

**CBSE Important Questions Class 9 Science Chapter 2:** Here are the important questions for CBSE Class 9 Science Chapter 2 Is Matter Around Us Pure?. Practicing these questions will help students solidify their understanding of key concepts, such as mixtures, solutions and the separation of substances.

By regularly working through these problems, students can enhance their problem-solving skills, grasp fundamental ideas more effectively and perform better in exams. This practice is important for reinforcing theoretical knowledge and ensuring thorough preparation for CBSE exams.

## **CBSE Important Questions Class 9 Science Chapter 2 Overview**

These questions are created by subject experts of Physics Wallah for CBSE Class 9 Science Chapter 2 Is Matter Around Us Pure?.

By practicing these questions, students can improve their conceptual clarity and develop a stronger understanding of the chapter. The expert created questions help students focus on key areas and prepare effectively for their exams.

## **CBSE Important Questions Class 9 Science Chapter 2 PDF**

The PDF link for CBSE Important Questions Class 9 Science Chapter 2 is available below. This detailed set of questions is created to help students practice and master the key concepts of the chapter Is Matter Around Us Pure?

Practicing these questions will not only enhance their problem-solving skills but also boost their confidence for exams.

**CBSE Important Questions Class 9 Science Chapter 2 PDF**

## **CBSE Important Questions Class 9 Science Chapter 2 Is Matter Around Us Pure?**

Here we have provided CBSE Important Questions Class 9 Science Chapter 2 Is Matter Around Us Pure?-

**Q.1. What is meant by a substance?**

**Ans:** A substance is a type of matter that has uniform chemical properties, and its constituent particles cannot be separated by physical methods.

**Q.2. How will you separate a mixture containing kerosene and petrol (difference in their boiling points is more than 25°C), which are miscible with each other?**

**Ans:** The mixture of kerosene and petrol can be separated using the **distillation** technique, as their boiling point difference is greater than 25°C.

**Q.3. Name the technique to separate:**

(i) **Butter from curd**

**Ans:** Centrifugation.

(ii) **Salt from seawater**

**Ans:** Evaporation.

(iii) **Camphor from salt**

**Ans:** Sublimation.

**Q.4. What type of mixtures are separated by the technique of crystallization?**

**Ans:** Crystallization separates pure solid crystals from impure liquid solutions.

**Example:** Pure sugar from impure sugar, salt from seawater.

**Q.5. What is a mixture? What are its various types?**

**Ans:** A mixture consists of two or more elements or compounds mixed in any proportion. Mixtures are classified as:

- (a) Homogeneous mixtures
- (b) Heterogeneous mixtures.

**Q.6. Define solute, solvent, and solution.**

**Ans:**

**Solute:** The substance that is dissolved in the solvent.

**Solvent:** The component that dissolves the solute.

**Solution:** A homogeneous mixture of solute and solvent.

**Q.7. What is a solution? What are the properties of the solution?**

**Ans:** A solution is a homogeneous mixture of two or more substances.

**Properties:**

Particles are too small to be seen by the naked eye (less than 1 nm).

Does not scatter light when a beam passes through it.

Filtration cannot separate the components.

**Q.8. Differentiate between elements and compounds.**

**Ans:**

**Elements:** Pure substances made of only one type of atom.

**Compounds:** Substances formed by the chemical combination of two or more elements in fixed ratios.

**Q.9. What is the Tyndall effect? Which kinds of solutions show it?**

**Ans:** The Tyndall effect is the scattering of light by particles in a colloid or suspension.

**Heterogeneous** mixtures like colloids and suspensions exhibit the Tyndall effect.

**Q.10. Differentiate between homogeneous and heterogeneous mixtures.**

**Ans:**

**Homogeneous mixture:** Has uniform composition throughout (e.g., saltwater).

**Heterogeneous mixture:** Non-uniform composition, with distinct phases (e.g., sand in water).

**Q.11. What is centrifugation? Where is it used?**

**Ans:** Centrifugation is a method used to separate suspended particles from liquids based on their density differences. **Uses:** Separating butter from milk, drying clothes in washing machines.

**Q.12. What is a suspension? What are the properties of suspension?**

**Ans:** A suspension is a heterogeneous mixture where particles do not dissolve but remain suspended in the solvent.

**Properties:**

Particles are large and visible.

Scatters light (Tyndall effect).

Particles settle when left undisturbed.

**Q.13. Write a method to separate a mixture of salt and ammonium chloride?**

Ans: A mixture of salt and ammonium chloride can be separated by the process of sublimation. In this process, the solid substance is directly converted into a gaseous state. Since ammonium chloride changes directly from a solid into a gaseous state on heating and salt does not have that property, this principle can be used to the mixture of two.

