



Topic Title: What a mix up! Year 6 Term: Summer 1



Key question?

How can we separate different materials in a solution?

Big Questions:

How can we recover a substance from a solution?

What is a reversible change?

Which materials can dissolve to make a solution?

Skills Taught:

- Report findings from enquiries, including oral and written explanations of results, explanations involving causal relationships, and conclusions.
- Present findings in written form, displays and other presentations.
- Use test results to make predictions to set up further comparative and fair tests.
- Use simple models to describe scientific ideas, identifying scientific evidence that has been used to support or refute ideas or arguments.
- Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials.
- Demonstrate that dissolving, mixing and changes of state are reversible changes.
- Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning, oxidation and the action of acid on bicarbonate of soda.

Immersion Activity/Provocation: A treasure chest has just been discovered washed up upon a sea shore, however everything inside is mixed up together. How can I separate the materials of sand, water, salt and metal?

Topic Title: What a mix up! Enquiry Question: How can we separate different materials in a solution?

Focus Texts:



Challenge for All:

	<u>Skills and Knowledge</u>
Some children will:	<p>Compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, conductivity (electrical and thermal), and response to magnets.</p> <p>Understand how some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials.</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning, oxidation and the action of acid on bicarbonate of soda.</p>
Most children will:	<p>Report findings from enquiries, including oral and written explanations of results, explanations involving causal relationships, and conclusions.</p> <p>Present findings in written form, displays and other presentations.</p> <p>Use test results to make predictions to set up further comparative and fair tests.</p> <p>Use simple models to describe scientific ideas, identifying scientific evidence that has been used to support or refute ideas or arguments.</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning, oxidation and the action of acid on bicarbonate of soda.</p>
Some children will progress further and will:	<p>As above and .. present observations and data using appropriate methods, including tables and graphs.</p> <p>Interpret observations and data. Present reasoned explanations. Evaluate data, showing awareness of potential errors. Identify questions arising from results of investigations.</p>

Enrichment/Outdoor Learning:

To dissolve or not to dissolve

<https://www.stem.org.uk/resources/elibrary/resource/36691/dissolve-or-not-dissolve>

Animations and videos

<https://www.stem.org.uk/elibrary/collection/3347>

Previously on....(Links to prior learning)

Link to the chemical changes investigated in year 5.

Key Vocabulary:

Dissolving, mixing, changes of state, reversible, solid, liquid, solution, filtering, evaporate

Cross-curricular links:

Information writing- write both chronological and non-chronological reports on the topic.

Celebration of knowledge and skills gained (opportunities for assessment):

Film a short piece in role as science TV presenters. Show your audience what you know about solubility and solutions.

Non-fiction texts: