



# UNIQUE STUDY POINT

## Sorting materials Into Groups

**Question 1:** Name five objects which can be made from wood.

**Answer:** Five objects that can be made from wood are:

- (i) Table
- (ii) Chair
- (iii) Bed
- (iv) Door
- (v) Bullock cart

**Question 2:** Select the objects from the following which shine: glass bowl, plastic toy, steel spoon, cotton shirt.

**Answer:** Glass bowl and steel spoon.

**Question 3:** Match the objects given below with the materials from which they could be made. Remember, an object could be made from more than one material and a given material could be used for making many objects.

Objects	Materials
Book	Glass
Tumbler	Wood
Chair	Paper
Toy	Leather
Shoes	Plastics

**Answer:**

Objects	Material
Book	Paper
Tumbler	Glass
Chair	wood
Toy	Plastics
Shoes	Leather

**Question 4:** State whether the statements given below are True or False.

- (i) Stone is transparent, while glass is opaque.
- (ii) A notebook has lustre while eraser does not
- (iii) Chalk dissolves in water.
- (iv) A piece of wood floats on water.
- (v) Sugar does not dissolve in water.
- (vi) Oil mixes with water.
- (vii) Sand settles down in water.
- (viii) Vinegar dissolves in water.

**Answer.** (i) False; Stone is opaque, while glass is transparent.

(ii) False; Neither notebook nor eraser has lustre (Shining surface). They both are non-lustrous.

(iii) False; Chalk is insoluble in water.

(iv) True

(v) False; Sugar is completely soluble in water.

(vi) False; Oil is immiscible in water. It forms a separate layer on the surface of water.

(vii) True

(viii) True

**Question 5:** Given below are the names of some objects and materials:

Water, basket ball, orange, sugar, globe, apple and earthen pitcher Group them as:

(a) Round shaped and other shapes

(b) Eatables and non-eatables

**Answer:** (a) Round shape: Basket ball, orange, globe, apple and earthen pitcher

Other shapes: Water and sugar

(b) Eatables: water, apple, sugar and orange

Non eatables: Basketball, globe and earthen pitcher

**Question 6:** List all items known to you that float on water. Check and see if they will float on an oil or kerosene.

**Answer:** List of some items that float on water:

- Piece of paper
- Wood
- Balloon
- Plastic bottle
- Ice
- Boat

List of items that float on an oil or kerosene:

- Piece of paper
- Plastic bottle
- Balloon
- Wood

**Question 7:** Find the odd one out from the following:

(a) Chair, Bed, Table, Baby, Cupboard

(b) Rose, Jasmine, Boat, Marigold, Lotus

(c) Aluminium, Iron, Copper, Silver, Sand

(d) Sugar, Salt, Sand, Copper sulphate

**Answer:** (a) Baby: Rest others are made up of wood and are non – living things.

(b) Boat: Rest others are flowers.

(c) Sand: Rest others are metals.

(d) Sand: Rest others are in crystal forms.

## Short Type Questions and Answers

**Question 1.** What do you mean by classification?

**Answer:** Classification is the grouping or sorting together of things possessing similar or dissimilar characteristics or properties.

**Question 2.** What is the need for classification?

**Answer:** Classification is essential for:

- identification of objects.
- sorting of objects.
- locating things.
- understanding similarities and dissimilarities among objects.
- making the study of objects easy and more meaningful.

**Question 3.** Why is mercury used in making thermometers?

**Answer:** Mercury used in making thermometers because

- Mercury is liquid at room temperature.
- It is a good conductor of heat.
- Mercury has lustre, so, it is easy to read the temperature shown by the level of mercury.

**Question 4.** On what basis are the various objects grouped?

**Answer:** The grouping of various objects can be done on the basis of following characters:

- size
- shape
- colour
- hardness
- solubility in water
- attraction towards magnet
- conduction of heat
- transparency, etc.

**Question 5.** Name the various materials from which following things can be made:  
Shoes, chair, coins, utensils, clothes.

**Answer:**

- Shoes: Leather, rubber, plastic, canvas
- Chair: Wood, metal, plastic, concrete
- Coins: Copper, silver, gold

- Utensils: Iron, copper, aluminium
- Clothes: Cotton, wool, silk, rayon, nylon.

**Question 6.** Name any four materials that can be used to make school bags.

**Answer:** Cloth (of cotton, jute, nylon, etc.), plastic, metal or alloy.

**Question 7.** List any three solutions that are used in your home.

**Answer:** Salt solution, sugar solution, cold drinks, lime juice, etc.

**Question 8.** Why is water important for our body?

**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.

**Question 9.** List five each opaque and transparent materials.

**Answer:** Opaque materials:

- Wood
- Iron
- Cardboard
- Brick
- Gold.

