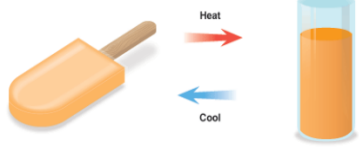
What should I already know?

- A variety of everyday materials including wood, plastic, glass, metal, water and rock.
- The physical properties of a variety of everyday materials (including those that are transparent) and to compare and group materials on the basis of these properties
- Compare and group materials together, according to whether they are solids, liquids or gases.
- Some materials change state when they are heated or cooled and the temperature at which this happens.

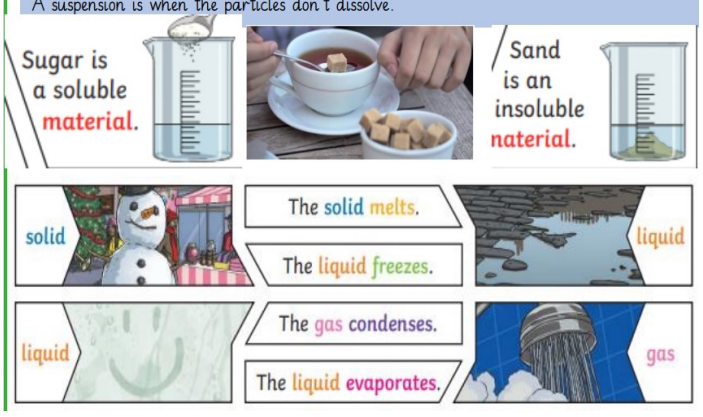
What will I learn in this unit?



Reversible changes
Reversible changes such as mixing and dissolving can be reversed.

Irreversible changes
Irreversible changes often result in a new product being made from the old materials.(reactants). For example, burning wood produces ash and this cannot be turned back into wood.

Dissolving
A solution is made when solid particles are mixed with liquid particles. Materials that will dissolve are known as soluble. Materials that won't dissolve are known as insoluble. A suspension is when the particles don't dissolve.



Year 5 Science Summer 2 Reversible and Irreversible Changes

Science Focus: Biology

Sustainability links: Plastic Pollution

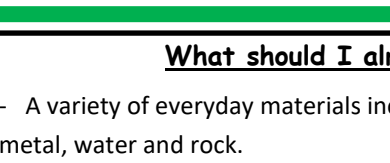
Vocabulary

Word	Definition
Chemical reaction	A process in which one or more substances are converted to one or more different substances.
Irreversible	A permanent change that cannot be undone.
Evaporate	When water changes from a liquid to a gas.
Filter	A technique that is used to separate a solid that has not dissolved in a liquid.
Rust	A red-orange flaky substance which occurs on metals when they have been exposed to air and water.
Mixture	A material made up of two or more different substances.
Soluble	Capable of being dissolved in a liquid
Dissolve	When a solute mixes completely with a liquid.
Reversible	A physical change that can be undone
Solute	A material that is dissolved in a solvent.
Solvent	A material (usually a liquid) that can dissolve other materials.
Solution	A mixture of two or more substances that stays evenly mixed .

What should I already know?

- A variety of everyday materials including wood, plastic, glass, metal, water and rock.
- The physical properties of a variety of everyday materials (including those that are transparent) and to compare and group materials on the basis of these properties
- Compare and group materials together, according to whether they are solids, liquids or gases.
- Some materials change state when they are heated or cooled and the temperature at which this happens.

What will I learn in this unit?



Reversible changes
Reversible changes such as mixing and dissolving can be reversed.

Irreversible changes
Irreversible changes often result in a new product being made from the old materials.(reactants). For example, burning wood produces ash and this cannot be turned back into wood.

Dissolving
A solution is made when solid particles are mixed with liquid particles. Materials that will dissolve are known as soluble. Materials that won't dissolve are known as insoluble. A suspension is when the particles don't dissolve.

Year 5 Science Summer 2 Reversible and Irreversible Changes

Science Focus: Biology

Sustainability links: Plastic Pollution

Vocabulary

Word	Definition
Chemical reaction	A process in which one or more substances are converted to one or more different substances.
Irreversible	A permanent change that cannot be undone.
Evaporate	When water changes from a liquid to a gas.
Filter	A technique that is used to separate a solid that has not dissolved in a liquid.
Rust	A red-orange flaky substance which occurs on metals when they have been exposed to air and water.
Mixture	A material made up of two or more different substances.
Soluble	Capable of being dissolved in a liquid
Dissolve	When a solute mixes completely with a liquid.
Reversible	A physical change that can be undone
Solute	A material that is dissolved in a solvent.
Solvent	A material (usually a liquid) that can dissolve other materials.
Solution	A mixture of two or more substances that stays evenly mixed .

