

# Chemical Properties of Matter and Reactions

# Matter: Physical and Chemical Properties

# Matter in our Surroundings

Def<sup>n</sup>: Anything that has mass and volume (occupies space) is matter.

Examples of matter: Cup, pen, table, dog, cat, humans.  
Non-living things.      living things

Earliest known classification of matter was done by Aristotle.  
into Metals and Non-metals

In modern days scientists have evolved two types of classification of matter based on their physical and chemical nature/properties.

Physical nature of matter:

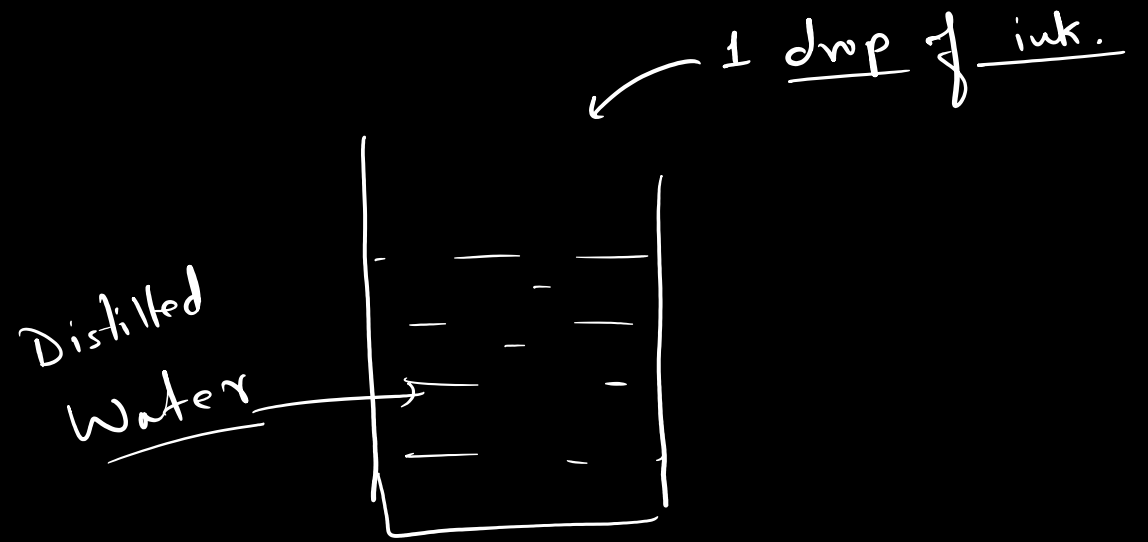
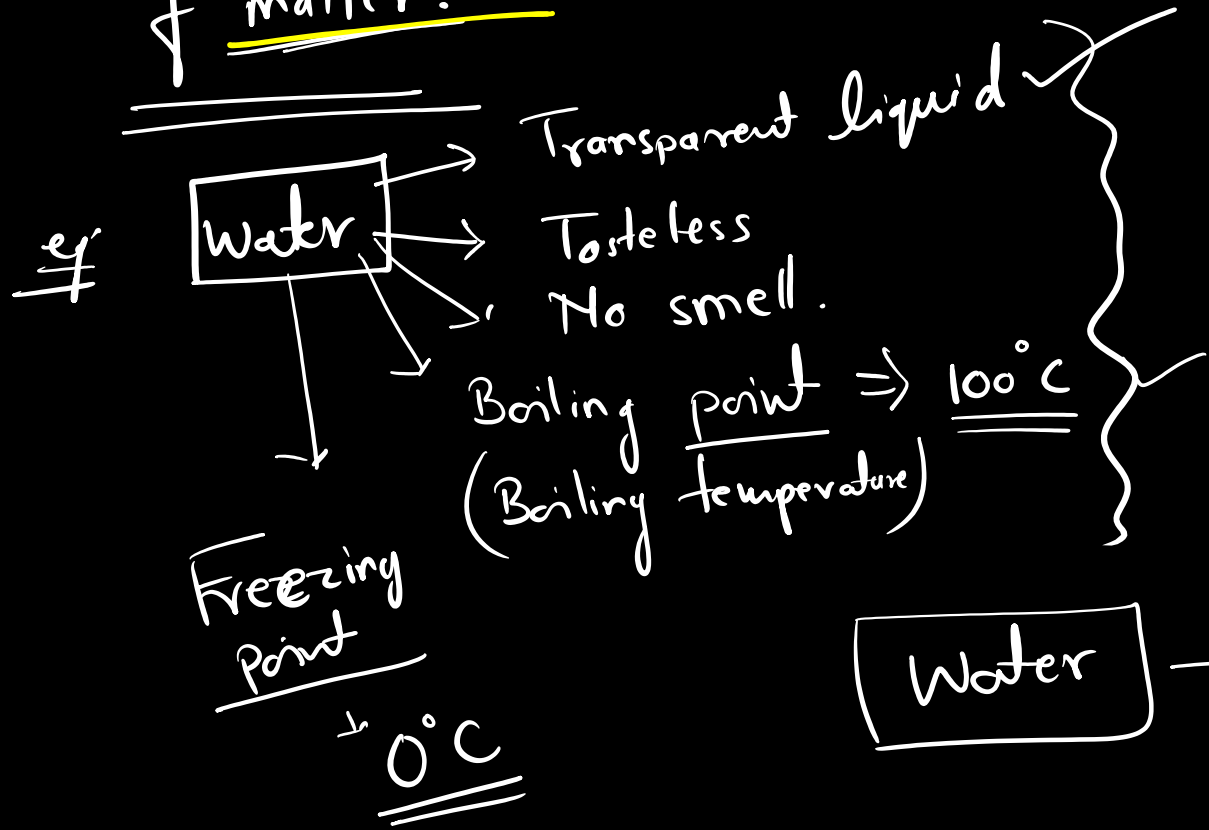
① Matter is made up of particles



