

Separating mixtures

Learning objectives

- 1 Link the physical properties of substances to methods of separation.
- 2 Recall and draw apparatus set ups for different separation methods.
- 3 Explain how separation techniques work to separate mixtures.
- 4 Write independently about separating mixtures, using the key words provided.

Introduction

A mixture is two or more substances added together in any proportion. The substances are not chemically bonded, so they keep their own properties. This means mixtures can be separated easily by using the different physical properties of the substances in them. There are many separation techniques available. They can be as simple as using a magnet or filtration, or more complex, such as distillation and chromatography.

Instructions

1. Stick the structure strip in the margin of your exercise book/paper.
2. Follow the prompts in the structure strip and use your knowledge to write a summary of separating mixtures:
 - Reflect on what you already know about separating mixtures.
 - Where have you seen the key words before?
 - If you'd like more support, what other sources could you use to find the information, e.g. a textbook, online?
3. Do the extension question to apply your knowledge of separating mixtures to a new context.

Key words

Use these key words in your responses:

- melting point • boiling point • dissolve • soluble • insoluble • solvent • filtration
- condense • chromatography • distillation

[illegible]

Extension question

Sammy has a sample of seawater which contains salt, water, sand and bits of seaweed. He wants to get some clean, dry salt and he thinks he can do this just by filtering the sample. Write a letter to Sammy to explain how he can use separation techniques to get salt.