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Class–9

SCIENCE

Chapter – 2

IS MATTER AROUND US PURE

Part – 3

Suspension and Colloid

Deeksha Pahilajani

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OVERVIEW

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1. Mixture
2. True Solution
3. Suspension and Colloid
4. Elements and Compounds

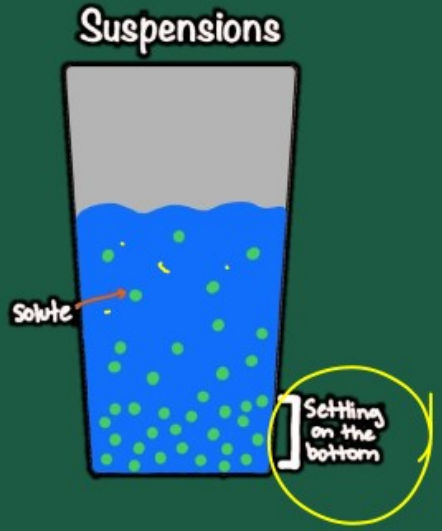
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SUSPENSION

- A suspension is a heterogeneous mixture in which solute particles have bigger size and are distributed in a fluid without dissolving in it.

Example : Sand and water.



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PROPERTIES OF SUSPENSION

1. It is a heterogeneous mixture.
2. Particles of a suspension are visible to the naked eye.
3. Size of the particles is greater than 1000 nm.
4. It is an unstable mixture. Solute particles settle down at the bottom over a period of time.

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5. The solute particles can be separated from the mixture by the process of filtration.

