTIONS

7. Read the items mentioned in **Columns I** and **II** and fill in the related process in the **Column III**

COLUMN I	COLUMN II	COLUMN III
(a) Organic waste	Earthworms	(i)
(b) Garbage	Dig pit and fill with garbage	(ii)
(c) Old newspaper	Paper bags	(iii)

8. Correct the definitions of certain terms given below by changing only one word.
- (i) Compost: Substances converted into manure for use in industries.
 - (ii) Landfill: Garbage buried under water in an area.
 - (iii) Recycling: Reuse of unused material in the same or another form.
9. Provide the suitable term that expresses the meaning of each of the following statements.
- (a) Greeting cards made from newspaper.
 - (b) Contents of the waste bins.
 - (c) Worms converting certain kinds of waste into manure.
 - (d) An area where a lot of garbage is collected, spread out and covered with soil.

SHORT ANSWER QUESTIONS

10. To what use can you put the following kinds of garbage and how?
- (i) rotting smelly garbage
 - (ii) dry leaves collected in a garbage
 - (iii) old newspapers
11. Paheli was writing a letter to her friend. She crumpled and threw the first draft of her letter on the floor as it had become untidy. Similarly she crumpled and threw 6 more papers on the ground. In the end, she picked them up and put them in a polythene bag and threw it on the road outside her house. Do you think Paheli's action were responsible? What would you have done if you were in her place?
12. Read the poem written below and then answer the questions from the information gathered from the book or elsewhere.

Blue and Green
Two bins, you mean?
Yes, they are there
to throw your waste.
But not in a hurry
Nor in a haste.
Select from waste, sieve if seems muddy
Separate all items and when they are ready
Place in a blue bin, or one that is green
For a voyage to the landfill, or for composting.

- (i) Name the two kinds of waste that need to be separated from each other in two different waste bins.
- (ii) Name two items of waste each that need to be sent to a
(a) landfill, (b) for composting.

13. Beera, a farmer would clear his field everyday, and burn dry leaves fallen on the ground. After sometime he found that those living in huts near his field were suffering from cough and breathing problems. (i) Can you explain why? (ii) Also suggest an environment friendly way to dispose the dry leaves.

LONG ANSWER QUESTIONS

14. Put a tick (✓) against the garbage items given in Table 16.1 which could be converted into manure. Put a cross (×) against the others.

	Garbage Items	Make manure or not
(i)	Egg shells	
(ii)	Straw	
(iii)	Dry flowers	
(iv)	Pebbles	
(v)	Broken pieces of glass	
(vi)	Nails and screws	
(vii)	Plastic bangles	
(viii)	Left over food	
(ix)	Steel broken vessel	
(x)	Dead animals	

Table 16.1

15. The pie charts A and B shown in Fig. 16.1 are based on waste segregation method adopted by two families X and Y respectively.

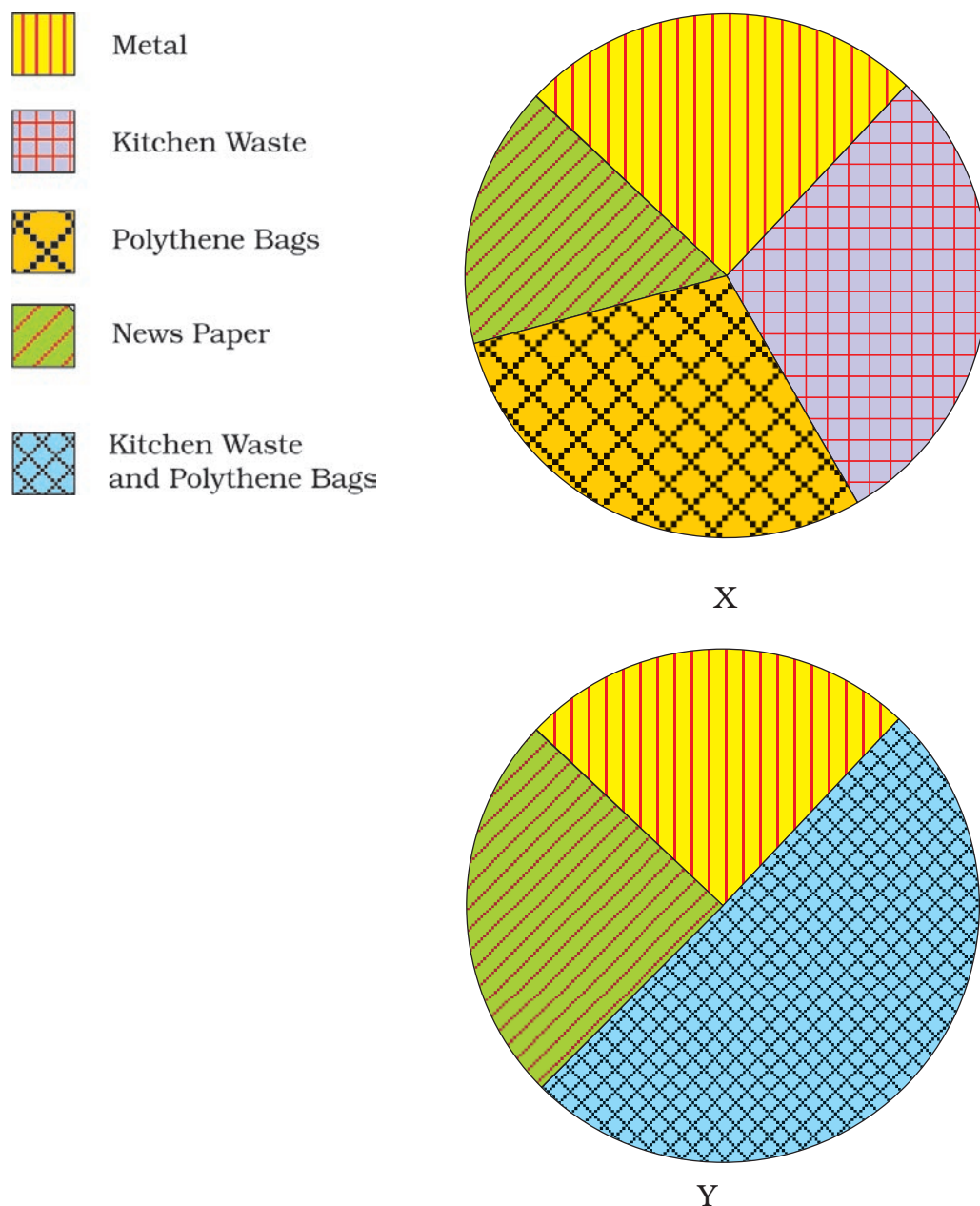


Fig. 16.1

Which of the two families X or Y do you think is more environmentally conscious and why?

