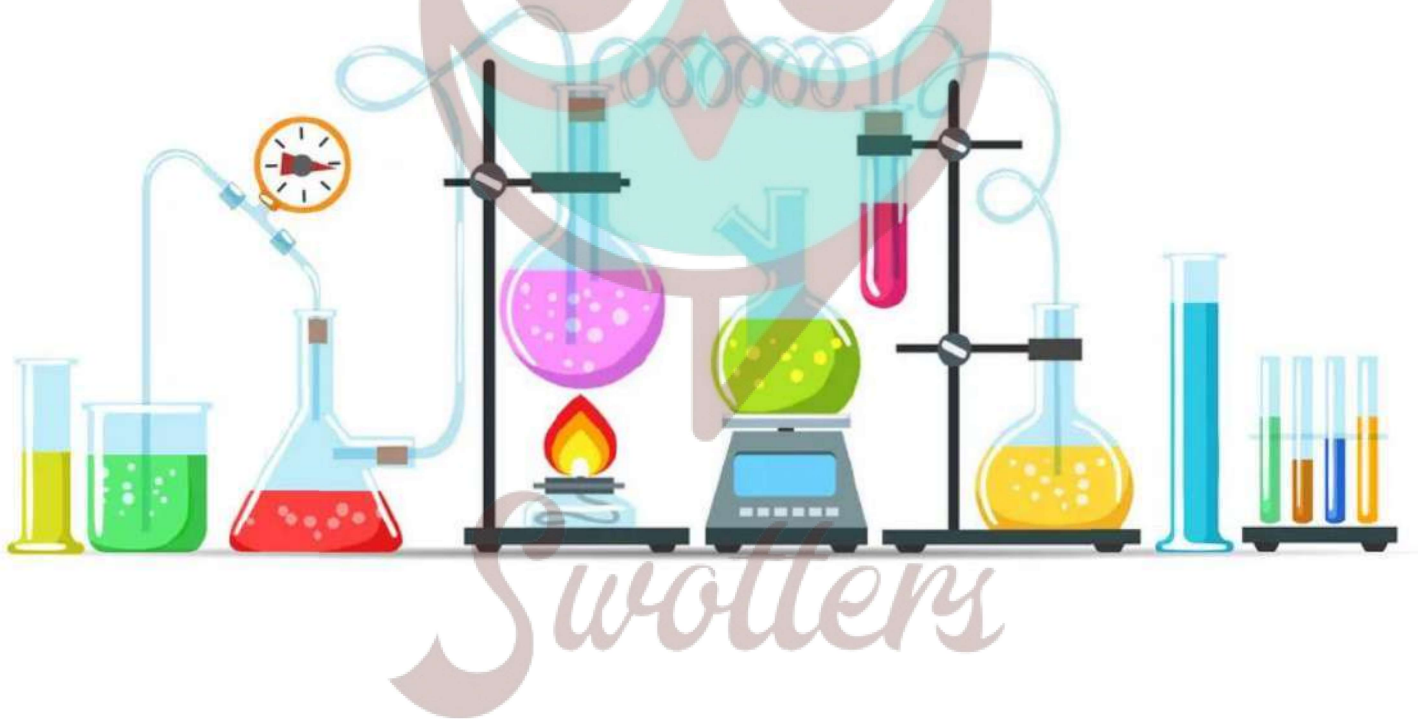


SCIENCE

CHAPTER 4: SORTING MATERIALS INTO GROUPS



Important Questions

Multiple Choice Questions:

Question 1. materials can be used for made up more than one things,

- (a) Same
- (b) Different
- (c) Shiny
- (d) None of these

Question 2. How do we choose a material to make an object?

- (a) depending on its properties
- (b) depending one its colours
- (c) depending on its shape
- (d) none of these

Question 3. Newspaper, notebook, books and calendars etc. are made by:

- (a) iron
- (b) wood
- (c) paper
- (d) none of these

Question 4. Iron, aluminium and gold have appearance.

- (a) shining
- (b) rough
- (c) non-shining
- (d) none of these

Question 5. Metals which have a luster are called:

- (a) none-lustrous materials
- (b) lustrous materials
- (c) rough
- (d) none of these

Question 6. Wood and stone is materials.

- (a) lustrous
- (b) non-lustrous
- (c) smooth

(d) none of these

Question 7. We see luster on the freshly cut of the wire.

(a) surface

(b) length

(c) both (a) and (b)

(d) none of these

Question 8. A substance dissolve in water is:

(a) sand

(b) chalk

(c) wax

(d) sugar

Question 9. How does aquatic animals survive in water?