Tyndall Effect

6. Particles of a suspension scatter a beam of light passing through it.

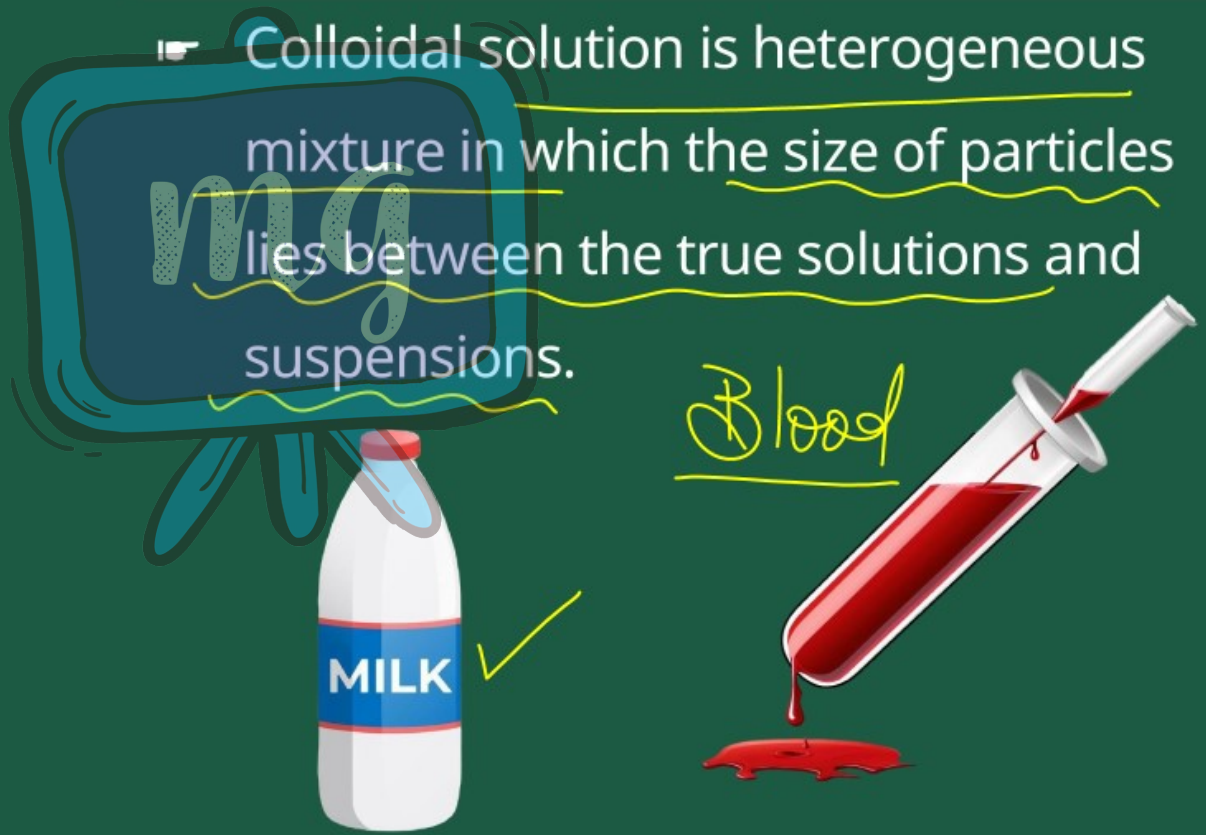


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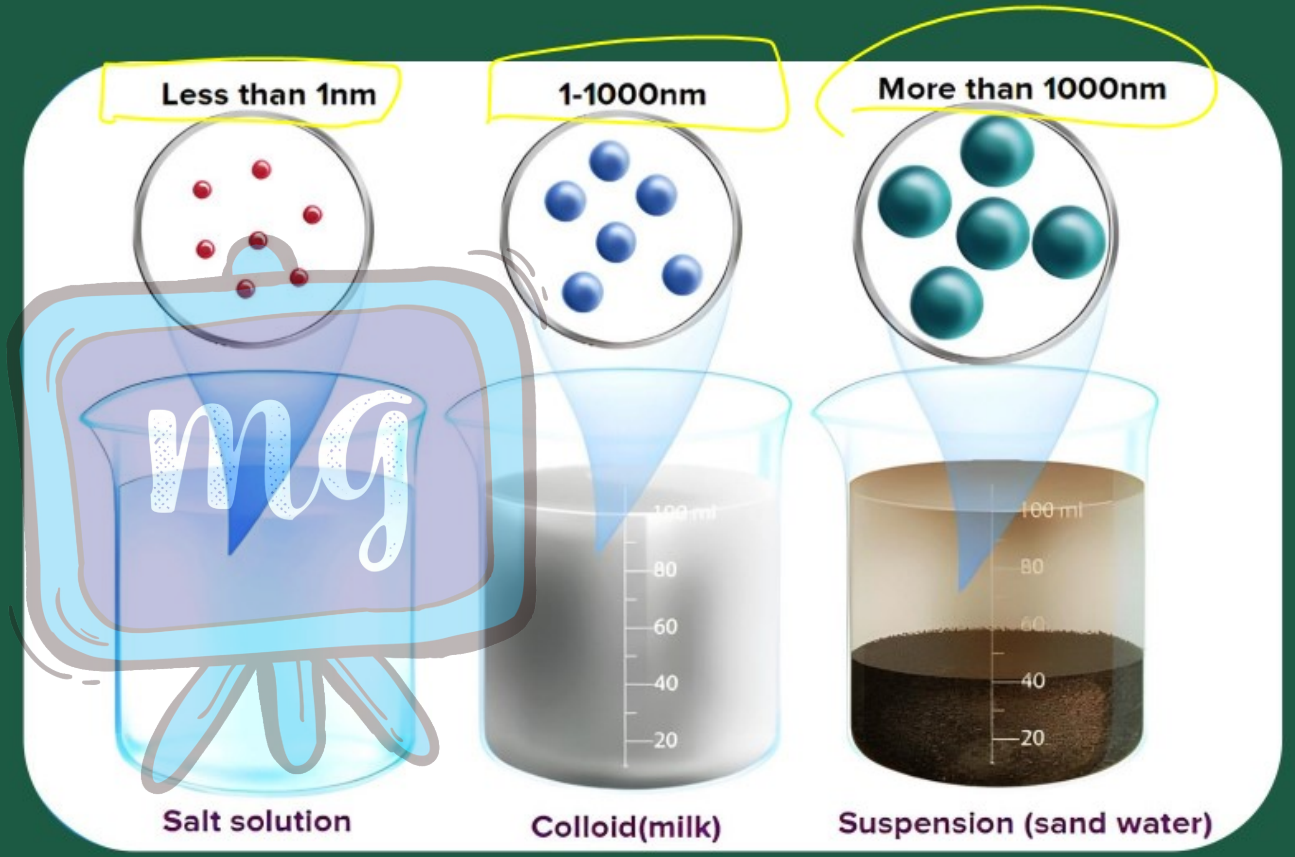
COLLOIDS