16. Given below are steps in vermicomposting and each step has been given an alphabet. Rearrange the steps in the correct sequence and write the alphabets on the chart provided. One step is done for you.

- F Dig a pit in a suitable place in your garden.
- C Spread sand on the floor of the pit.
- E Add vegetable peels and fruits waste in the pit.
- A Sprinkle water to keep it moist.
- D Place red worms in the pit.
- B Cover with a gunny bag or grass.

Step	1	-	F
	2	-	
	3	-	
	4	-	
	5	-	
	6	-	

17. Write 3 sentences on what comes to your mind when you chance to see the following.
- (a) A rag picker.
 - (b) A cow eating a polythene bag.
 - (c) Foul odour emanating from garbage at the entrance of your house.
18. Beautiful hand crafted articles like boxes and toys are made of paper pulp in our country. Can you explain how paper pulp which is made from paper can be used to make hard boxes and other articles?

19. Recently, a ban on plastic bags has been imposed in many places? Is the ban justified? Give reasons in three sentences.
20. Why should we not burn plastic items?
21. What happens when
- (a) Cooking medium is made to flow down a drain.
 - (b) Insecticides, motor oil, paints are poured down the drain.
 - (c) Tea leaves, cotton swabs and old soft toys are thrown into the drain.
22. Answer the following questions in one or two words or sentences:
- (a) Why should we prefer to use paper bags rather than polythene bags?
 - (b) Who, out of the following should properly dispose of the garbage – father, mother, elder brother, younger sister?
 - (c) Which one out of beetles, roundworm and earthworm are used for vermicomposting and why?

Answers

Chapter 1

MULTIPLE CHOICE QUESTIONS

1. b 2. c 3. b 4. a
5. d 6. d

VERY SHORT ANSWER QUESTIONS

7. (a) NECTAR (b) ARNIVORES
(c) HERBIVORES (d) OMNIVORES
8. Boiling kills the seeds.
9. In beehives.
10. (i) Salt from sea water/rocks
(ii) Water from river/well/tap/pond/tubewell/rain
11. (a) CHILLI; (b) FRUIT; (c) SOYABEAN;
(d) SUGAR; (e) GROUNDNUT

SHORT ANSWER QUESTIONS

12.

T	A	C	O	W	O	L	F
T	A	R	W	X	G	O	R
N	N	O	L	I	O	N	O
E	T	W	Q	L	A	N	G
H	U	M	A	N	T	W	O

Herbivore: COW, GOAT, HEN

Carnivore: WOLF, LION, FROG

Omnivore: CAT, RAT, CROW, HUMAN, ANT, OWL

13. a- Flower: b- Bud: c- Leaf: d-Stem
14. **Hint:** Enough food is not available for all of us/Food is very costly and poor people cannot afford to buy/Any other reason.
15. Food gives energy to do work/to grow/to repair damaged parts, to protect the body against diseases.(any two)
16. a-(iii), b-(i), c-(iv), d-(v), e-(ii)

LONG ANSWER QUESTIONS

17. Eagle– birds/small animals/ meat/ others– Omnivore
Crocodile– fish/snake/animals living near the river banks of river– Carnivore
Elephant– grass/sugarcane/leaves/coconut/others– Herbivore
Crow– food grains/rat/meat/food items/insects– Omnivore
Lion– deer/rabbit/zebra/giraffe/cow/others– Carnivore
18. Any four correct answer.
Lion → goat, Lizard → insects, spider, Rat → grains; Snake → Rat, Goat → grain/grass, Spider → insects
19. **Hint:**

Food item	Ingredients
Dal	Pulses, water, salt, oil, spices.
Idli	Rice, urad dal, salt, water.

Any other item can be given as the answer.

Chapter 2

MULTIPLE CHOICE QUESTIONS

- | | | | |
|------|------|------|------|
| 1. d | 2. d | 3. b | 4. c |
| 5. c | 6. b | | |

VERY SHORT ANSWER QUESTIONS

7. (a) protein (b) minerals (c) vitamins
(d) carbohydrate (e) nutrients (f) fat
8. Water

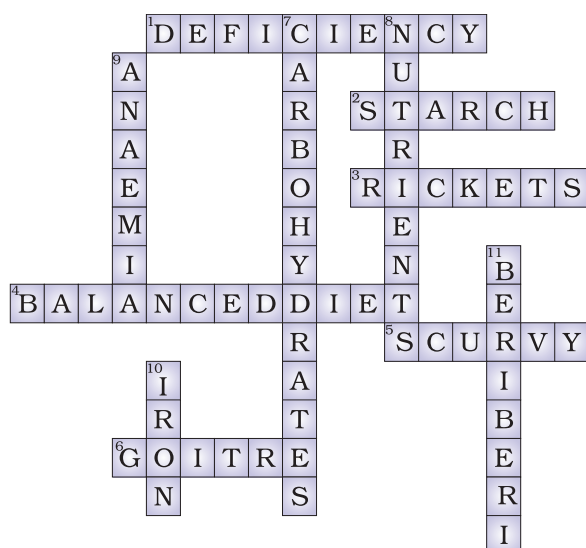
SHORT ANSWER QUESTIONS

9. (a) fat, protein; (b) balanced diet; (c) obesity; (d) roughage;
(e) Vitamin C
10. A- sweet potato, rice, maize, white bread.
B- moong dal, fish, milk, egg, beans, butter milk, cottage cheese,
peas.
C- mustard oil, milk, egg, butter.
11. Potato chips are tasty but they are not very nutritious.
Boiled vegetables are very nutritious but they may not be tasty.
12. The saree of Paheli's teacher might have been starched, and starch turns blue black with iodine solution. Paheli's socks did not have starch on it thereby showing no change.
13. Wash, peel, cut and cook the potatoes. Cooking in a small amount of water and then frying in a small quantity of oil conserves the nutrients.

