

### 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.

Sugar is a **soluble material**.  
Sand is an **insoluble material**.

**State Changes:**  
 - The solid melts.  
 - The liquid freezes.  
 - The gas condenses.  
 - The liquid evaporates.



## Year 5 Science Summer 2 Reversible and Irreversible Changes

Science Focus:  
Biology  
Sustainability links:  
Plastic Pollution

**10 EASY WAYS TO REDUCE PLASTIC WASTE**

- CARRY A REUSABLE BOTTLE
- BUY IN BULK
- DITCH GLITTER
- AVOID MICROBEADS
- REUSABLE BAGS
- BUY USED
- REUSABLE COTTON PADS
- CARRY A SPOON
- CORED DRINKS
- RETURN FOOD PACKAGING TO STORE
- BEHAVIOUR CHANGE

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

- Sieving:** Smaller materials are able to fall through the holes in the sieve, separating them from larger particles.
- Filtering:** The solid particles will get caught in the filter paper but the liquid will be able to get through.
- Evaporating:** The liquid changes into a gas, leaving the solid particles behind.

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.

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