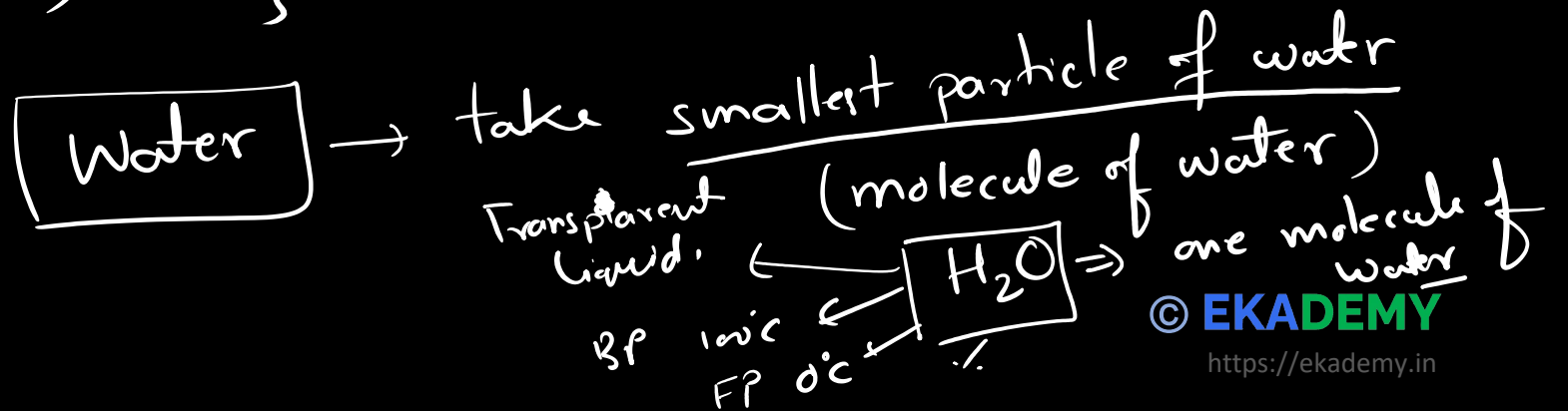
② These particles are very-very small.

③ These tiny particles are also known as molecules

(iv) Molecule can be defined as the smallest particle of matter which can exist independently and retain all the properties of matter.