14. Paheli must include whole grains, whole pulses, fresh fruits and vegetables in her diet as she seems to lack roughage.
15. (a) Components of food that provide nutrients are carbohydrates, proteins, fats, vitamins and minerals.
(b) Components of food that do not provide nutrients are water and roughage/dietary fibres.
16. Vitamins and minerals are very important because they help in
 - (a) protecting our body against diseases.
 - (b) growth.
 - (c) maintaining good health.
17. Water helps our body to absorb nutrients from food and also helps in removing wastes such as urine and sweat.

LONG ANSWER QUESTIONS

18. (a) Night blindness (b) Vitamin A
(c) Carrot, papaya, mango, milk and fish oil or any other (any four)
- 19.



20. (a) Chapati
(b) Calcium; Vitamin D
(c) Butter
(d) Protein; Calcium
(e) Papaya
(f) Iron
(g) Peas; Proteins
21. A snakes and ladders board-game prepared by children.

Chapter 3

MULTIPLE CHOICE QUESTIONS

- | | | | |
|------|-------|-------|------|
| 1. a | 2. b | 3. d | 4. c |
| 5. c | 6. c | 7. b | 8. c |
| 9. b | 10. b | 11. c | |

VERY SHORT ANSWER QUESTIONS

12. Yarn, fibres.
13. (a) cotton (b) spinning
(c) weaving (d) fibres
14. (a) False (b) False
(c) True (d) True

Correct statements

- (a) Silk is an animal fibre.
- (b) Jute is obtained from the stem of a plant.
15. Classify the following fibres as natural and synthetic.

Polyester, Jute, Silk, Nylon, Cotton, Wool

16. Cotton fabric does not shrink but silk fabric shrinks on burning.
17. Knitting.

SHORT ANSWER QUESTIONS

18. The end of the thread was separated into a few thin strands or the thread was quite thick.
19. Saree, dhoti, lungi, turban, dupatta, towel, etc.

20. (a) – (ii), (b) – (iii), (c) – (i), (d) – (iv)
21. black, warm, cotton bolls, ginning, spinning, dyed, woven
22. a – (v), b – (i), c – (vi), d – (ii), e – (iii), f – (iv)
23. Fabric, jewellery, hand-bag, carpet, mattress, gunny bag, cap or any other.

LONG ANSWER QUESTIONS

24. **Hint:** Cotton bolls → Cotton yarn → Cotton fabric
→ Cotton shirt
25. **Hint:** Describe weaving and knitting.

Chapter 4

MULTIPLE CHOICE QUESTIONS

- | | | | |
|------|-------|-------|------|
| 1. b | 2. c | 3. c | 4. c |
| 5. c | 6. b | 7. d | 8. c |
| 9. c | 10. d | 11. a | |

VERY SHORT ANSWER QUESTIONS

12. The silver spoon on long exposure to moist air has lost its shine and appears dull whereas gold does not tarnish.
13. Raveena has got a solution because honey will dissolve in water.
14. **Hint:** Yes, Ground glass is translucent, so Shikha can be located.
15. Cotton ball initially floats and then sinks as it absorbs water.

SHORT ANSWER QUESTIONS

16. Rubber band, leaf, eraser, cooked rice and fresh chapati are soft materials because they can be compressed or scratched easily.
17. **Soluble**
- (i) honey in water (ii) glucose in water
- (iii) groundnut oil in mustard oil
- Insoluble**
- (i) turmeric in water (ii) rice flour in water
- (iii) mustard oil in water
18. **Hint:**

Name of the material	Appearance Hard/Soft	Transparency (Transparent/ Translucent /Opaque)	Floats/Sinks in water	Soluble/ Insoluble in water
Lump of salt	Hard	Opaque	Sinks	Soluble
Green grass	Soft	Opaque	Floats	Insoluble

19. (a) aluminium – foil, aircrafts, etc.
 (b) plastic – bucket, pencil box, etc.
 (c) kerosene – fuel, solvent, etc.
 (d) vinegar – food ingredient, preservative, etc.
20. a- (iii) b- (iv) c- (i) d- (ii)
- 21.

O	S	T	P	L	E
A	T	L	E	E	R
C	O	I	N	A	A
O	N	K	C	F	S
A	E	E	I	W	E
L	L	Y	L	R	R

The answer may include other items as well.

LONG ANSWER QUESTIONS

22. **Hint:** Write on the basis of lustre, hardness, softness, roughness or smoothness.
23. **Hint:** Dissolved oxygen is available for animal and plants for respiration and survival.

24. **Hint:** Objects cannot be seen through opaque materials.

Example: Cardboard.

Objects cannot be seen clearly through translucent materials.

Example: Oiled paper.

Objects can be seen clearly through transparent materials.

Example: Hand lens

25. Soluble in water – Sugar, Salt, Honey, Copper sulphate crystals, Glucose
- Insoluble in water – Mustard oil, Sand, Sawdust, Chalk powder, Soil, Petals of flower, Wheat flour

Chapter 5

MULTIPLE CHOICE QUESTIONS

- | | | | |
|------|-------|------|------|
| 1. d | 2. c | 3. b | 4. d |
| 5. d | 6. b | 7. b | 8. b |
| 9. c | 10. d | | |

VERY SHORT ANSWER QUESTIONS

11. **Hint:** Milk at higher temperature would dissolve more sugar so Ravi would win the game.
12. (i) hand picking; (ii) grains; (iii) sieving; (iv) sedimentation; (v) solid, liquid.
13. (a) False (b) True
(c) True (d) True
(e) True (f) True

SHORT ANSWER QUESTIONS

14. **Hint:** Winnowing. This method is based on the principle that the lighter particles are carried away by the wind.
15. (a) – (iii) (b) – (iv)
(c) – (v) (d) – (ii)
(e) – (i)

LONG ANSWER QUESTIONS

16. **Hint:**
- (a) They will mix salt with water to make salt solution.
- (b) Mohan's solution would be saturated because in Mohan's

case some salt would remain undissolved and settle at the bottom of the glass.