- Colloidal solution is heterogeneous mixture in which the size of particles lies between the true solutions and suspensions.



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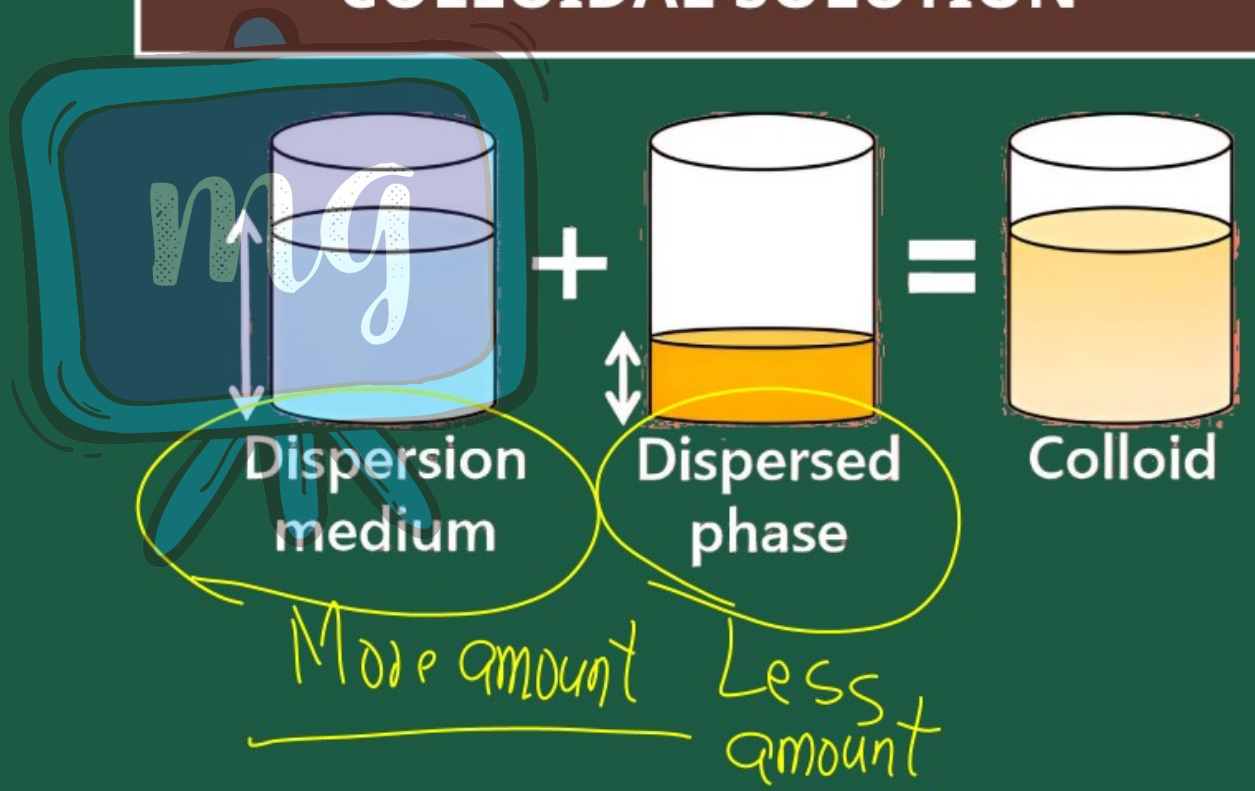
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COMPONENTS OF COLLOIDAL SOLUTION



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PROPERTIES OF COLLOID

1. A colloid is a heterogeneous mixture.
2. The size of particles of a colloid is too small to be individually seen by naked eyes.
3. Colloids are big enough to scatter a beam of light passing through it and make its path visible. This phenomenon is called Tyndall effect.

