



Some Basic Concepts of Chemistry




L-1



Bhaskar Bhaiya
IIT Roorkee

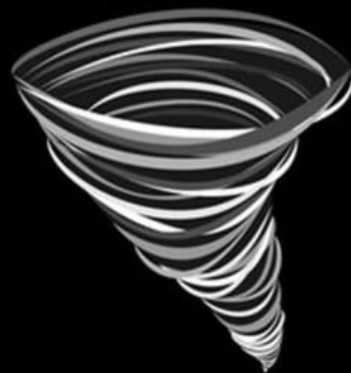


OBJECTIVES

- **Matter** 
- **Classification of Matter** 

Matter

Anything which has mass and occupies space is called matter.



Quiz :

Which of the followings are matter?

a) Neon gas ✓✓

b) Light ✗

c) Fire ✓✓

d) Ink ✓✓

e) Sun ✓✓

f) Soul ✗

light ⇒ Energy



CLASS 11TH SCIENCE 2023-24

JEE/NEET LEVEL



SUPER FEATURES

JEE/NEET Level Classes

**1. SUBJECT
(PCM, PCB, PCMB+ENGLISH)**

**2. JEE/NEET
(Preparation of JEE/NEET
From Class 11th)**

Believers 2022-23

**CLASSES OF LAST YEAR'S
BELIEVERS BATCH
IN THIS COURSE
(PCM, PCB, PCMB+ENGLISH)**

YE TOH HOGA HI !

Detailed Lectures

Teachers Slide

One Shot Lectures

YE TOH HOGA HI !

Chapter Test

Chapter Notes

Practice Questions

~~9999/-~~

4999/-



Call Now

0124 715 8250



WhatsApp

+91-92891 19544

COUPON CODE :

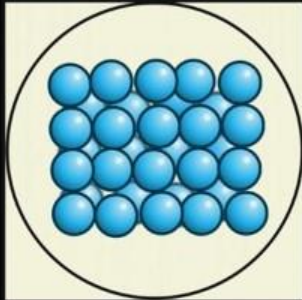
BELIEVERS

OFFER

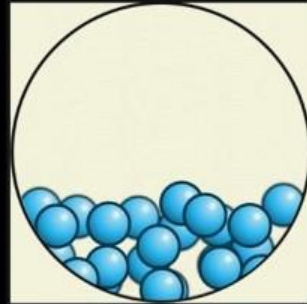
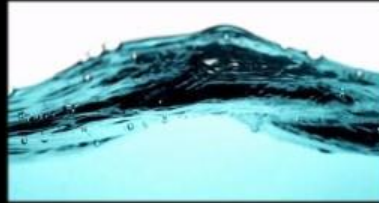
Valid Till 30th Apr

