

SUMMARY

NCERT Class 6 Science Chapter 9: Methods of Separation in Everyday Life

Overview

This chapter explains how mixtures are separated in everyday life using techniques like filtration, decantation, sieving, and more. These methods are commonly used in cooking, cleaning, farming, and laboratories, and are often asked in school and competitive exams.

Key Concepts

- **What is Separation of Substances?**

- Separation is done to:
 - Remove harmful or unwanted substances
 - Separate two useful components
 - Improve the quality or usability of a product
- (e.g., removing stones from rice)

- **Common Methods of Separation**

- **Handpicking**

- Used When:
 - ◇ Unwanted substances differ in size, shape, or color
 - ◇ The amount of impurity is small
- Examples:
 - ◇ Removing stones from pulses
 - ◇ Picking chillies out of poha

- **Threshing**

- Used To:
 - ◇ Separate grains from stalks
 - ◇ Done by beating the harvested crop
- Examples:
 - ◇ Separating wheat or rice grains from stalks after harvesting

- **Winnowing**

- Principle:
 - ◇ Uses air or wind to separate lighter and heavier substances
- Examples:
 - ◇ Husks are blown away while heavier grains fall down
 - ◇ Farmers use winnowing to clean harvested grains

– **Sieving**

- Used To Separate:
 - ◇ Particles of different sizes
- Examples:
 - ◇ Sieving flour to remove bran
 - ◇ Removing small stones from sand or rice

– **Evaporation**

- Used To:
 - ◇ Separate dissolved solids from liquids
- Examples:
 - ◇ Getting salt from seawater
 - ◇ Making jaggery by evaporating sugarcane juice

– **Sedimentation and Decantation**

- **Sedimentation:**
 - ◇ Heavier particles settle at the bottom
- **Decantation:**
 - ◇ Clear liquid is poured out from the top
- Examples:
 - ◇ Cleaning muddy water by allowing mud to settle
 - ◇ Pouring tea carefully to leave tea leaves behind

– **Filtration**

- Used To:
 - ◇ Separate insoluble solids from liquids
- Uses filter paper, cloth, or mesh
- Examples:
 - ◇ Filtering tea using a strainer
 - ◇ Filtering muddy water using cloth or filter paper

- **Churning**
 - Used To:
 - ◇ Separate butter from curd
 - Based on difference in density
 - Examples:
 - ◇ Making butter from curd in rural households
 - ◇ Used in dairy industries
- **Magnetic Separation**
 - Used When:
 - ◇ One substance is magnetic and the other is non-magnetic
 - Examples:
 - ◇ Separating iron nails from sand
 - ◇ Separating iron filings from a mixture with sulfur
- **Keywords to Remember**
 - Mixture
 - Sedimentation
 - Decantation
 - Filtration
 - Sieving
 - Evaporation
 - Threshing
 - Winnowing
 - Churning
 - Magnetic Separation
 - Handpicking

Application-Based Questions (Exam-Oriented)

- **Commonly Asked Concepts:**
 - Match separation methods with correct mixtures
 - Identify physical properties used (e.g., size, weight, magnetic)
 - Give real-life examples (from kitchen, farm, lab, etc.)
- **Useful for Competitive Exams:**

- UPSC / CSAT Real-life application of science
 - SSC / RRB / TNPSC General science and logical reasoning
 - Olympiads / School Quizzes Concept understanding with examples
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