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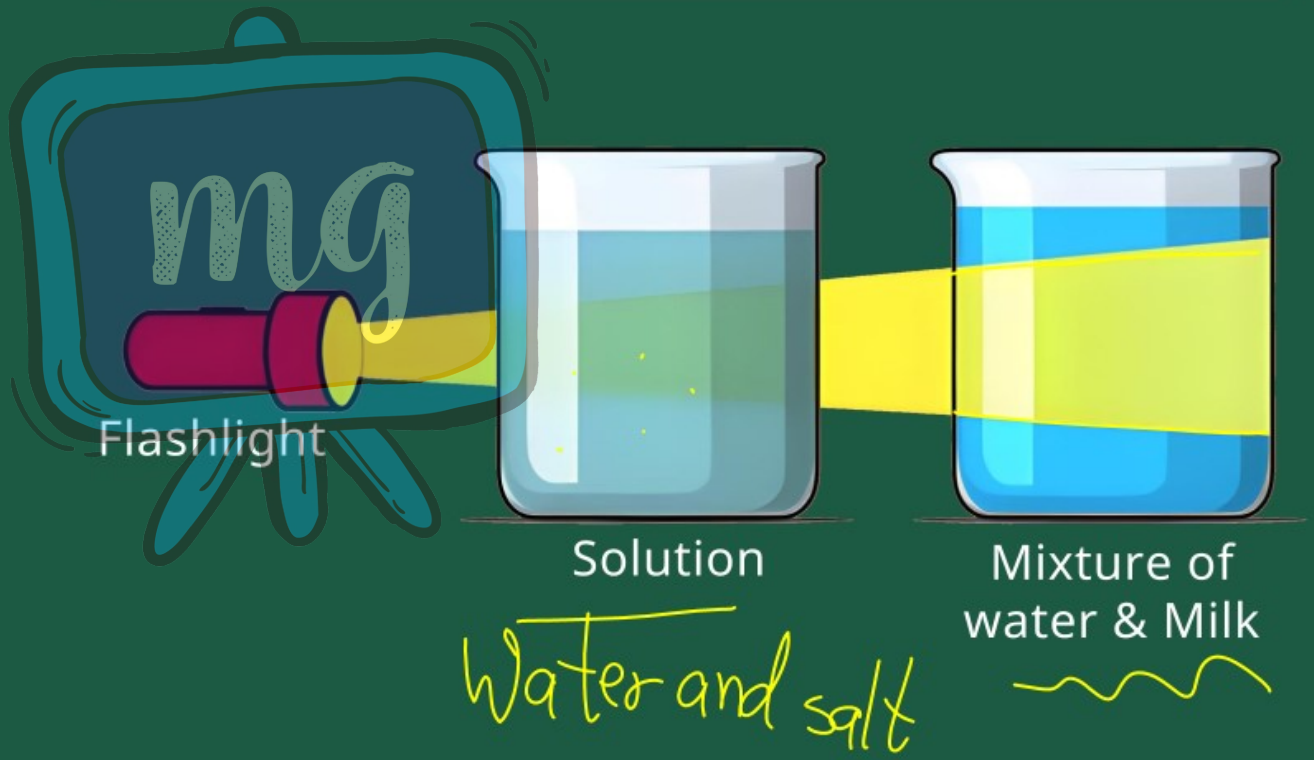
4. They do not settle down when left undisturbed, that is, a colloid is quite stable.