(a) due to oxygen gas dissolved in water

(b) due to carbon dioxide gas dissolved in water

(c) they feel very warmth

(d) none of these

Question 10. An object that floats in water is:

(a) wood

(b) sugar

(c) iron nail

(d) none of these

Question 11. An object that sinks in water:

(a) wax

(b) crystals

(c) any oil

(d) none of these

Question 12. A liquid that mixes well in water is:

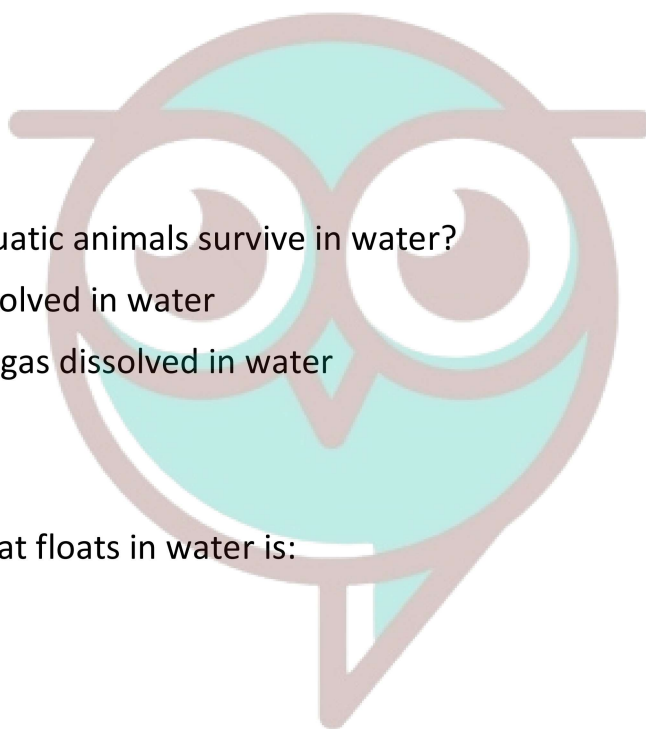
(a) vinegar

(b) oil (mustard)

(c) glycerin

(d) none of these

Question 13. A liquid that does not mixes well in water is:



Swotters

- (a) lemon juice
- (b) vinegar
- (c) glycerin
- (d) all of these

Question 14. The substance which dissolves in water are called:

- (a) soluble
- (b) insoluble
- (c) miscible
- (d) immiscible

Question 15. The substance which does not dissolve in water are called:

- (a) soluble
- (b) insoluble
- (c) miscible
- (d) immiscible

Very Short Question:

1. Why do we need to group materials? Give one reason.
2. Suggest two bases on which we can group objects.
3. Is a substance which can be compressed soft or hard?
4. Select a lustrous material out of the following substances:
5. Which material is generally used for making pens? Wood, aluminium, plastic, cotton
6. Is oil soluble in water?
7. Name two objects which are made from opaque materials.
8. What is common between salt and sand?
9. List three liquids which are transparent.
10. Write two substances which are made from leather.

Short Questions:

1. Write any four properties of materials.
2. Why is a tumbler not made with a piece of cloth?
3. What are the similarities between iron, copper and aluminium?
4. Mention some materials which are made up of paper.
5. Why is water important for our body?
6. What is the basis for sorting materials?

7. What is the reason for grouping materials?
8. Metals have luster (shine). Give reason why some metal articles become dull and lose their shine.

Long Questions:

1. 'Grouping of objects helps the shopkeeper.' Justify the statement.
2. Describe an experiment to prove that water is transparent.
3. Write an experiment to show that our palm is translucent.
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?

Answer Key-

Multiple Choice Answers:

1. (a) Same
2. (a) depending on its properties
3. (a) iron
4. (a) shining
5. (b) lustrous materials
6. (b) non-lustrous
7. (a) surface
8. (d) sugar
9. (a) due to oxygen gas dissolved in water
10. (a) wood
11. (b) crystals
12. (a) vinegar
13. (c) glycerin
14. (a) soluble
15. (b) insoluble

Very Short Answers:

1. **Answer:** We often group materials for our convenience. It helps to describe their properties.
2. **Answer:**
 - (i) Material used in making the object, e.g., wood or metal/plastic.
 - (ii) Material of the object is soft or hard, or substance is soluble or insoluble in water.