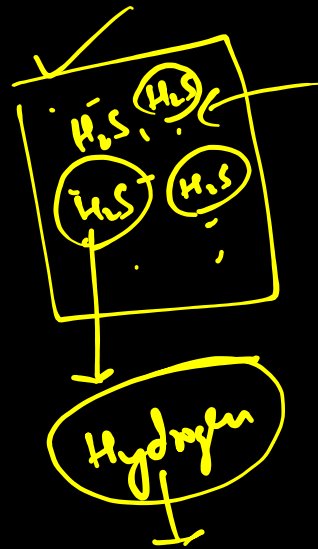
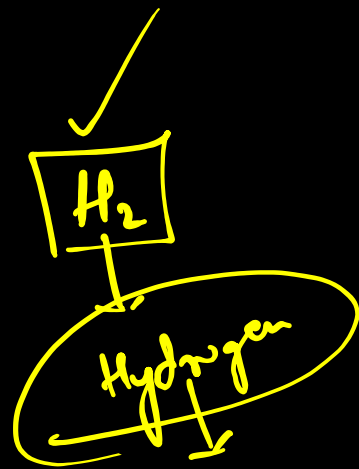


Distilled water ⇒ Purest form of water.

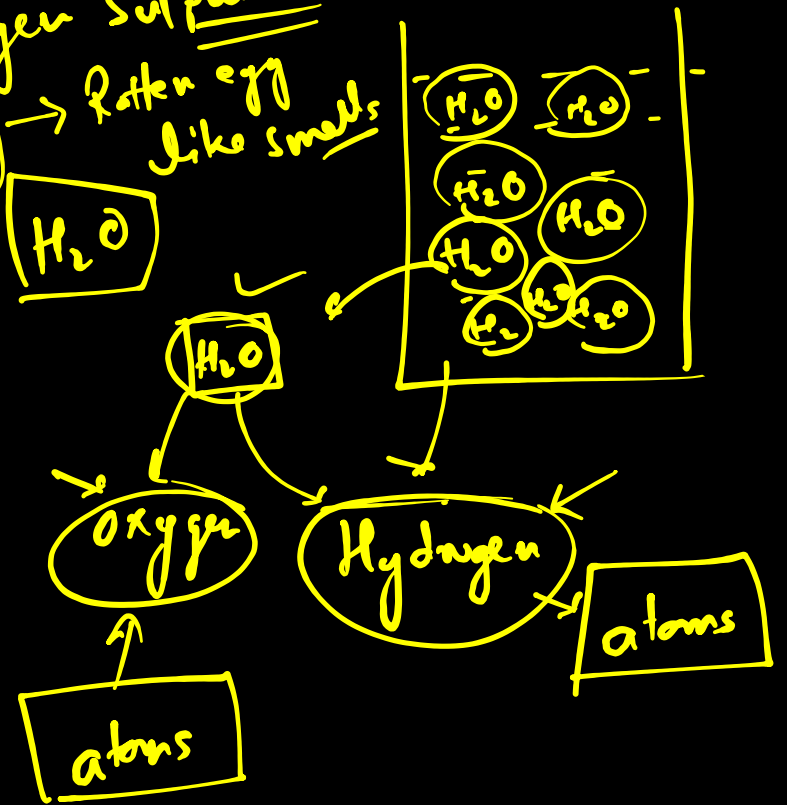


If we break  $\boxed{H_2O}$  further, then the properties of water will be lost.

$\therefore H_2O$  is the smallest particle with which water (matter) is made up of.

