

# ELEMENTS, COMPOUNDS AND MIXTURES

SUBJECT-CHEMISTRY

CHAPTER-03

CHAPTER NAME-ELEMENTS, COMPOUNDS AND MIXTURES

PERIOD-5

**CHANGING YOUR TOMORROW**



## LEARNING OBJECTIVE

- ❖ You will know of the need for the separation of the components of mixtures.
- ❖ You would know of the various methods of separation of solid- solid mixtures like: -Hand-picking, Winnowing, Magnetic separation, Gravitational method, Sublimation and Solvent Extraction method.



# SEPARATION OF MIXTURES

## NEED FOR THE SEPARATION OF THE COMPONENTS OF MIXTURES

- ❖ To remove undesirable and harmful substances.
- ❖ To get useful substances.
- ❖ To get completely pure substances for preparing other useful substances



## SEPARATION OF SOLID-SOLID MIXTURE

- o **HAND-PICKING: -**

This method is used when the quantity of a mixture is small and the substances to be separated from a small portion of the mixture. Examples-small stones are picked from rice, pulses etc.



# SEPARATION OF SOLID-SOLID MIXTURE

## WINNOWING: -

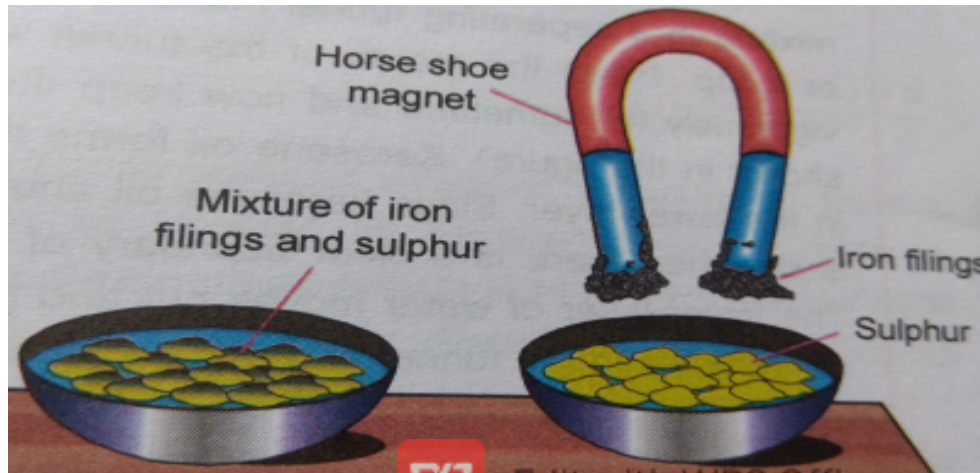
The process of separation of grain from husk with the help of wind is called Winnowing.  
Example: -separation of rice from husk.



# SEPARATION OF SOLID-SOLID MIXTURE

## MAGNETIC SEPARATION:-

This method is used when one of the components of the mixture is magnetic in nature. Example: Iron and Sulphur

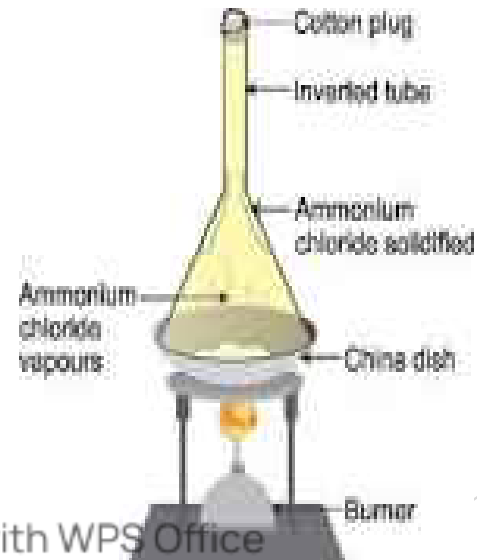


# SEPARATION OF SOLID-SOLID MIXTURE

## GRAVITATIONAL METHOD: -

This method is used when one of the components is much heavier than water and other is much lighter than water. Examples: - Mixture of sand, saw-dust put in water

- **SUBLIMATION:** - Sublimation is the process in which solid directly changes to gaseous state. Example: Salt and a sublimable solid such as ammonium chloride, can be separated by the process of sublimation



# SEPARATION OF SOLID-SOLID MIXTURE

## ☒ SOLVENT EXTRACTION METHOD: -

This method is used when one of the solid components is soluble in water.  
Example: - A mixture of sand and salt.





# HOME ASSIGNMENT

- ⊠ Exercise-II Q9 a, b, c, d
- ⊠ How can separate the sulphur from the mixture of sulphur and Sand?
- ⊠ Define winnowing
- ⊠ Explain Magnetic separation with an example.
- ⊠ How can we separate pebbles from its mixture with sand?

