

# BIJENDRA PUBLIC SCHOOL

Class - 6

Subject - SCIENCE

## Chapter - 4 SORTING MATERIALS INTO GROUPS

A. Very Short Answer Questions : Answer in one word.

1. Which of the following is a substance?

Iron, Plastic, Stone, Glass.

Ans. Iron.

2. Write one property of metals.

Ans. Conduction of electricity.

3. Which of the following is a transparent material?

Glass, Metals, Waxed paper, Ground glass.

Ans. Glass

4. Name an electrical device which use magnetic materials.

Ans. Electric motor.

5. Name one property which forms the basis of grouping of things.

Ans. Colour

B. Short-Answer Questions : Answer in 10-15 words.

1. What is meant by the term matter?

Ans. Anything that occupies space and possesses mass, is termed as matter. Things like table, chair, water, air etc are all matter.

2. What are insulators? Give one example.

Ans. The substance which do not permit electricity to flow through them are called non-conductors of electricity or insulators.

e.g:-Paper, Waxed paper, PVC, Rubber, Wood etc.

3. Select the shining material from the list given below.

Glass bowl, Plastic toy, Steel spoon, Cotton shirt.

Ans. Steel spoon.

4. Silver, Aluminium and Copper look very different from one another but have a few similar properties .List two such properties.

Ans. Silver, Aluminium and Copper are all metals. All metals exhibits similar properties.

These are:

i . All these metal have characteristic shine called lustre.

ii. All these metals are good conductor of heat and electricity.

5. Which property will you use to classify the following into different groups?

Group similar materials together:

Table, Hair oil, Oxygen, Eraser, Water, Carbon dioxide, Milk

Ans. We will classify them according to their physical state i.e. solid, liquid and gas.

Solid : Table, Eraser

Liquid : Hair oil, water, milk

Gas : Oxygen, Carbon dioxide

C. Long Answer Type Questions Answer in 20-25 words.

1. Write some common characteristics of materials.

Ans. i. All materials can be felt by one or more of our senses.

ii. All materials occupy space.

iii. All materials possess mass.

2. Describe an experiment to show that water is a transparent material .

Ans. Take a trough. Fill it with half with water. Put a coin in it. Look through water towards the coin. The coin can be seen clearly. Thus water is a transparent material .

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4. Why are the cooking utensils made of copper or aluminium? Why are their handles made of hard plastic?

Ans. Cooking utensils are made of copper or aluminium because these metals are good conductors of heat. They allow the transmission of heat through them and food cooks quickly.

Plastics are bad conductors of heat. They do not allow the heat transmission on through them. So the handles of utensils are made from plastics so that our hands do not burn while handling these utensils when they are hot.

5. What is meant by magnetic material? Name one magnetic material.

Ans. The materials which are attracted by magnet are called magnetic material.  
e.g:- Objects made of iron, steel, cobalt, nickel and their alloys.

D. Tick (✓) The odd-one out giving reason.

1. Knife, Mirror, Steel plate, Spoon, Water tap

Ans. Mirror:- Others are made from metals.

2. Nitrogen, Oil, Air, Steam, Carbon dioxide

Ans. Oil :- Others represent gases.

3. Silver, Gold, Wood, Copper.

Ans. Wood:- Others have lustre.

4. Lime juice, Chalk powder, Sulphur, Sand

Ans. Lime juice :- Others are insoluble in water.

5. Acrylic sheet, Ground glass, Glass, Cellophane.

Ans. Ground glass :- Others are transparent.

E. Define the following terms.

1. Soluble substance : The substance that dissolve in water are called soluble substances. e.g.:- Sugar, salt.
2. Transparent materials : The materials which allow light to pass through them are called transparent materials.  
e.g:- Glass, water.
3. Grouping of objects : The practice of putting together various kinds of different objects which are similar in one or more ways is called grouping of objects.
4. Magnetic Substance : The substances which are attracted by magnet are called magnetic materials. Objects made of iron, steel, cobalt, nickel and their alloys are magnetic substances.
5. Grouping : Things which are similar in one or more ways can be grouped together. Grouping is done on the basis of:
  - i. Similarities in one or more ways.
  - ii. Need
  - iii. Convenience

**HOTS (High Order Thinking Skills): Think and Answer.**

1. Why are the handles of cooking utensils made from bakelite or wood?

Ans. Utensils with bakelite or wood handles prevent the cook from burning his/her hands because wood or bakelite is a bad conductor of heat.

2. Materials which can be compressed are said to be soft whereas those cannot be compressed are said to be hard. Explain.

Ans. Materials that are considered hard are difficult to compress while those that can be compressed are called soft materials. For example iron is hard while cotton or sponge is soft. This is due to the arrangement of molecules in materials. Materials which have closely packed molecules are hard to compress. On the other hand materials with loosely packed molecular arrangement are easy to compress.

3. We quite often use three terms- Matter, Material and Substance. Do all of these are same or different. If different, how do these differ from one another.

Ans. We quite often use three terms- Matter, Material and Substance. These terms describe a gradation from the general to the particular. When we define matter as something that occupies space, possesses mass, then we use the term matter for generalization. A specific sample of matter is material. For e.g.- Plastic is a material. Still more specific is the substance. A substance refers to either a pure chemical element or compound. Iron, sucrose, water etc are substance.

4. Why is water called a universal solvent?

Ans. Water is called the "universal solvent" because it dissolves a large number of substances than any other liquid. This means that wherever water goes, either through the ground or through our bodies, it takes along valuable chemicals, minerals and nutrients with it.

5. Matter exists in three physical forms-solid, liquid and gas. In which state the force of attraction between the molecules is

- a. Strongest
- b. Weakest

Ans. The force of attraction between the molecules is

- a. Strongest in solid state of matter and
- b. Weakest in gaseous state of matter.