Transparent materials:

- Water
- Glass
- Air
- Cellophane plastic, and
- Fibre glass.

**Question 10.** List five objects that are made from transparent materials.

**Answer:** Five transparent materials are

- Beaker,
- Test tube,
- Conical flask,
- Glass jug, and
- Glass doors.

**Question 11.** List five liquids that are transparent.

**Answer:** Water, Hydrochloric acid, Alcohol, Acetone, and Petrol.

**Question 12:** List five objects that are made from an opaque material.

**Answer:** Books, Blackboard, Cardboard, Wall, and Wooden furniture.

**Question 13.** Why is water called universal solvent?

**Answer:** The property of water to dissolve large number of materials makes it a universal solvent.

**Question 14.** List three liquids which are miscible in water.

**Answer:** Milk, glycerine and soft drinks.

**Question 15.** List three liquids which are immiscible in water.

**Answer:** Edible oil, kerosene oil, and petrol.

**Question 16.** State the conditions when pure water can lose transparency.

**Answer:** Water on cooling, freezes to form ice which is not transparent.

**Question 17.** List the following substances as soluble and insoluble in water.

Sand, salt, sugar, paint, chilli powder, desi ghee, blotting paper.

**Answer:**

**Water soluble substances:** Salt, sugar.

**Water insoluble substances:** Sand, paint, chilli powder, desi ghee, blotting paper.

**Question 18.** Name two gases each which are soluble and insoluble in water. «

**Answer:** Gases soluble in water are oxygen and carbon dioxide. Gases insoluble in water are hydrogen and nitrogen.

**Question 19.** Write any four properties of materials.

**Answer:** Four properties of materials are:

- Appearance
- Hardness
- Solubility or insolubility
- Float or buoyancy
- Transparency.

**Question 20.** What are the similarities between iron, copper, aluminium?

**Answer:** Similarities between iron, copper, aluminium are:

- They all have lustre.
- They all are metals.
- They are hard.

### Long Type Questions and Answers

**Question 1.** Show that sugar, common salt and washing soda are soluble while chalk powder, iodine and sand are insoluble in water.

**Answer:** Take six test tubes, fill each of them about half with water. Keep each of them in a test tube stand. Add a pinch of each of six substances in separate test tubes. Shake well and allow to stand for few minutes. Common salt, sugar and washing soda dissolve while iodine, chalk powder and sand do not dissolve.

**Question 2.** Describe a method to prove that water is a transparent material.

**Answer:** Take a white sheet of paper, one sketch pen, one clean beaker and a small quantity of clean water. Now on white sheet mark a symbol (say "X"). Now put the empty beaker over the marked symbol. We can see it properly. Now put water in the beaker. Observe the same mark. The mark is again visible. This observation proves that water is transparent.

**Question 3.** Why is a tumbler not made with a piece of cloth?

**Answer:** This is because we generally use a tumbler to keep a liquid. A tumbler made of a piece of cloth cannot be used to keep water. So, a tumbler is made with a material which has a property to hold the liquid.

**Question 4.** Explain with example rough and smooth surfaces.

**Answer: Rough surface:** Materials which have uneven surface or ridges can be termed as a rough surface, e.g., coal.

**Smooth surface:** Materials which are plain and have an even surface are termed as a smooth surface, e.g., marble.

- Appearance

- Hardness
- Solubility or insolubility
- Float or buoyancy
- Transparency.

**Question 5.** Match the following items given in Column A with that in Column B:

Column A	Column B
(a) Glass, air	(i) Floats on water
(b) Iron sheet and cardboard	(ii) Translucent
(c) Oily paper sheet	(iii) Metallic lustre
(d) Sugar and salt	(iv) Transparent
(e) Gold and silver	(v) Opaque
(f) Wax	(vi) Soluble in water

**Answer:**

Column A	Column B
(a) Glass, air	(iv) Transparent
(b) Iron sheet and cardboard	(v) Opaque
(c) Oily paper sheet	(ii) Translucent
(d) Sugar and salt	(vi) Soluble in water
(e) Gold and silver	(iii) Metallic lustre
(f) Wax	(i) Floats on water

**Question 5.** Why do we need the grouping of objects?

**Answer:** Grouping the objects helps us to arrange them in a systematic manner. The objects when grouped are easy to handle. When grouped, it is easy to know the properties of an object clearly. Grouping also makes easy to compare two objects.

**Question 6.** How does the grouping of objects help the shopkeeper?

**Answer:** The grouping of objects in proper way makes it easier to work. When we go to purchase some things, the shopkeeper locates it easily, because there are separate shelves to put various items and similar things are kept at one place. If he randomly places all of these, he would never be able to find them so quickly and easily.

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