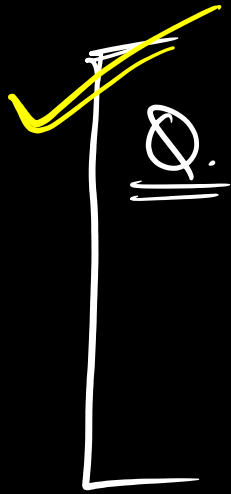


Hydrogen Sulphide  
( $H_2S$ ) → Rotten egg like smells

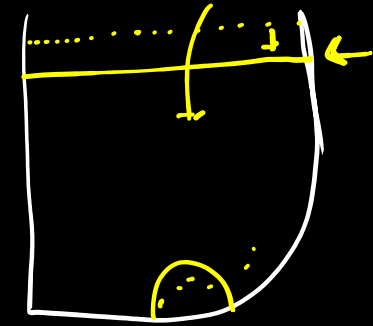


# Characteristics of Particles of matter.

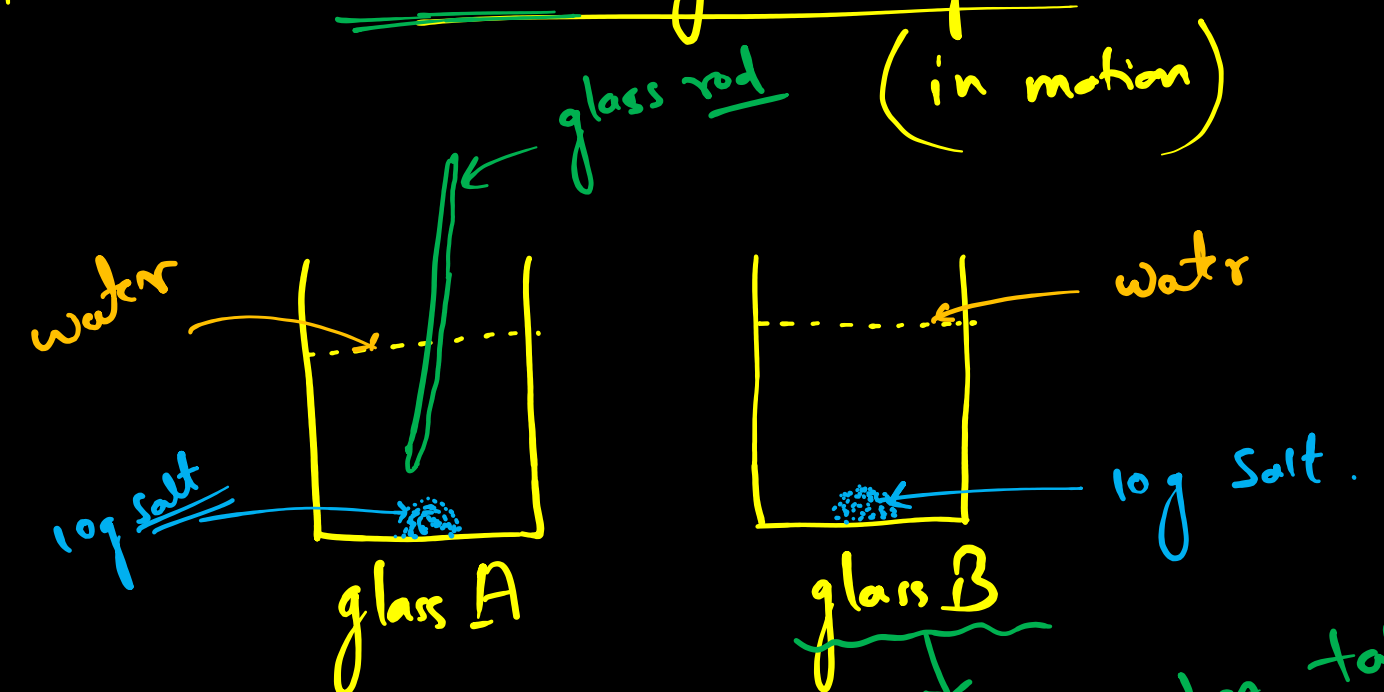
① Particles of matter have space between them.



why level of water rises when we put a spoon in the glass but does not change when a spoon of salt dissolved in it?



② Particles of matter are continuously moving.



↓  
Salt dissolves within minutes when we stir the content of glass A

↓  
Salt dissolves takes longer time to dissolve.



(iv) Particles of matter attract each other.

→ Magnitude of force of attraction is different for different matter/substance.

# States of matter

→ Solid

→ Liquid

→ Gas



















































