

# The Knowledge

Supporting the National Curriculum



Knowing More

Remembering More

Learning More

# Changes of Materials



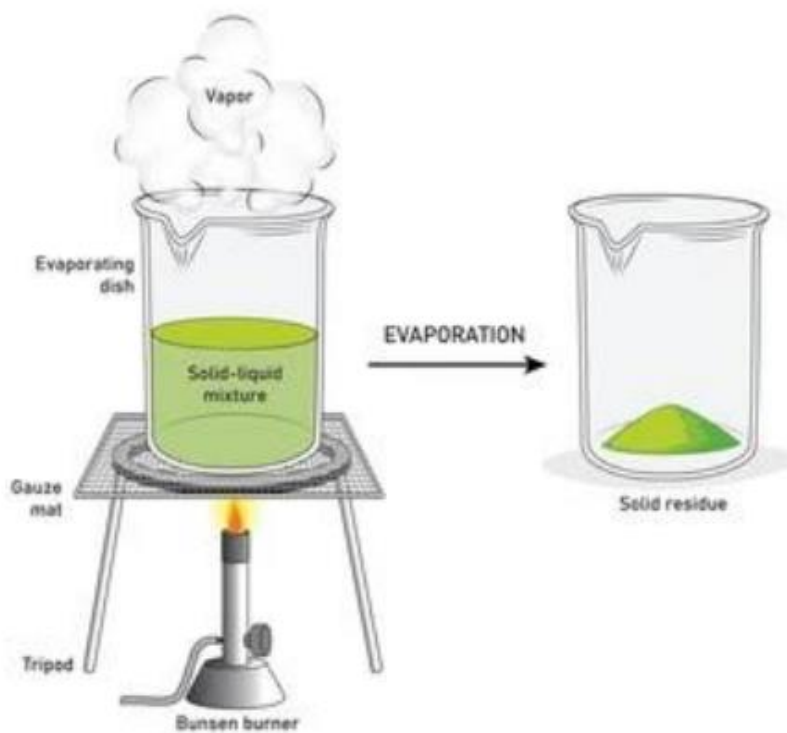
**ARDLEIGH GREEN**  
JUNIOR SCHOOL

Year 5  
Science

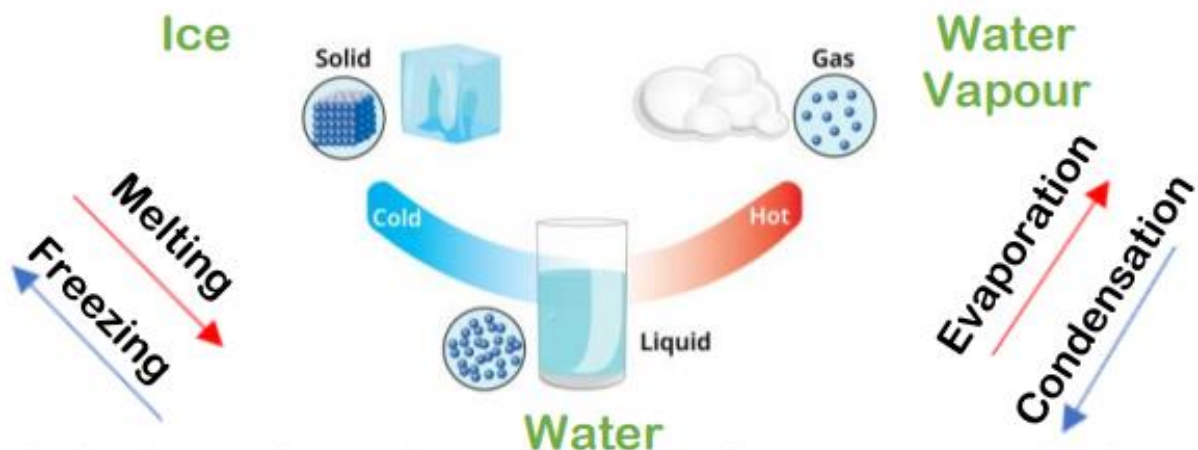
# Key Facts

## 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:



Solids, liquids and gases can change state by being **heated** or **cooled**.

# Reversible Changes

These are PHYSICAL changes. Reversible changes are when you can get the original materials back. Materials can be separated in different ways.



liquid chocolate  
– cool –  
solid chocolate



solid lolly  
– heat –  
liquid lolly



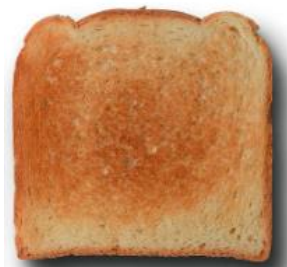
dissolved sugar  
– evaporation (heat) –  
solid sugar

# Irreversible Changes

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



rusting



making  
toast



fire



cooking  
an egg

# Key Vocabulary

**Reversible** - a **change** to a substance that can be **undone** or **reversed**

**Irreversible** – a change that **cannot** be undone

**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**

## Test Yourself

- How can evaporation be used to recover the solute from a solution?
- What is a reversible change?
- What is an irreversible change?
- How is rusting an irreversible change?
- How can you extinguish a fire?
- What is a chemical reaction?