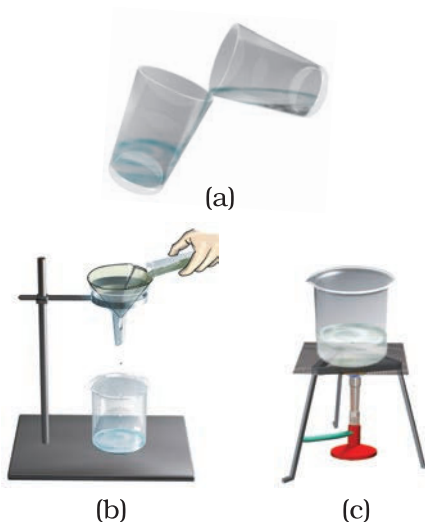
17. **Hint:**

- (i) Filtration using muslin cloth.
- (ii) Swirl with alum and leave water undisturbed for some time.
- (iii) Decantation.
- (iv) Boil for 10 minutes in covered pan.
- (v) Cool, filter and now it is fit for drinking.

18. (i) happy
(ii) Sun
(iii) threshed
(iv) winnowed
(v) handpicked
(vi) sieved

They got a good price as they used appropriate methods of separation to get good quality of flour.

19. **Hint:**



- (a) Decantation – to separate oil

- (b) Filtration – to separate sand
- (c) Evaporation – to separate salt

20. **Hint:**

- (a) Iron nails – hand picking/magnet
- (b) Oil – decantation
- (c) Salt, water – evaporation and condensation

Chapter 6

MULTIPLE CHOICE QUESTIONS

- | | | | |
|------|------|------|------|
| 1. b | 2. a | 3. d | 4. d |
| 5. d | 6. c | 7. d | |

VERY SHORT ANSWER QUESTIONS

8. Melting of wax in (c), which on cooling changes back to solid wax.
9. The changes that can be reversed (reversible).
10. Expansion of metal cap on heating.

SHORT ANSWER QUESTIONS

11. (a) Yes, condensation (b) Yes, evaporation
(c) Yes, freezing (d) Not possible
12. (d), (f) and (g)
13. Boojho will not be successful, because making of toy from Plaster of Paris (POP) is a change that cannot be reversed.
14. We do get the paper on paper recycling but it is not the same original paper that we get. The colour and texture of the paper changes.

LONG ANSWER QUESTIONS

15. (a) Heating of an iron rod.
(b) Baking of chapati.
(c) Formation of ice from water.

- (d) Formation of salt solution.
- (e) Mixing of cement and water.
16. **Hint:** Different kinds; former can be reversed while the later cannot be reversed.
17. (i) Melting of wax (ii) Folding of a paper
- (iii) Knitting of a sweater (iv) Inflating of a tyre
18. (i) Milk into curd (ii) Burning of wood
- (iii) Ripening of fruits (iv) Digestion of food
19. Changes (i), (iii) and (iv) cannot be reversed, change (ii) can be reversed.
20. Activities (i), (iv), (v), (vi) and (vii) can be reversed and rest cannot be reversed.

Chapter 7

MULTIPLE CHOICE QUESTIONS

1. a
2. a
3. b
4. d
5. b
6. b

VERY SHORT ANSWER QUESTIONS

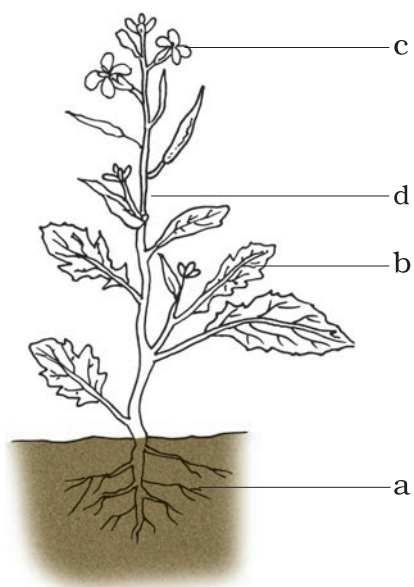
7. a– sepals; b– ovary, ovules; c– filament, anther; d– bud
8. (a) Herb or name of any small plant.
(b) Root; absorption of water and minerals.

SHORT ANSWER QUESTIONS

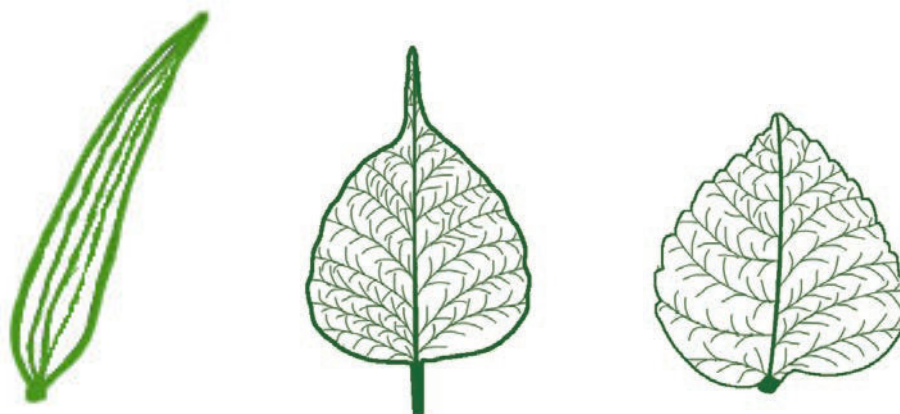
9. a– (iii); b– (ii); c– (iv); d– (v)
10. He did not boil the leaf in spirit to remove the chlorophyll.
11. No, all the starch stored in the leaf would have been used up by the plant. No starch would be synthesised afresh due to non-availability of sunlight.
12. **Hint:** Yes, water and minerals move upwards and food moves downwards.

LONG ANSWER QUESTIONS

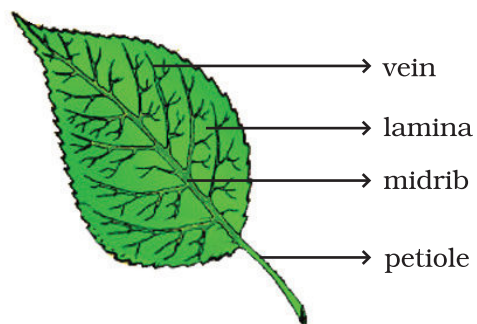
13. a– root; b– leaf; c– flower; d– stem



14.