5. Particles cannot be separated from the mixture by filtration. Centrifugation can be used to separate them.

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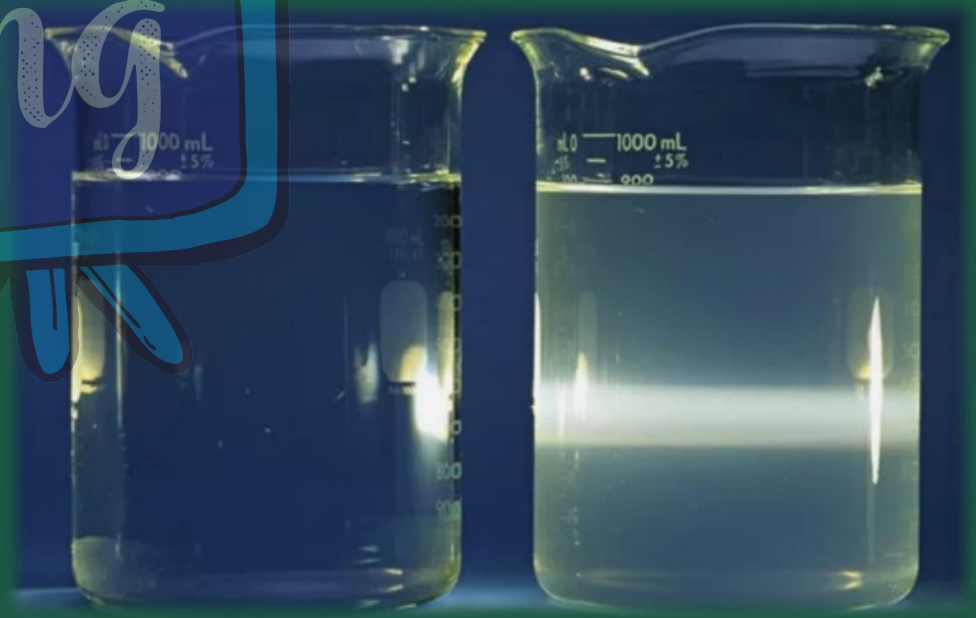
TYNDALL EFFECT



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- Scattering of a beam of light by a medium containing small suspended particles.



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- In the forest, mist contains tiny droplets of water, which act as particles of colloid present in air.



