



Content - Big ideas

C2.2 Separation Techniques

Big Question: How do we obtain materials we use?

Learning Outcome:

- Describe how we separate mixtures using physical techniques of filtration, distillation, chromatography and evaporation.
- Explain purity of a mixture and the difference in melting points.

C1.4 Acids & Alkalis

Big Question: Why do some substances have safety symbols on them?

Learning Outcome:

- Describe the pH of substances including if they are strong or weak acids or alkalis.
- List common acids and alkalis.
- Describe a neutralisation reaction and its products.

C1.3 Reactions

Big Question: How do we know a reaction has happened?

Learning Outcome:

- Identify physical and chemical reactions.
- Make observations and use data to determine the reactivity of a substance.
- Use atoms to describe what happens when a chemical reaction occurs in terms of rearrangement of atoms.

Prior learning

- Elements, compounds and mixtures
- Ideas of separating substances with sieving and evaporating.
- Ideas of melting and boiling points

Global/IOM/Subject Links

Global & IOM links:

- Global warming, climate change, waste management, agriculture and farming
- **Subject:**
Reactions – D&T and Geography
- Acids & Alkalis – D&T
- Periodic Table – Maths

Subject specific skills development

Practical skills:

- Using filtration, chromatography, crystallization and distillation techniques in order to separate soluble and insoluble substances.
- Carry out a neutralization reaction using an acid and a base to make salt crystals.
- Observe reactions and determine if the reaction is chemical or physical.