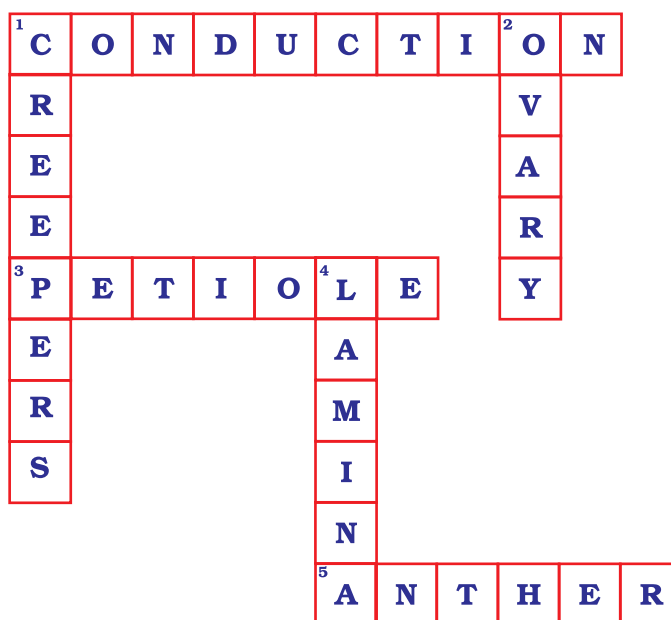
15. (a)



(b) Reticulate venation

(c) Parallel venation

16. (a) Transpiration.
 (b) On a bright sunny day.
 (c) Small drops of water inside the polythene cover.
 (d) The set-up must be airtight/polythene bag must be dry/
 the twig must be fresh with 10-12 leaves.
17. (a) Wrong– Anther is a part of the stamen.
 (b) Wrong– The visible parts of a bud are the sepals.
 (c) Correct.
 (d) Wrong– Leaves also perform photosynthesis.
- 18.



19. (a)– sepals; (b)– petals; (c)– pistil; (d)– filament; (e)– anther;
 (f)– male; (g)– pistil; (h)– ovary; (i)– ovules

Chapter 8

MULTIPLE CHOICE QUESTIONS

- | | | | |
|------|------|------|------|
| 1. a | 2. c | 3. c | 4. a |
| 5. c | 6. b | | |

VERY SHORT ANSWER QUESTIONS

7. Hinge joint.
8. We would not have been able to bend from our waist.
9.
 1. Ball and socket
 2. Bone/s
 3. Upper jaw with skull
 4. Muscles
 5. Rib
 6. Skeleton
 7. Pelvic bones
 8. Pivotal
 9. Cartilage
10.
 - (a) Ball and Socket joint
 - (b) Pivotal joint
 - (c) Hinge joint

SHORT ANSWER QUESTIONS

11. a– (iii) b– (v) c– (iv) d– (ii) e– (i)
12. (a) Duck – flying, walking, swimming

- (b) Horse – running, walking
 - (c) Kangaroo – jumping, walking
 - (d) Snail – creeping
 - (e) Snake – slithering
 - (f) Fish – swimming
 - (g) Human being – walking
 - (h) Cockroach – walking, flying
13. The doctor must have observed a swelling and taken an X-ray of the ankle. X-ray images confirm injuries/fractures in bones.
14. Elbow and knee are not made up of a single bone, but two or more bones which are joined to each other by a joint (Hinge joint). This joint along with the muscles help us to bend the elbow and knee.
15. (a) We would not be able to bend/fold our arms.
(b) We would be able to rotate our head 360°.
16. An earthworm eats its way through the soil. Its body excretes the undigested materials that makes the soil fertile.

LONG ANSWER QUESTIONS

17. (a) (i) bones (ii) movement (iii) contraction
(iv) muscles (v) cartilage (vi) shape
(vii) internal organs (viii) relaxation
- (b) (i) bones (ii) cartilage (iii) shape
(iv) movement (v) internal organs (vi) contraction
(vii) relaxation (viii) muscles

18.
 1. Bones are hollow and light.
 2. Bones of hind limbs are for walking and perching.
 3. Bones of fore limbs are modified as wings.
 4. Shoulder bones are strong.
 5. Breast bones hold flight muscles and are used to move the wings up and down.
19. A snake forms loops in its body while slithering. Each loop of the snake gives it a forward push by pressing against the ground. The snake with a large number of loops moves much faster than the snake with less number of loops. Thus snake "A" will move faster than snake "B".

Chapter 9

MULTIPLE CHOICE QUESTIONS

- | | | | |
|-------|-------|-------|-------|
| 1. d | 2. d | 3. a | 4. d |
| 5. a | 6. d | 7. c | 8. c |
| 9. d | 10. a | 11. d | 12. b |
| 13. a | | | |

VERY SHORT ANSWER QUESTIONS

14. (a) ADAPTATIONS (b) EXCRETION
(c) STIMULI (d) REPRODUCTION
15. (a) Grassland (b) Pond
(c) Mountain (d) Camel
16. Terrestrial habitats – grassland, rice field
Aquatic habitats – pond, ocean
17. Reproduction leads to the production of more individuals of an organism.
18. (a) abiotic (b) water (c) adaptations (d) terrestrial

SHORT ANSWER QUESTIONS

19. By planting stem-cutting of the rose plant.
20. As the deeper layers of sand are cooler, they burrow deep into the sand to stay away from heat of the desert during day time.
21. (a) Leaves are narrow and ribbon like.
(b) Stems/stalks of leaves are long, hollow and light.

22. (a) Long legs
(b) Webbed feet
(c) Blow holes
23. These are adaptations to dry conditions. As a result of these modifications the surface of lamina is reduced thereby reducing water loss by transpiration.
24. (a) Long ears to hear movement of predators.
(b) Eyes on the sides of its head which allow it to look in all directions.
25. (a) Desert plant (b) Aquatic plant
(c) Mountainous plants (d) Mountainous plant
(e) Desert plant (f) Aquatic plant

LONG ANSWER QUESTIONS

26. **Hint:**
1. Living organisms move on their own.
 2. Car moves by the burning of fuels like diesel and petrol.
 3. Car does not show any other living characteristics like respiration, digestion, reproduction, growth.
27. (a) Brown body colour helps it to hide in dry land avoiding detection by its prey.
(b) Eyes placed in front allow it to know the exact location and movements of its prey.
(c) Powerful paws and long claws help it to catch and kill the prey.