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Gas in gas ⇒ Air Sol

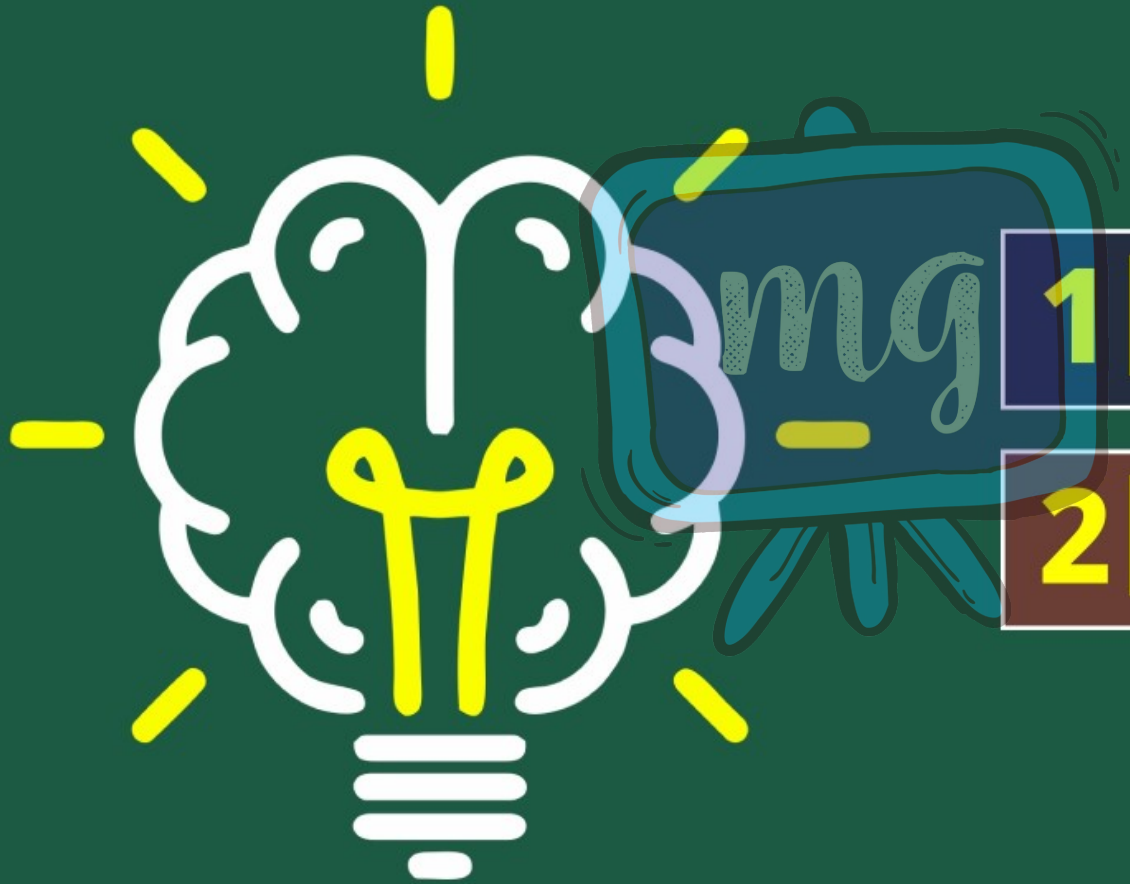
Common Examples of Colloids —

Common examples of Colloids			
Dispersed Phase	Dispersing Medium	Type	Example
Liquid	Gas	Aerosol	Fog, clouds, mist
Solid	Gas	Aerosol	Smoke, automobile exhaust
Gas	Liquid	Foam	Shaving cream
Liquid	Liquid	Emulsion	Milk, face cream
Solid	Liquid	Sol	Milk of magnesia, mud
Gas	Solid	Foam	Foam, rubber, sponge, pumice
Liquid	Solid	Gel	Jelly, cheese, butter
Solid	Solid	Solid Sol	Coloured gemstone, milky glass

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LEARNING OUTCOMES



1. Suspension and its properties
2. Colloid and its properties

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ASSESSMENT



1 | A mixture of chalk powder in water is an example of

- A homogeneous mixture
- B element
- C colloidal solution
- D suspension

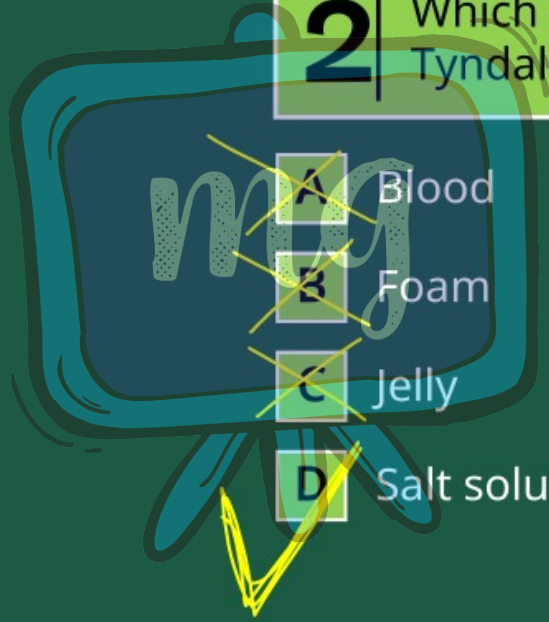
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ASSESSMENT



2 Which of the following will not show Tyndall effect?



A Blood

B Foam

C Jelly

D Salt solution

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ASSESSMENT

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3 Which of the following is an example of emulsion?

A Milk of magnesia

B Milk

C Face cream

D Both [B] and [C]