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STUDY MATERIAL SCIENCE

CLASS-VI

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▶ Separation of substances :

Pure Substances: Many substances around us contain only one type of constituent particles. Elements and compounds are pure substances. Some of the pure substances are iron, copper, water, salt, etc.

Impure Substances: Substances containing more than one type of constituent particles are called impure substances. Some of the impure substances are pond water, milk, etc.

Impurities: These are the unwanted particles present in a substance making it impure.

Mixtures: Substances which contain more than one component mixed in any ratio are called mixtures. For example, air is a mixture of many gases like nitrogen, oxygen, carbon dioxide, dust particles, etc.

Homogeneous Mixtures: The mixtures in which the particles of the substances present cannot be seen are called homogeneous mixtures. For example, solution of sugar and water, air, cold drinks, etc.

Heterogeneous Mixtures: The mixtures in which particles of the substances present can be seen easily are called heterogeneous mixtures. For example, water in oil, dust in air.

Need for Separation: We carry out the separation of the components of a mixture or an impure substance with the following purposes:

- To remove the unuseful or harmful component.
- To obtain the useful component.
- To remove impurities for getting a pure sample.

Principle of separation

- The substances present in a mixture retain their original properties like particle size, density, melting point, boiling point, volatility, etc.
- We use the difference in any one of these properties in the components of a mixture to separate them.