



Class - VI Science Classwork Notes June

4. Sorting Materials into Groups

I. Technical Words:

1. Classification - The group of objects based on their similarities and dissimilarities.
2. Conductor - A material that allows heat or electricity to pass through.
3. Magnetic - Able to be attracted by a magnet.
4. Miscible - Able to mix well.

II. Very Short answer questions:

Pick the odd one out. Give reasons.

1. Stone, concrete, glass, jelly

Jelly. Jelly is soft, while the others are hard.

2. Plastic plate, rubber ball, paper doll, dirty water.

Dirty water. The other items are solid, while dirty water is a liquid.

3. Sugar, salt, chalk, milk

Chalk. Chalk is insoluble in water, while the others are soluble.

4. Wood, sand, water, glass.

Water. Water is liquid, while the others are solid.

5. Jute, cotton, nylon, silk.

Nylon. Nylon is a synthetic fibre, whereas the others are natural fibres.

III. Short answer Questions:

1. How is classification helpful to us? Explain with the help of an example other than the ones mentioned in the lesson.

Classification helps in organising and understanding a diverse range of objects or concepts by grouping them based on similarities or dissimilarities. For example, in a library, books are classified into genres (for example, mystery, science fiction, and so on) to help readers easily find the type of book they prefer.

2. Name four different ways of classifying substances based on dissimilarities.

Four ways of classifying substances based on similarities are:

Physical properties: Based on characteristics like colour, shape, size and texture.

State of matter: Classifying substances as solid, liquid or gas.

Conduction of heat: Grouping substances as good conductors and bad conductors based on their ability to pass heat.

Conduction of electricity: Grouping substances as conductors and insulators based on their ability to pass electricity.

3. What material would you choose to make laboratory apparatus? Explain why.

For laboratory apparatus, I would choose glass and metal as these materials are suitable for extreme temperature variations during various experiments.

4. What objects would you like to make with Bakelite? What made you decide on choosing this material for the objects?

Bakelite is ideal for creating electrical switches, handles of utensils and automobile parts due to its excellent electrical insulating properties, heat resistance and durability. Its ability to be moulded into desired shapes also makes it suitable for such objects.

5. What is the difference between transparent and translucent materials?

Transparent materials allow light to pass through them clearly, enabling objects to be seen clearly on the other side (for example, clear glass). Translucent materials allow light to pass through, but scatter it making the objects on the other side appear blurry or diffused (for example, frosted glass).

6. What are the disadvantages of wearing flammable material as clothes?

Wearing flammable materials as clothes poses a significant fire hazard. In the event of a fire, these materials can catch fire easily and quickly, leading to severe burns and injuries.

IV. Long Answer Questions:

1. List three properties each of solids, liquids and gases.

Solids maintain a specific shape and volume under normal conditions (room temperature). The particles in solids are closely packed and have strong intermolecular forces, resulting in a rigid structure. Solids have low compressibility due to the tightly packed particles. Liquids have a definite volume, but no definite shape. They take the shape of the container they are in, but maintain a constant volume. The particles in liquids have weaker intermolecular forces than solids, allowing them to flow and take the shape of the container. Liquids have a moderate level of compressibility as compared to solids and gases. Gases have no definite shape or volume, filling the container they are in completely. The particles in gases have weak intermolecular forces, allowing them to move freely and independently. Gases have high compressibility due to the significant space between particles that can be reduced under pressure.

2. Describe how materials are divided based on how much light they allow to pass.

Materials can be divided into three categories based on their interaction with light:

Transparent materials: These materials allow some light to pass through them with minimal scattering, enabling objects to be seen clearly through them (for example, clear glass).

Translucent materials: Translucent materials allow light to pass through, but the light is scattered or diffused, making objects on the other side appear blurred or unclear (for example, frosted glass).

Opaque materials: Opaque materials do not allow light to pass through, blocking the passage of light completely and preventing objects on the other side from being visible (for example, wood, metal).

3. How is the ability to allow heat and electricity to pass through a substance used to classify substances?

The ability to allow heat and electricity to pass through a substance is used to classify substances into conductors and insulators. Materials that allow the heat and electricity to flow through easily are called conductors such as metals like copper and aluminium. Materials that do not allow the flow of heat and electricity are called insulators for example, wood, rubber, plastic and so on.

V. Images - based question.

1. Look at the images. Explain the property shown. Remember, the containers contain the same amount of water.

The image shows the laboratory apparatus (made of glass) which are transparent, and allows precise measurements. They are filled with equal quantities of liquid which tells us that liquids have a definite volume. The particles in a liquid have spaces that allows liquids to flow, thus they take the shape of the container they are poured into.

VI. Assertion and Reasoning Type Questions :

Note :- Mark the correct choices as

- (a) Both Assertion and Reason are correct and Reason is the correct explanation of Assertion
- (b) Both Assertion and Reason are correct but Reason is not the correct explanation of Assertion.
- (c) Assertion is correct but Reason is incorrect.
- (d) Both Assertion and Reason are incorrect

1.Assertion (A): We can use a magnet to separate iron fillings from a mixture of sand and iron fillings.

Reason (R): Iron is a magnetic material.

Ans : Option A

2.Assertion (A) : Opaque materials do not allow the light to pass through them.

Reason (R) : These materials absorb all the light that falls on them.

Ans : Option A