Chapter 10

MULTIPLE CHOICE QUESTIONS

- | | | | |
|--------|--------|--------|--------|
| 1. (d) | 2. (d) | 3. (c) | 4. (b) |
| 5. (c) | 6. (b) | 7. (c) | 8. (b) |
| 9. (d) | | | |

VERY SHORT ANSWER QUESTIONS

10. (i) The motion of a swing is an example of periodic motion.
or
The motion of a swing is not an example of rectilinear motion.
- (ii) $1\text{ m} = 100\text{ cm}$
11. (i) circular
(ii) periodic
(iii) straight; along
(iv) metre
12. (i) An object moving on a straight road, falling stone, etc.
(ii) A mark on blades of a rotating fan, tips of the hands of a clock, etc.
(iii) Motion of a child on a swing, motion of pendulum, strings of a guitar, etc.
(iv) Blades of a rotating fan, hands of a clock, etc.

SHORT ANSWER QUESTIONS

13. The length can be measured using a thread which can be further measured with the help of a scale.

14.

Y	O	U	N	G	C	C	N	T	E	R
L	E	V	E	L	P	I	E	E	A	R
A	L	L	O	T	O	P	P	E	A	I
N	O	T	E	P	A	D	N	E	C	K
O	W	O	N	E	W	I	Y	Z	S	E
I	E	V	O	R	L	O	A	D	W	P
T	R	G	N	I	C	E	D	R	I	L
A	Z	H	T	O	N	G	U	E	N	A
T	X	C	R	D	E	P	T	H	G	R
O	E	Y	C	I	R	C	U	L	A	R
R	T	L	C	C	O	P	P	E	R	T

15. Salim would get the most accurate length. The reason is that in this case the length of the table can be measured in one go because the measuring tape is longer than the table. In the other cases the chance of making an error is higher due to multiple measurement. In case of Sam, he can measure the lengths which are exact multiples of half a metre.
16. a- (ii); b- (i); c- (iii).

LONG ANSWER QUESTIONS

17. When we see the trees from a moving train, their position is changing with respect to us. Hence they appear to be moving. On the other hand the position of co-passengers is not changing with respect to us, hence they appear to be stationary.
18. **Hint:** The wheel of a moving bicycle depicts circular as well as rectilinear motion whereas a blade of a moving electric fan shows only circular motion.
19. **Hint:** Some of the reasons for difference in their measurement could be:
- Different measuring devices were used.
 - The smallest length that could be measured by different devices may be different.

- Measurement may not be along the shortest length in all three cases.
- The end of the corridor may not be easily accessible.
- The measuring devices may be faulty (not standardised)
- Any other correct reason.

(Any three can be considered)

20. **Hint:**

- (1) Handle bar or seat
- (2) Pedal
- (3) Wheel

Chapter 11

MULTIPLE CHOICE QUESTIONS

- | | | | |
|--------|--------|--------|--------|
| 1. (c) | 2. (b) | 3. (d) | 4. (a) |
| 5. (c) | 6. (c) | 7. (c) | |

SHORT ANSWER QUESTIONS

8. The image obtained will be the same in all the three cases.
9. A sheet of transparent material is placed at 'P'.
10. The light of torch at position C will not form a shadow of the ball on the screen.
11. No
12. (i) The colour of the shadow of an object does not depend on its colour.
(ii) Translucent objects allow light to pass through them partially or transparent objects allow most of the light to pass through them.
13. We can obtain more than one shadow of an object if light from more than one source falls on it. [For example during a match being played in a stadium, multiple shadows of players are seen].
14. No. Shadow of the bird can only be seen when the bird is flying very low close to the ground.
15. (i) By applying oil, grease, butter on it or pasting a butter paper on it.
(ii) Grinding (rubbing) the surface of the glass by any abrasive material.

16. $A \rightarrow a$
 $B \rightarrow b$
17. The colour of light will not affect the shadow, because shadow is the dark patch formed when an object obstructs the path of light and hence no light reaches in the shadow region.
18. Air around us is transparent but when thick smoke, thick clouds, etc. are present in the air it does not remain transparent.
19. The colour of shadows of all three towels will be the same.
20. The colours of the image of the shirts will be the same as the colour of the shirt.
21. The shadow formed will be dark and of the shape of the flower along with the stalk.

LONG ANSWER QUESTIONS

22. We can see the shadow of football lying on the ground because the ground acts as a screen for it. However, when the football is kicked high, the ground, which is acting as a screen is away from the football, hence no shadow of the football will be formed on the ground.
23. Some of the reason can be
- (i) The screen is away from the ball.
 - (ii) The beam of light from the torch is falling parallel to the screen on the ball.
 - (iii) The torch is kept away from the ball.
24. Shadow will not be formed in each case. Shadow will be formed by the sheet of plywood and the piece of muslin cloth.
- The sheet of plywood will form a dark shadow as it blocks the path of light completely.
- The piece of muslin cloth will form a lighter shadow as it allow light to pass through it partially.

Chapter 12

MULTIPLE CHOICE QUESTIONS

- | | | | |
|--------|--------|--------|--------|
| 1. (b) | 2. (a) | 3. (b) | 4. (c) |
| 5. (d) | 6. (d) | 7. (d) | |

VERY SHORT ANSWER QUESTIONS

8. In circuit A the cell will get used up rapidly.
9. Labels 3 and 4 mark the terminals of the bulb.

SHORT ANSWER QUESTIONS

10.



11. No the bulb will not glow in this circuit because the switch is open and the circuit is incomplete.
12. The reason could be because
 - (i) the bulb is fused.
 - (ii) the cell is a used one.
 - (iii) break in connecting wire.

(iv) loose connection.

(Any two)

13.



14. Rechargeable batteries can be recharged by providing them appropriate current.
15. No, Bulb A will not glow as the circuit is not complete.
16. Bulb has two terminals to connect the filament with the circuit so that the current can pass through it.
17. Arrangement A is not desirable and should not be set up. This will exhaust the cell very quickly.
18. In a fused bulb the filament is broken and the circuit is incomplete.
19. Yes. Aluminium foils can act as connecting wires.

LONG ANSWER QUESTIONS

20. Yes, using the arrangement given below he can succeed in getting the bulb glow.



21. (i) In Fig. (1) B to A

In Fig. (2) A to B

(ii) Yes

(iii) No

22. **Activity you perform**

Device

Get light

Torch

Heat water

Geyser/immersion rod

Make toast

Toaster

Cook food

Heater/microwave

Listen to music

CD player/radio/i-pod

23. The possible reason could be

(i) the bulb may be fused.

(ii) the cells may have been used up.

(iii) the cells are not placed in the correct order.

(iv) the switch is faulty.

(Any three)

Chapter 13

MULTIPLE CHOICE QUESTIONS

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

VERY SHORT ANSWER QUESTIONS

6. (i) two
(ii) more
7. The pins are made of stainless steel which is a non/magnetic material.
8. By using a magnet. If it has iron powder they will stick on to the magnet.
9. (1) The end of the magnet has more iron fillings attached to it.
(2) These regions are called poles of the magnet.

SHORT ANSWER QUESTIONS

10. (a) A
(b) B because there are no iron filings sticking to it.
11. If the front of the toy car gets attracted to the north pole of the given magnet then it is the south pole of the bar magnet hidden inside the car.
12. (a) ii, iii and iv
(b) iii
(c) i
(d) iii

13. **Hint:**

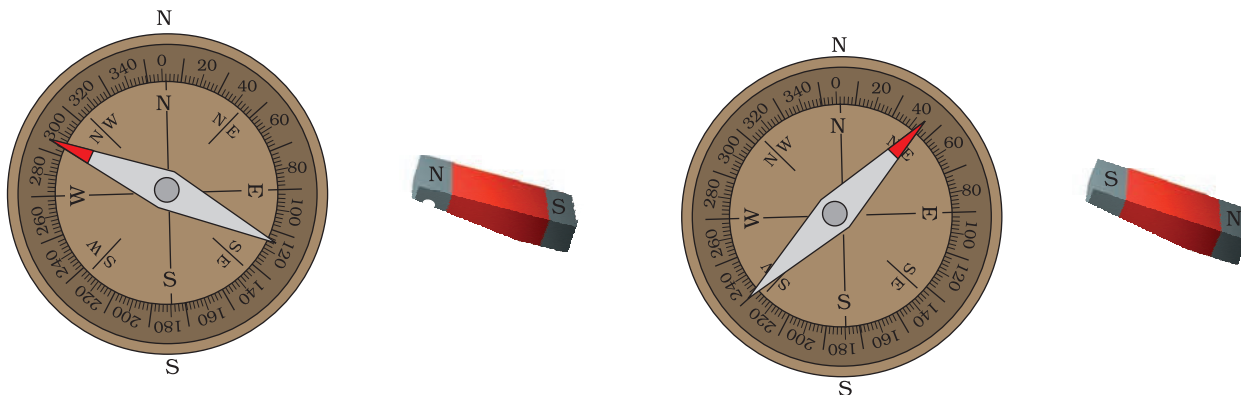
- (1) By suspending the metal bars
- (2) By attracting iron filings
- (3) Using another magnet

LONG ANSWER QUESTIONS

14. **Hint:** The magnet with known poles will attract and repel two ends of a magnet and attend both the end of an ordinary bar. (Test for repulsion)
15. **Hint:** By rubbing the iron with a magnet as shown in the figure below.



16. The magnetic needle of the compass will get deflected.



17. **Hint:** Magnetise the needle and set it in a way that it may rotate freely suspend it.

18. **Hint:** The magnetic properties are induced into the iron bar and it acts like a magnet till the magnet is kept near it.
19. **Hint:** By the test of repulsion

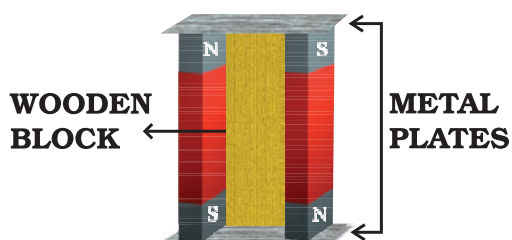


20. **Hint:**

U shaped magnet– One metal plate is placed across the two poles of the U shaped magnet.



Bar magnet– Use two metal plates and one wooden block, arrange them as shown in the figure



Chapter 14

MULTIPLE CHOICE QUESTIONS

- | | | | |
|--------|---------|--------|--------|
| 1. (d) | 2. (b) | 3. (c) | 4. (d) |
| 5. (c) | 6. (d) | 7. (a) | 8. (d) |
| 9. (d) | 10. (c) | | |

VERY SHORT ANSWER QUESTIONS

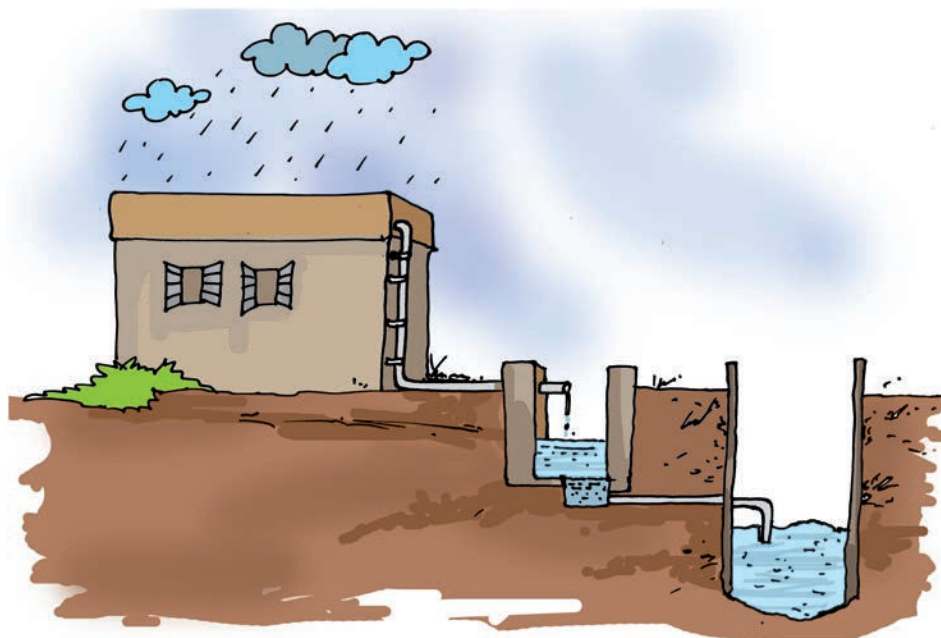
11. (i) Bathing
(ii) Washing clothes
12. (i) Washing 10 clothes
(ii) Irrigating a crop field
13. (i) Brushing your teeth
(ii) Washing a handkerchief

SHORT ANSWER QUESTIONS

14. Water present in wet clothes is converted into water vapour due to evaporation and leaves them dry.
15. Air around us gets heated from sunlight. This warm air provides heat for evaporation of water kept in the shade.
16. Areas covered with concrete reduce the seepage of rain water into the ground and this reduces the availability of ground water.
17. (i) Increasing population need more water.
(ii) Availability of water is decreasing day-by-day.
18. vapour, evaporation, transpiration, clouds, snow, rain.

LONG ANSWER QUESTIONS

19. **Hint:** Snow/Rain→Streams/Rivers→Sea/Ocean.
20. **Hint:** Draw diagram showing evaporation of water from sea, which form clouds in the sky. These clouds form rain. Rain water flows into lake or pond.
21. **Hint:** Water may be removed from the salt solution by heating it on a stove or keeping it in the sun in a plate for few hours.
22. **Hint:**



Chapter 15

MULTIPLE CHOICE QUESTIONS

- | | | | |
|--------|--------|--------|--------|
| 1. (d) | 2. (c) | 3. (d) | 4. (b) |
| 5. (a) | 6. (a) | 7. (c) | 8. (c) |

VERY SHORT ANSWER QUESTIONS

9. (a) True
(b) True
(c) False, air also helps in the flight of birds and aeroplanes.
(d) False, it does occupy space.
10. Flute, shahnai, harmonium.
11. (a) WINDMILL (b) OXYGEN
(c) SMOKE (d) DUST
12. (a) Oxygen and nitrogen together make up 99 per cent of the air.
(b) Aquatic animals use dissolved air for respiration.
(c) Air in motion is called wind.

SHORT ANSWER QUESTIONS

13. (a) wind (b) mixture (c) direction
(d) cylinders
14. (a) Mask
(b) To save himself from dirt/polluted air.
(c) Air quality of the place is not good. It is due to the smoke and gases emitted by the automobiles along with dust particles present in the air.

15. Air dissolved in water starts escaping in the form of tiny bubbles due to heat from the sun.
16. (a)– (iv); (b)– (iii); (c)– (v); (d)– (i); (e)– (ii)

LONG ANSWER QUESTIONS

17. **Hint:**
- (a) Lack of air movement.
 - (b) Shows the latest direction of the wind.
 - (c) Even the so called empty glass is not infact empty. It is filled with air.
 - (d) You may inhale dust if present in air which may prove harmful.
18. **Hint:**
- (a) There will be no life on earth.
 - (b) Things will burn very fast.
 - (c) The plants will not be able to prepare their food and hence there will be no life on earth.
19. (a) Tiny bubbles appeared due to the evolution of air dissolved in water.
- (b) No, tiny bubbles will not appear as there is no dissolved air in this water.
20. The road side plants had probably some dust and soot deposited on them and thus appeared dull.

Chapter 16

MULTIPLE CHOICE QUESTIONS

- | | | | |
|------|------|------|------|
| 1. b | 2. a | 3. b | 4. b |
| 5. c | 6. a | | |

VERY SHORT ANSWER QUESTIONS

7. (i) vermicomposting
(ii) garbage disposal/landfill
(iii) recycle
8. (i) replace **industries** by **fields** or **agricultural fields**
(ii) change **water** and write **soil**
(iii) substitute **unused** by **used**
9. (a) Recycling (b) Garbage
(c) Vermicomposting (d) Landfill

SHORT ANSWER QUESTIONS

10. (i) Convert into compost.
(ii) Use as manure.
(iii) Recycle to make paper bags or paper pulp for handicrafts.
11. No. Use the paper for doing rough work or convert it into paper pulp to make a handicraft item.
12. (i) The waste that can be acted upon by bacteria or earthworms from those that cannot be degraded.
(ii) (a) any metal items
(iii) (b) Kitchen waste, animal dung (or named item)

13. (i) Fumes and gases from burning materials cause cough and breathing problem
(ii) Dry leaves can be used for making manure.

LONG ANSWER QUESTIONS

14. Tick (✓) against i, ii, iii, viii, x
Cross (×) against iv, v, vi, vii, ix
15. X because the kitchen waste and polythene bags are disposed of separately.
16. Step 1 = F, 2 = C, 3 = E, 4 = B, 5 = A, 6 = D
17. a. (i) Poor people or poverty
(ii) Removing the garbage generated by others.
(iii) Exposing himself to harmful substances.
(iv) Sorting out the recyclable waste.
- b. (i) Exposing cow to hazardous material.
(ii) Possibility of polythene choking the animal to death.
(iii) Incorrect/improper disposal of polythene by us.
- c. (i) Large quantity of waste generated.
(ii) Expecting others to clear the waste generated by us.
(iii) Unhealthy surrounding
(iv) Unpleasant sight
Any other.
18. **Hint:** Take help of elders or use internet.
19. Give your justification according to your stand if you are for or against the ban.

20. **Hint:**

- (a) They do not burn easily.
- (b) The burnt pieces may be eaten by cows and choke them.
- (c) The gases emanated prove to be a health hazard for humans.
- (d) The ashes left on burning are toxic.
- (e) Adds to soil pollution.

Any other

- 21.
 - (a) Clog pores in soil and may block pipes.
 - (b) Kill useful microbes which help purify water.
 - (c) Choke the drains.
- 22.
 - (a) Paper can be recycled, polythene bags do not degrade.
 - (b) Every member should do it.
 - (c) Earthworms. They convert waste from plants and animals or their product into compost.