

# Knowledge Organiser - Year B - Science - Changes of Materials Upper Key Stage 2 (Years 5 and 6) - Spring 2

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



## Sticky Learning (What I already know)

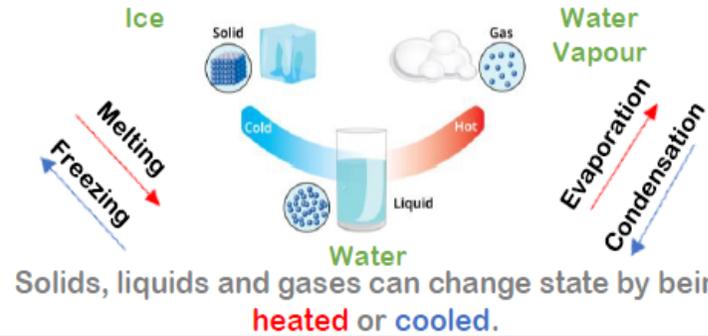
- I know how to compare and group the 3 states of matter
- I know how particles behave in solids, liquids and gases
- I know about melting points
- I know about freezing and boiling points
- I know about evaporation and condensation
- I know about and understand the water cycle

### 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.

## Core Learning



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

## Rocket Words



solute

a substance that can be dissolved in liquid



solvent

a substance that can dissolve in a solute



reversible

a change to a substance that can be undone or reversed



evaporate

the process where a liquid changes to a gas



chemical change

a type of change in which a new substance is formed



effervescence

fizzing or bubbling



fair test

an experiment that only changes one variable



corrosion

the reaction of a metal with oxygen



combustion

an irreversible change where a fuel uses oxygen to burn and releases energy



extinguish

to put out a fire



reaction

process in which substances are converted into different substances



carbon dioxide

gas which makes up around 0.04% of our atmosphere



# Knowledge Organiser: Year 5 - Changes of Materials

## Before & After Test



Tick all the **reversible** changes.

Frying an egg.		Water turning into water vapour.	
Burning paper.		A nail rusting.	
Melting chocolate.		A snowman melting.	
Mixing bicarbonate of soda and vinegar.		Mixing vinegar and milk.	

Draw a line from the picture to the correct process to **reverse** it.

Melted chocolate

Sieving

raspberry frozen in water

Cooling

Rice mixed with salt

Heating

Sand mixed with water

Filtering

Fill in the missing labels using the following words:

**evaporation   condensation   freezing   melting**

_____			
_____			
_____			
_____			

A lost explorer collects some water from the sea. It contains dissolved salt.

1. What is the name of the process he would use to separate the salt from the water?
2. Explain how he could do this.

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