

MATTER

## A. INTRODUCTION

### Matter: Mass, Space and Changing Phases

Did you know that everything around us is made up of matter? Matter is everything that has mass and takes up space. Matter is all the things we can see, touch, and feel. Let's explore the world of matter and learn about its different forms and how they can change.

**The Important Characteristics of Matter;** Matter comes in different forms: solids, liquids, and gases. Each of these forms has its own special characteristics. **Solids** are objects that have a fixed shape and size. They don't change their shape easily. Think about a toy block or a book. They are solid and firm. You can touch them and feel their shape. **Liquids**, on the other hand, can flow and take the shape of the container they are in. Water, juice, and milk are examples of liquids. You can pour them into different containers, and they will take the shape of that container. **Gases** are substances that can spread out and fill a space. They don't have a definite shape or size. Air is an example of a gas. You can't see it, but you can feel it when it moves or when the wind blows.

Did you know that matter can change from one form to another? This is called **changing phases**. For example, think about water. Water can exist as a liquid, but if you put it in the freezer, it can change into a solid form, which is ice. On a hot summer day, if you leave a glass of water outside, it can turn into a gas form, which is water vapor. So, water can change from a liquid to a solid or a gas, depending on the temperature.

Changing the temperature of matter can cause it to change its phase. When you heat matter, it can change from a solid to a liquid or from a liquid to a gas. For example, if you heat a piece of ice, it will melt and turn into water. This is called melting. On the other hand, when you cool matter, it can change from a gas to a liquid or from a liquid to a solid. For instance, if you cool water in the freezer, it will freeze and turn into ice. This is called freezing.

Now, let's see how well you understood the passage with some multiple-choice questions:

1. What is matter?

- a) Things we can see and touch
- b) The air we breathe
- c) Ideas and thoughts

2. Which form of matter has a fixed shape and size?

- a) Solids
- b) Liquids
- c) Gases

3. Which form of matter can flow and take the shape of its container?

- a) Solids
- b) Liquids
- c) Gases

4. Which form of matter can spread out and fill a space?

- a) Solids
- b) Liquids
- c) Gases

5. What is it called when water changes from a liquid to a gas?

- a) Freezing
- b) Melting
- c) Evaporation

**Introduction Answers:**

1. a) Things we can see and touch

Explanation: Matter is everything that has mass and takes up space, including things we can see and touch.

2. a) Solids

Explanation: Solids have a fixed shape and size.

3. b) Liquids

Explanation: Liquids can flow and take the shape of the container they are in.

4. c) Gases

Explanation: Gases can spread out and fill a space.

5. c) Evaporation

Explanation: When water changes from a liquid to a gas, it is called evaporation.