- The mixture of  $\text{NH}_4\text{Cl}$  (ammonium chloride) and salt is taken in a china dish inside an inverted funnel.
- The mixture is then heated using a burner and because  $\text{NH}_4\text{Cl}$  sublimates thus it changes into vapors directly.
- Salt settles into the inverted funnel as it is a non-sublimely substance.
- Separation of  $\text{NH}_4\text{Cl}$  salt by sublimation

**Q.14. Write a method to separate different gases from the air.**

Ans: Air is a homogeneous mixture of various gases like nitrogen, oxygen, argon, carbon dioxide, etc. These gases can be separated using the **fractional distillation** technique. The process involves the following steps:

**Compression and cooling:** Air is first compressed by increasing the pressure and then cooled by reducing the temperature. This turns the air into a liquid state.

**Fractional distillation:** The liquid air is allowed to warm up slowly in a fractional distillation column. The different gases in the air have varying boiling points, and as the temperature rises, they separate from each other.

**Separation based on boiling points:** Each gas is collected at different heights in the column based on its boiling point. For instance, nitrogen has the lowest boiling point, so it separates first, followed by oxygen and other gases.

**Q.15. What is a colloid? What are its various properties?**

Ans: A **colloid** is a heterogeneous mixture where the particle size of the dispersed substance is intermediate between a true solution and a suspension. The particle size typically ranges from 1 nm to 1000 nm.

**Properties of colloids:**

**Heterogeneous but appears homogeneous:** Although colloids are heterogeneous mixtures, the particles are too small to be seen by the naked eye, making them appear homogeneous.

**Small particle size:** The particles are small enough that they cannot be seen individually without a microscope.

**Scattering of light:** Colloidal particles scatter light, making the path of light visible, a phenomenon known as the **Tyndall effect**.

**No sedimentation:** Colloidal particles do not settle down when left undisturbed, unlike suspensions.

**Q.16. Differentiate between metals and non-metals based upon the various properties that they show.**

Ans.

Property	Metals	Non-metals
<b>Appearance</b>	Shiny (metallic luster)	Dull (no luster)
<b>Conductivity</b>	Good conductors of heat and electricity	Poor conductors of heat and electricity
<b>Malleability</b>	Malleable (can be beaten into thin sheets)	Brittle (break easily when hammered)
<b>Ductility</b>	Ductile (can be drawn into wires)	Non-ductile (cannot be drawn into wires)
<b>State at room temperature</b>	Mostly solid (except mercury)	Mostly gases or solids (except bromine, which is liquid)
<b>Density</b>	High density	Low density

**Q.17. Differentiate between mixtures and compounds by giving appropriate examples.**

Ans.

Property	Mixtures	Compounds
<b>Composition</b>	Made of two or more substances mixed in any proportion.	Made of two or more elements combined in a fixed proportion.
<b>Nature</b>	Can be homogeneous or heterogeneous.	Always homogeneous.
<b>Separation of components</b>	Components can be separated by physical methods.	Components can be separated only by chemical methods.

<b>Properties</b>	Individual components retain their original properties.	New properties are different from constituent elements.
<b>Example</b>	Air (mixture of gases), saltwater (salt and water)	Water (H <sub>2</sub> O), carbon dioxide (CO <sub>2</sub> )

## Benefits of Practicing CBSE Important Questions Class 9 Science Chapter 2

Practicing CBSE Important Questions for Class 9 Science Chapter 2 **Is Matter Around Us Pure?**, provide several benefits for students:

**Deepens Conceptual Understanding:** By solving important questions, students reinforce their understanding of key concepts like mixtures, solutions, suspensions, colloids and the methods of separating substances. This ensures a strong foundation in the topic.

**Enhances Problem-Solving Skills:** Regular practice helps students develop problem-solving skills, enabling them to tackle different types of questions (theoretical, numerical, or application-based) with confidence.

**Preparation for Exams:** Practicing important questions prepares students for the types of questions they are likely to face in exams. It covers a wide range of possible questions from short-answer to long-answer, improving exam readiness.

**Improves Time Management:** Working on these questions within a set time frame helps students manage their time efficiently during exams, ensuring they complete the paper within the allotted time.

**Clarifies Common Doubts:** Many important questions highlight areas where students commonly have doubts. By practicing these questions, students get a chance to clear misconceptions and clarify doubts through repetitive exposure.

**Boosts Confidence:** Consistent practice builds confidence as students become more familiar with the pattern and format of questions, helping them feel better prepared for their assessments.