States of Matter

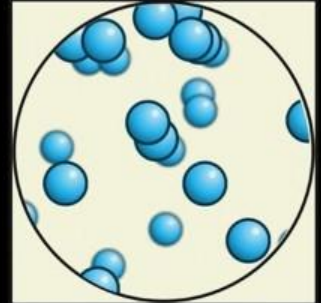
Solid



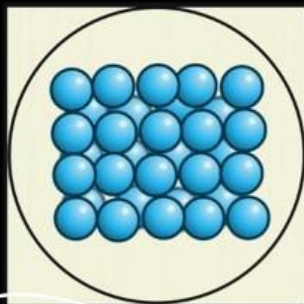
Liquid



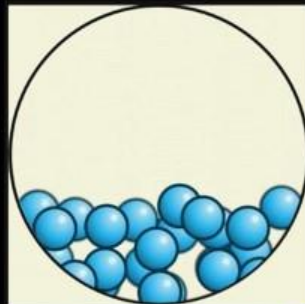
Gas



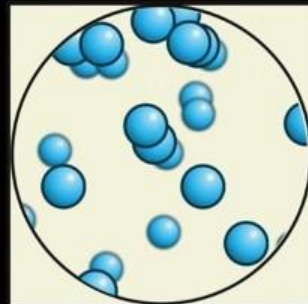
Solid



Liquid



Gas



Fluids

Rigid

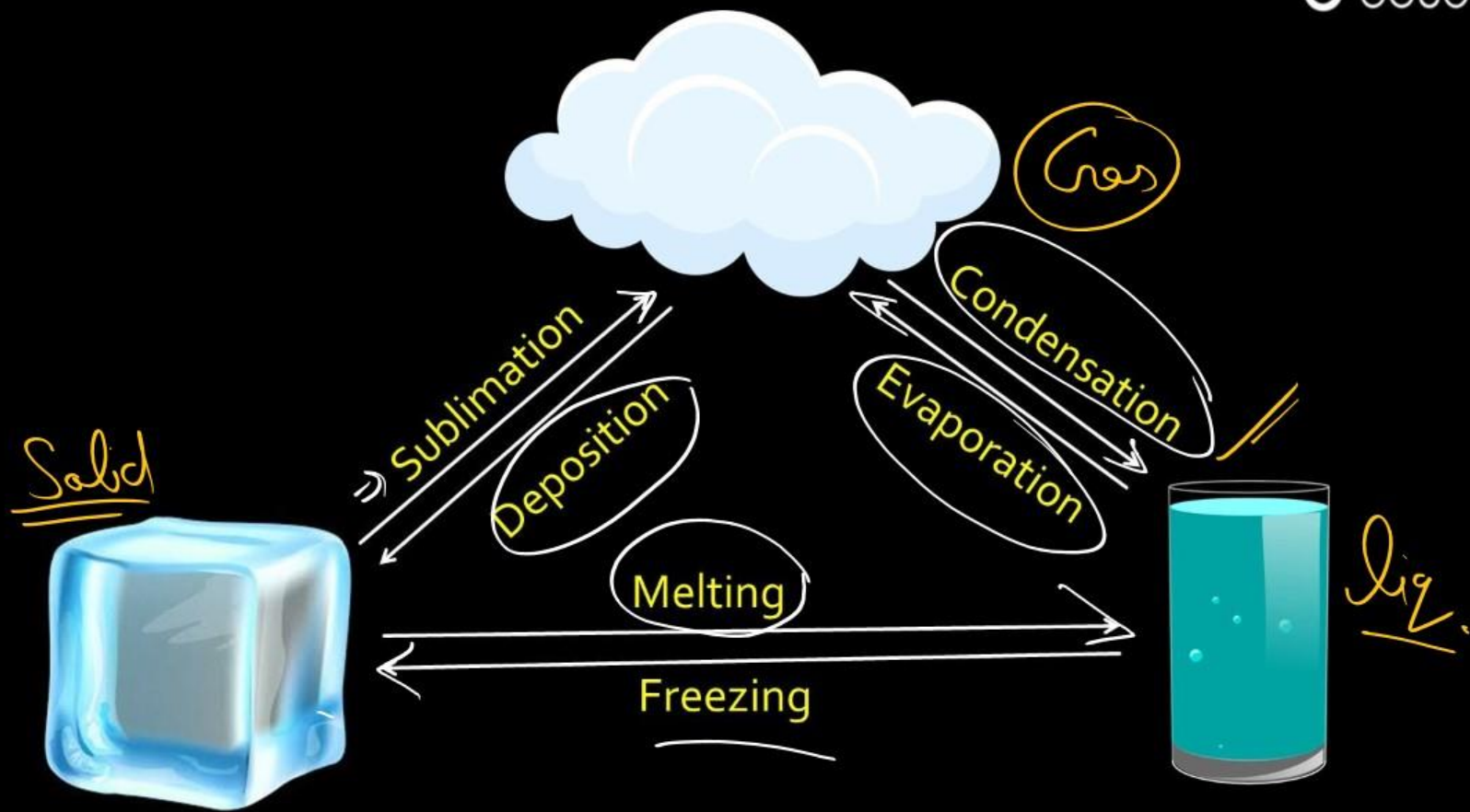
Intermolecular
Attraction force

Solid > liq > Gas

Intermolecular distance \Rightarrow Solid < liq < Gas

Changing States of Matter

All three states of matter are interconvertible by changing the conditions of Temperature and Pressure.