3. **Answer:** Soft.
4. **Answer:** Aluminium.
5. **Answer:** Plastic or metal.
6. **Answer:** Oil does not dissolve in water, so it is insoluble in water but floats on the surface of water.
7. **Answer:** Wooden doors, blackboard/steel plate.
8. **Answer:** Both have mass and are in solid state.
9. **Ans.** Water, alcohol, and Acetone/Benzene.
10. **Answer:** Belt and shoes.

Short Answer:

1. **Answer:**

- (a) Appearance
- (b) Hardness
- (c) Solubility
- (d) Float or sink in water
- (e) Transparency

2. **Answer:** 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. **Answer:**

- (a) They all have luster,
- (b) They are all metals,
- (c) They are hard.

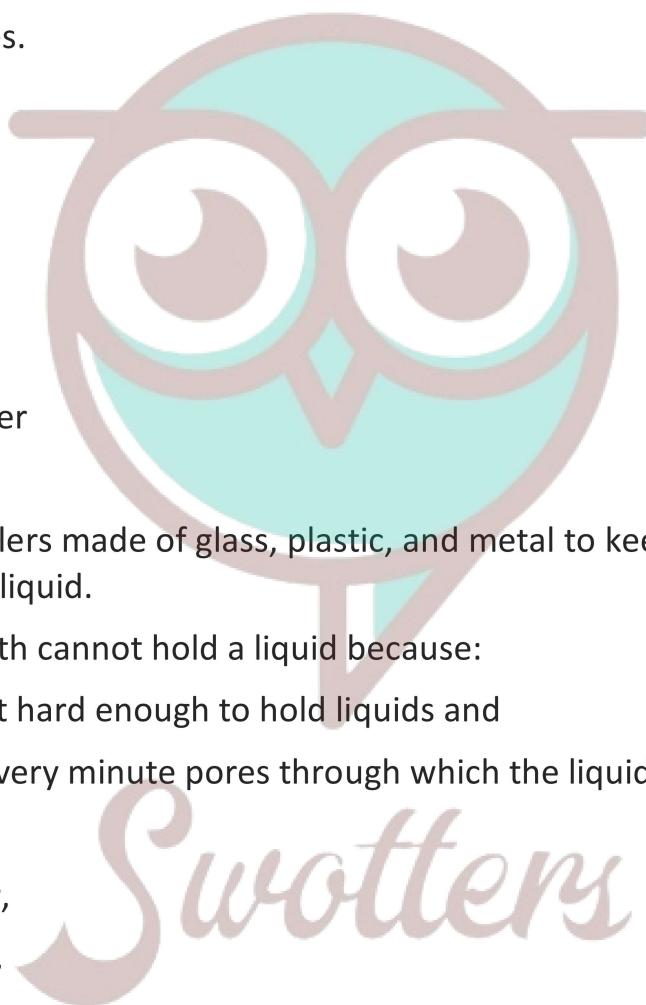
4. **Answer:** Books, notebooks, newspapers, toys, calendars, etc.

5. **Answer:** 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. **Answer:** Materials are grouped on the basis of similarities or dissimilarities in their properties.

7. **Answer:** Materials are grouped for our convenience to study their properties and also observe any patterns in these properties.

8. **Answer:** Metals when exposed to air react with moisture and gases present in it,



thereby forming a dull layer of some other compound on it.

Long Answer:

1. **Answer:** 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. **Answer:** 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.



3. **Answer:** 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.

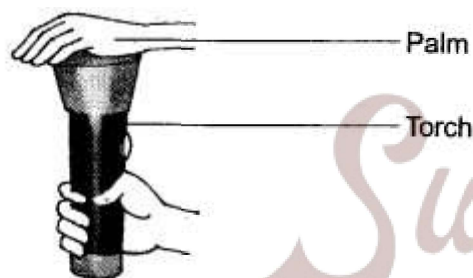
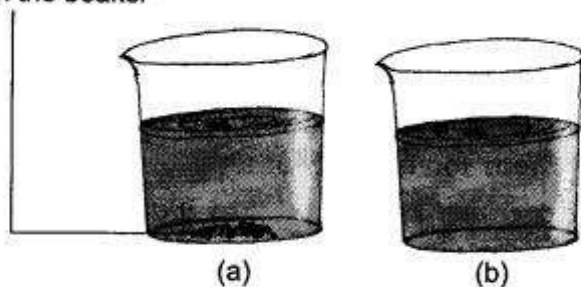


Fig. 4.4 Experiment to show that our palm becomes translucent when light is passed.

4. **Answer:** 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.

Undissolved substance
is visible in the beaker



(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

Swotters