



# Knowledge Organiser: Year 5 - Changes of Materials

Careers connected to changes of materials: laboratory technicians, technical associates, research analysts, chemistry teachers.



## Lesson Sequence



1. Use evaporation to recover the solute from a solution



2. Recognise and describe reversible changes



3. Observe chemical reactions and describe how we know new materials are made



4. Investigate rusting reactions



5. Investigate burning reactions



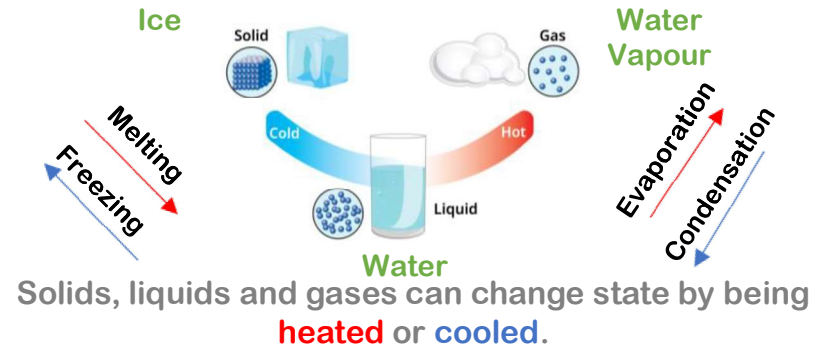
6. Investigate chemical reactions - acids and bicarbonate of soda

## Evaporation



If a solid has **dissolved** in water (for example in a salt solution), **heating** it causes the water to **EVAPORATE**, leaving the solid (salt) behind.

## Changes of State



## Irreversible Changes



These are **CHEMICAL** changes – they **cannot** be reversed as a new material has been made.

## Reversible Changes



liquid chocolate  
– cool –  
solid chocolate



solid lolly  
– heat –  
liquid lolly



mixture of rice and flour  
– sieve –  
both separated



dissolved sugar  
– evaporation (heat) –  
solid sugar













These are **PHYSICAL** changes – they **can** be reversed as no permanent change has been made.



## Unit Rocket Words: Year 5 – changes of materials



### Rocket Words

	<b>solute</b>	a substance that can be dissolved in liquid
	<b>solvent</b>	a substance that can dissolve in a solute
	<b>reversible</b>	a change to a substance that can be undone or reversed
	<b>evaporate</b>	the process where a liquid changes to a gas
	<b>chemical change</b>	a type of change in which a new substance is formed
	<b>effervescence</b>	fizzing or bubbling
	<b>fair test</b>	an experiment that only changes one variable
	<b>corrosion</b>	the reaction of a metal with oxygen
	<b>combustion</b>	an irreversible change where a fuel uses oxygen to burn and releases energy
	<b>extinguish</b>	to put out a fire
	<b>reaction</b>	process in which substances are converted into different substances
	<b>carbon dioxide</b>	gas which makes up around 0.04% of our atmosphere