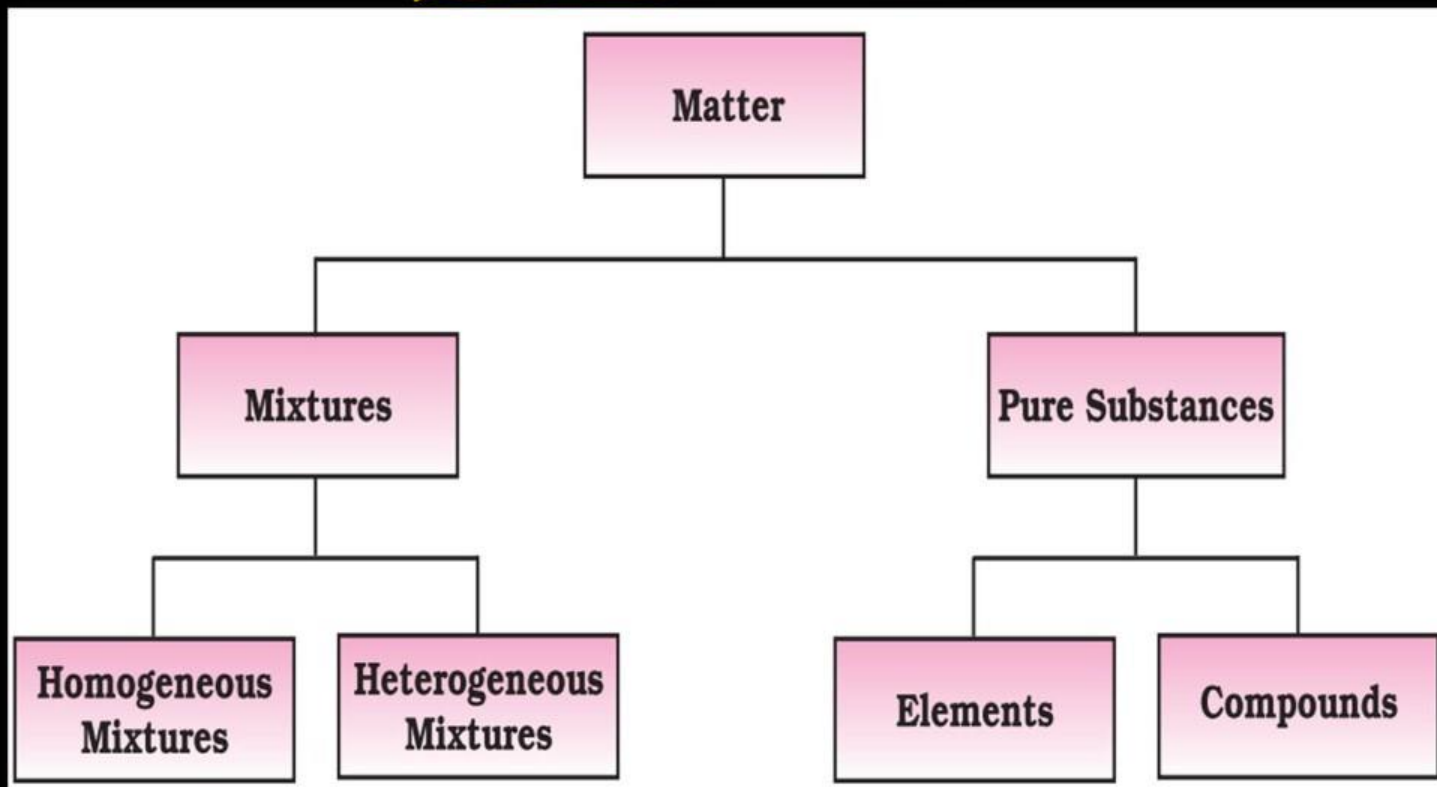


Quiz :

The reverse process of Evaporation is –

- (a) Melting
 - (b) Freezing
 - (c) Deposition
 - (d) Condensation
- 

Classification of Matter



Mixture

Mixture – A mixture contains two or more types of particles which may be present in it in any ratio.



