Class 9 Science Worksheet 1: Chapter 1 - Matter in Our Surroundings

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Student Details:

- Name: _____
- Class: _____
- Date: _____

Section A: Multiple Choice Questions (MCQs)

1. Which of the following is NOT a state of matter?

   a) Solid

   b) Liquid

   c) Gas

   d) Plasma

2. The process of a solid changing directly into a gas is called:

   a) Condensation

   b) Evaporation

   c) Sublimation

   d) Freezing

3. Which state of matter has particles that are closely packed and vibrate in fixed positions?

   a) Liquid

   b) Gas

   c) Solid

   d) Plasma

4. The movement of particles from an area of higher concentration to an area of lower concentration is known as:

   a) Diffusion

   b) Convection

   c) Conduction

   d) Radiation

5. The term used to describe the amount of matter in a given volume is:

   a) Volume

   b) Mass

   c) Density

   d) Weight

Section B: Assertion and Reason

Instructions: For each assertion and reason pair, choose the correct option.

1) Assertion (A): In a gas, the particles are far apart and move freely.

   Reason (R): Gases have a definite shape and volume.

   a) a) Both A and R are true, and R is the correct explanation of A.

   b) b) Both A and R are true, but R is not the correct explanation of A.

   c) c) A is true, but R is false.

   d) d) A is false, but R is true.

2) Assertion (A): Diffusion is faster in gases than in liquids.

   Reason (R): Gas particles are more closely packed than liquid particles.

a) Both A and R are true, and R is the correct explanation of A.

b) Both A and R are true, but R is not the correct explanation of A.

c) A is false, but R is true.

d) A is true, but R is false.

Section C: Short Answer Questions

8. Explain why a gas has neither a fixed shape nor a fixed volume.
9. Describe the process of melting with an example.
10. Differentiate between evaporation and boiling.
11. List and explain any two characteristics of particles in a solid state.

Section D: Long Answer Questions

12. Discuss the characteristics of particles of matter in all three states (solid, liquid, and gas). How do these characteristics determine the state of matter?
13. Explain the changes in the state of matter from solid to liquid to gas with suitable examples. Include a diagram to illustrate these changes.
14. Describe the concept of density and its importance. How is it calculated, and what factors affect it?
15. Discuss the process of diffusion and provide an example to illustrate how diffusion occurs in different states of matter.
