



**Grade: 6**

**CHAPTER 4. SORTING MATERIALS INTO GROUPS**

**I. Choose the most appropriate answer**

1. There are about 118 different types of elements.
2. Which of the following is not matter? Sound
3. Classification is grouping all things, living or nonliving, on the basis of common properties.
4. Classification is useful because it makes studying the properties of things much easier
5. Which property is common to all matter? Matter takes up space and has mass.
6. The state of matter which has a definite shape but no definite volume is gas.
7. A substance exists in the solid state because molecules are tightly packed
8. Gases poses neither fixed volume nor fixed shape because there is very little force between molecules

**B. Very short answers**

1. Name one natural material we get from trees  
Ans: Wood
2. All matter takes up space. What is the name given to the amount of space something takes up? Volume
3. What is the smallest particle of an element called Atom
4. What is the smallest particle of a compound called molecule
5. In the following list circle the one which is not matter feelings
6. What is the grouping together of things with similar properties called classification
7. Classification is done only for living things. True or false? False
8. Silk cloth has shine while cotton cloth does not.
9. Which state of matter can easily change its shape and volume? Gas
10. Are all liquids miscible with water? No
11. Name one gas which is soluble in water. Oxygen
12. If density of a solid increase density of water, solid will sink in water.

13. What is a substance through which light can pass partially but you cannot see through it called translucent

### **C. Short answer questions**

1. List five materials. Name one thing that is made from each of these.

**Ans:** Five materials are steel utensils, plastic bottles, wood furniture's, cotton clothes, leather shoes

2. What is matter? Give two examples of things that are matter and two that are not.

**Ans:** Anything that occupies space has mass is called matter for example water, air, wood, etc. The two things which are not matter are feelings of love or sadness

3. In what ways is all matter alike?

**Ans:** All matter occupies space and has mass

4. What is the difference between an element and a compound?

**Ans:** The smallest particle of an element is an atom whereas the smallest of a compound is a molecule.

5. What do you mean by texture?

**Ans:** The feeling of a surface or substance, i.e. the smoothness, roughness, softness and so on is known as texture.

6. Metals are lustrous, but an iron rod used in construction does not shine. Explain.

**Ans:** Because some metals lose their luster when exposed to air and moisture

7. How can you make paper translucent?

**Ans:** Paper can be made translucent with a coating of oil.

8. There are only about 118 different kinds of atoms, but millions of compounds. Explain.

**Ans:** Atoms join together to make molecules. Millions of different kinds of molecules can be made from these 118 different kinds of atoms. That is why we see millions of compounds all around us.

### **D. Long answer questions.**

1. What is classification? How is it useful?

**Ans:** Grouping together things with similar properties is called classification. It is useful because it makes studying the properties of things much easier.

2. There can be several levels of classification. Explained with reference to classification of living things.

**Ans:** Although living things share some common properties, they differ from each other in several ways. Living things are further classified into subgroups such as plants and animals. Each of these can be further classified based on certain properties. Animals can be classified into groups like insects, fish, amphibians, reptiles, birds and mammals. For example, all insects have six legs. But each group differs from other groups in some ways.

3. Name the three states of matter. In what way are they different from each other?

**Ans:** The three states of matter are

1. solids - definite shape and volume
2. liquids - definite volume, but no definite shape
3. gases - no definite shape or volume

4. How does sugar dissolve in water?

**Ans:** Water causes all molecules in a solid piece of sugar to break apart. The individual molecules, when separated, are so small that we cannot see them. In this way sugar dissolves in water.

5. Define density. How it is related to floating and sinking in water?

**Ans:** The mass per unit volume of a substance is known as density. A substance which is less dense than water will float on water. Substance which is denser than water will sink in water.

6. What is the difference between miscible and immiscible liquids? Give one example for each.

**Ans:** Liquids which mix with each other are called miscible liquids, for example, milk and water. Liquids that do not mix with each other are called immiscible liquids, for example, oil and water.

7. What is the difference between transparent and opaque objects? Give to examples for each.

**Ans:** Almost all light can pass through transparent objects, for example, air and clear water. Whereas light cannot pass through opaque objects, for example, book and a stone.

**Complete the HOTs and Be a Scientist questions and answers of your own.**