Knowledge and Understanding:

Children will learn:

- How different mixtures of solids and liquids might be separated.
- That certain solids dissolve while others do not,
- To explore how the rate at which solids dissolve can vary, investigating variables that might make a difference.
- Children use specific scientific and other vocabulary as they describe, explain and communicate their understanding of materials, succinctly and in ways appropriate to a science context.

Key skills and concepts:

Children will be able to:

- Children **plan** different types of enquiries to answer questions.
- To **recognise** and **control** variables where necessary.
- They will **use** a range of science equipment with increasing accuracy and precision.
- Use a variety of ways to report and **present** their findings to an audience.

Key Questions

What is dissolving?

How can we separate materials?

How can we use evaporation to separate solutions?

What are reversible changes?

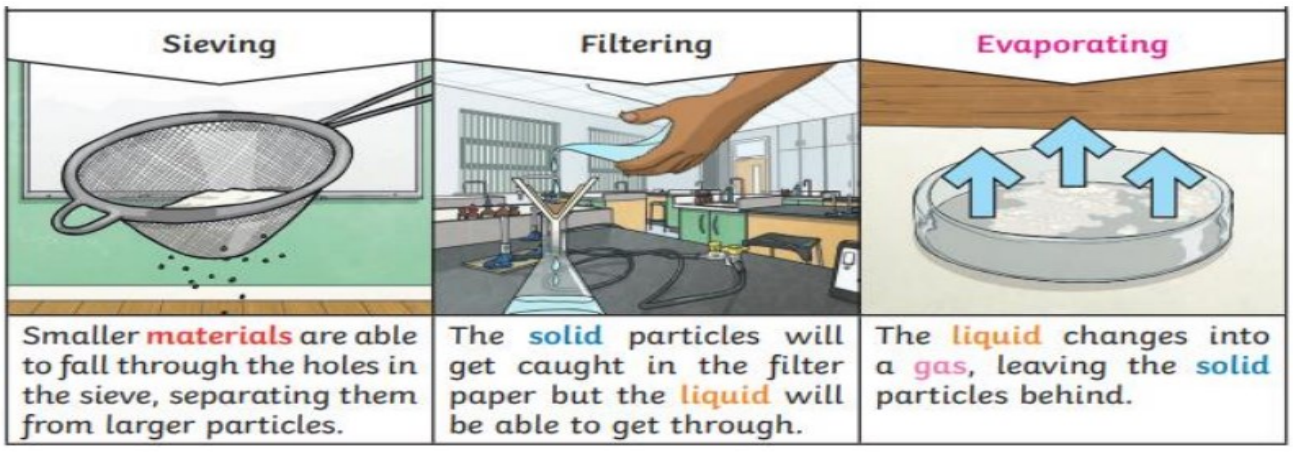
What is an irreversible change—burning?

What is an irreversible change—acid?

What is plastic pollution?

What are the impacts of plastic pollution on the planet?

Reversible changes, such as mixing and dissolving solids and liquids together, can be reversed by:



Knowledge and Understanding:

Children will learn:

- How different mixtures of solids and liquids might be separated.
- That certain solids dissolve while others do not,
- To explore how the rate at which solids dissolve can vary, investigating variables that might make a difference.
- Children use specific scientific and other vocabulary as they describe, explain and communicate their understanding of materials, succinctly and in ways appropriate to a science context.

Key skills and concepts:

Children will be able to:

- Children **plan** different types of enquiries to answer questions.
- To **recognise** and **control** variables where necessary.
- They will **use** a range of science equipment with increasing accuracy and precision.
- Use a variety of ways to report and **present** their findings to an audience.

Key Questions

What is dissolving?

How can we separate materials?

How can we use evaporation to separate solutions?

What are reversible changes?

What is an irreversible change—burning?

What is an irreversible change—acid?

What is plastic pollution?

What are the impacts of plastic pollution on the planet?

Reversible changes, such as mixing and dissolving solids and liquids together, can be reversed by: