II. SHORT ANSWER TYPE QUESTIONS

1. Write any four properties of materials.
Ans:
(a) Appearance
(b) Hardness
(c) Solubility
(d) Float or sink in water
(e) Transparency

2. Why is a tumbler not made with a piece of cloth?
Ans: We use tumblers made of glass, plastic and metal to keep a liquid. These substances can hold a liquid. A tumbler made of cloth cannot hold a liquid because:
(i) Cloth piece is not hard enough to hold liquids and
(ii) Cloth piece has very minute pores through which the'liquid oozes out.

3. What are the similarities between iron, copper and aluminium?
Ans: (a) They all have lustre,
(b) They are all metals,
(c) They are hard.

4. Mention some materials which are made up of paper.
Ans: Books, notebooks, newspapers, toys, calendars, etc.

5. Why is water important for our body?
Ans: Water can dissolve a large number of substances, so it is needed by the body. It is also major part of our body cells.

6. What is the basis for sorting materials?
Ans: Materials are grouped on the basis of similarities or dissimilarities in their properties.

7. What is the reason for grouping materials?
Ans: Materials are grouped for our convenience to study their properties and also observe any patterns in these properties.

Q.8. *Make a table of objects and the materials they are made of.*

Ans.

Objects	*Materials they are made of*
Plate (*thali*)	Steel, glass, plastic (any other)
Pen	Plastic, metal
Bucket	Plastic, metal
Knife	Steel/metal, wood/plastic

9. Make a table of different types of objects that are made from the same material.

Ans.

S. No.	*Material*	*Objects made of these materials*
1.	Wood	Chair, table, plough, bullock cart and its wheels
2.	Paper	Books, notebooks, newspaper, toys, calendars
3.	Leather	Shoes, belts, purses, jackets, suitcase, bags
4.	Plastics	Buckets, chairs, tables, bags, briefcase, lunch box
5.	Cotton	Clothes, bandage, bed sheets, cushions, bags
6.	Iron	Chairs, tables, doors, bathroom fittings, mesh, wheels and other railway goods.

10. Make a table and find out whether the following materials mix with water: Vinegar, Lemon juice, Mustard oil, Coconut oil, Kerosene.

Ans.

S. No.	Liquid	Mixes well/Does not mix
1.	Vinegar	Mixes well
2.	Lemon juice	Mixes well
3.	Mustard oil	Does not mix
4.	Coconut oil	Does not mix
5.	Kerosene	Does not mix

11. Metals have lustre (shine). Give reason why some metal articles become dull and loose their shine.
Ans: Metals when exposed to air react with moisture and gases present in it, thereby forming a dull layer of some other compound on it.

12. Kerosene, coconut oil, mustard oil do not dissolve in water, even on shaking. They separate after sometime forming two different layer. Explain why.
Ans: The molecules of water do not intermingle (mix) with the molecules of oil. The space between the molecules of water is not taken by oil, so they are immiscible in water.

13. Name a non-metal that has lustre.
Ans:Iodine.

14. Metals generally occur in solid state and are hard. Name a metal that exists in liquid state and a metal that is soft and can be cut with knife.
Ans: Mercury is a metal that exists in liquid state. Sodium and Potassium are soft metals and can be cut with knife.

15. Name the naturally occuring hardest substance known.
Ans: Diamond, it is made up of carbon (non-metal).

16. Why is water called a universal solvent?
Ans: Water dissolves a large number of substances in it. So it is called universal solvent.

III. LONG ANSWER TYPE QUESTIONS

1. 'Grouping of objects helps the shopkeeper.' Justify the statement.
Ans: Proper grouping of objects helps shopkeeper in the following ways:
(i) He can locate the required object easily and quickly.
(ii) He can easily come to know what stocks are going to finish and he should purchase them for his customers.

2. Describe an experiment to prove that water is transparent.
Ans: Take a beaker half-filled with clean water. Put a coin in beaker of water.
Place the beaker undisturbed for a few minutes where enough light is present. Now, observe the coin immersed in water from the top of the beaker. Are you able to see the coin? You can clearly see the coin immersed in water. This proves that water is a transparent liquid.

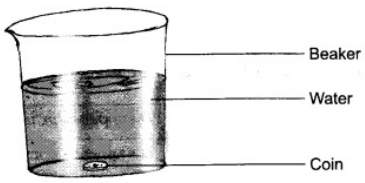

Fig. 4.3

3. Write an experiment to show that our palm is translucent.
Ans: Cover the glass of a torch with your palm at a dark place. Switch on the torch and observe from the other side of palm. We see that the light of torch passes through palm but not clearly. This experiment shows that our palm becomes translucent when a strong beam of light passes through it.

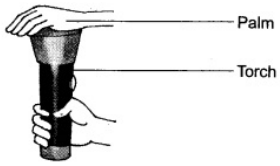

Fig. 4.4 Experiment to show that our palm becomes translucent when light is passed.

4. How can you show that some solids like sugar, salt are soluble in water whereas solids like chalk powder and sand are not soluble in water?

Ans: Collect samples of sugar, salt, chalk powder and sand. Take four beakers. Fill each one of them about two-third with water. Add a teaspoonful of sugar to the first beaker, salt to the second, chalk powder to the third and sand to the fourth. Stir the contents of each beaker with a spoon/stirrer.

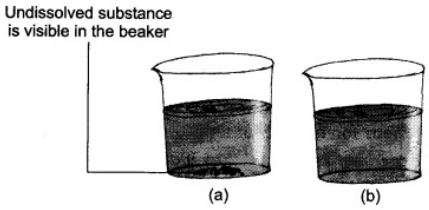

Fig. 4.5 (*a*) The solid substance is visible in water and hence insoluble (chalk powder and sand). (*b*) The solid is not visible in water and hence soluble (sugar and salt).

Wait for a few minutes and observe what happens to the substances added to the' water.

Note down your observations in the following table.

Table: Mixing different solid materials in water

S. No.	*Substance*	*Disappears in water/does not disappear*
1.	Sugar	Disappears completely in water
2.	Salt	Disappears completely in water
3.	Chalk powder	Does not disappear in water
4.	Sand	Does not disappear in water

Inference: (i) Sugar and salt are soluble in water.

Chalk powder and sand are insoluble in water

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