Common Types of Alloys

Steel

combination of iron (metal)
and carbon (non-metal)

Bronze

combination of copper
(metal) and tin (metal)

Brass

mixture of copper (metal)
and zinc (metal)

Homogeneous mixtures have the same composition throughout their volume.

- You can't see the individual particles in a homogeneous mixture.
- It is not easy to separate the components in homogeneous mixture.



Heterogeneous mixture has varied compositions throughout its volume.

- Unlike homogeneous mixtures, these mixtures don't blend perfectly.
- It is easy to separate the components in heterogeneous mixture.



Pure Substance

Pure Substance – When all constituent particles of a substance are same in chemical nature, it is said to be a pure substance.



Gold



WATER

Particles in pure substance may exist as atoms or molecules.

- Particles of an element consist of only one type of atoms.

Example – Gold, Cu, Fe

- Particles of an compound consist of only one type of molecules.

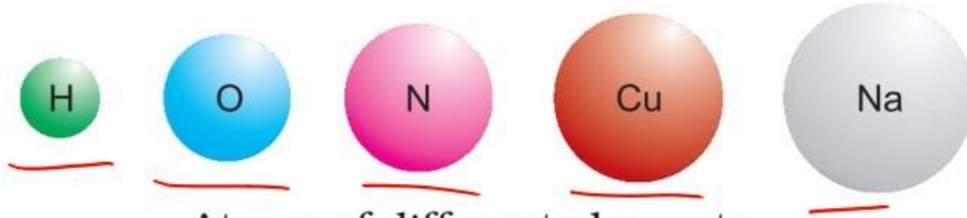
Example – Water, CO₂

Atoms and Molecules

Atoms – Atoms are defined as “the basic building blocks of matter”.

It is the smallest constituent unit of matter that possess the properties of the chemical element.

Molecules - Molecules consist of one or more atoms bound together by
✓ attraction force (Chemical bonds).



Atoms of different elements



An atom of hydrogen (H) + Another atom of hydrogen (H)

A molecule of hydrogen (H₂)



An atom of oxygen (O) + Another atom of oxygen (O)

A molecule of oxygen (O₂)



Allotropes

✓ ✓
Allotropy or allotropism is the property of some chemical elements to exist in two or more different forms, in the same physical state, known as allotropes of the elements.

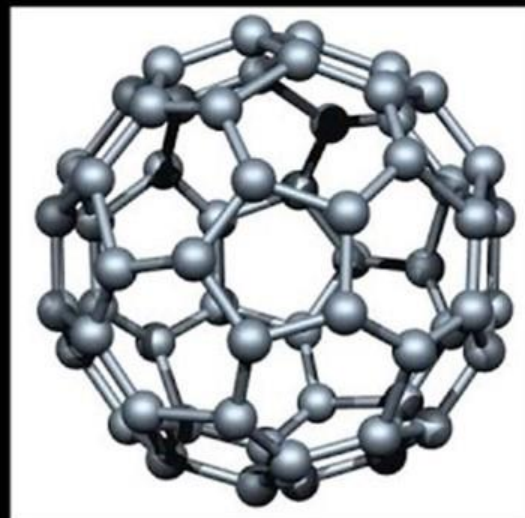
✓
Allotropes are different structural modifications of an element.



Graphite



Diamond



Fullerene

Quiz :

Which of the followings is / are allotrope of Carbon?

a) Diamond ✓

b) Graphite ✓

c) Fullerene ✓

d) All of the above ✓✓✓

THANK YOU

connect me on Instagram



@bhaskardev31

