

# CLASS-6

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SUBJECT-physics

TOPIC- Matter

- Matter is anything that occupies space and has mass.
- Matter exist in three states-solid, liquid and gas.
- Solids have definite volume and definite shape.
- Liquids have definite volume but no definite shape.
- Gases have neither a definite shape not definite.
- The three States of matter can be interchanged by changing the temperature for pressure.

## WORKSHEET:

**A. Write true or false against the following statements. If false correct the statement.**

- 1) water has a definite shape. **False** Water takes the shape of the container.
- 2) Molecules in a solid are tightly packed. **True**
- 3) Matter has mass but no volume. **False**. Matter has mass and has volume.
- 4)** A given mass of gas can be packed into a small cylinder. **True**
- 5) Liquids take the shape of the container in which they are kept. **True.**

**B.** With the help of simple diagrams show the arrangement of the molecules in a solid, liquid and gas.

*Do the questions of lesson 1 (Matter)*

***Do question A. Short answer type question number 1, 2,3, 4 and 5.***

1. *Matter is that which has weight and occupies space.*
2. *That restates of matters are solid, liquid and gas.*
3. *An element is a substance which cannot be subdivided into two or more simpler substances by any chemical means.*
4. *Solids are matter that is composed of atoms packed tightly together and has definite shape and volume. Example---Spoon, blanket, pencil box.*
5. *A solid which can be compressed easily is a sponge.*
6. *Gas particles move about randomly at a very high speed and hit against each other and also the walls of the container. so the force exerted by gas particles but you need area on the walls of the container is called pressure.*

**B. Long answer type question number 1, 2, 3, 4 and 5.**

1. *Atom Is defined as the smallest unit of an element which may or may not have an independent existence but always takes part in a chemical reaction.*

*Molecule is defined as the smallest unit of matter which has an independent existence and can retain complete physical and chemical properties of the matter.*

2. *Solids show the following characteristics*
  - *Solids are rigid, incompressible.*
  - *Solids have fixed shape and definite volume.*
  - *Solids have melting and Boiling points above room temperature.*
  - *Examples- chalk, sugar cube, eraser.*
3. *Gases show the following characteristics*
  - *Gases are highly compressible .*
  - *Gases have no fixed volume and shape.*
  - *Gases can diffuse into each other rapidly.*
  - *Gases have their melting and Boiling points below Room temperature.*

- *Examples—oxygen , carbon dioxide,*

4.

Properties	Solids	Liquids	Gases
Mass	Definite	Definite	Definite
Shape	Definite	Acquires the shape of the container	Acquires the shape of the container
Volume	Definite	Definite	Indefinite
Compressibility	Not possible	Almost negligible	Highly compressible
Fluidity	Not possible	Can flow	Can flow
Rigidity	Highly rigid	Less rigid	Not rigid
Packing of particles	Most closely packed	Less closely packed	Least closely packed
Kinetic energy	Least	Large	Very large

5. **Compressibility** is the measure of how much volume of a matter reduces when a force acts on it.

**Fluidity** is the ability to flow.

**Rigidity** is the inability to bent or change shape when force acts on it.

E. Define the following terms: no.2, 3, 4,& 5.

*Same as above*

- i. Give one word for the following number 1, 2, 3 and 4.
  - 1.Liquid
  - 2.Intermolecular attractive force
  - 3.Brownian motion
  - 4.Kinetic energy