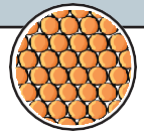
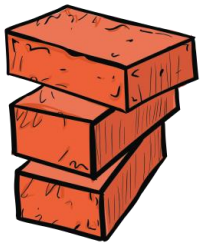
Year 5 - Materials Knowledge Organiser

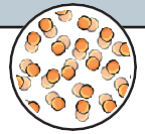
Solid



- stay in one place
- keep their shape
- do not flow
- always take up the same amount of space
- do not spread out
- can be cut or shaped

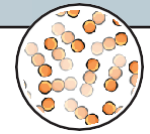


Liquid



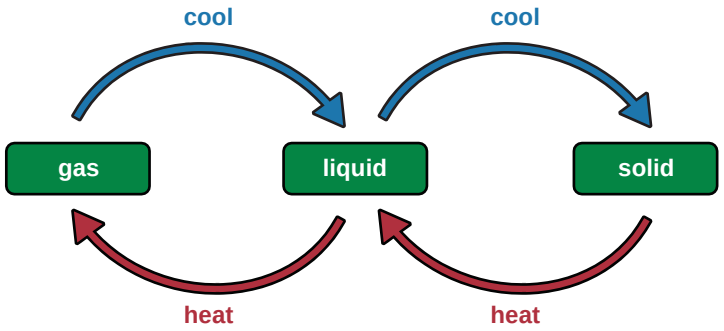
- can flow or be poured
- not easy to hold
- change their shape to fit the container they are in
- take up the same amount of space
- volume stays the same

Gas



- often invisible
- do not keep shape
- do not take up the same amount of space
- can change shape and volume
- can be squashed

States of matter can change when they are heated or cooled.



Words to describe materials:

- hard
- soft
- durable
- flexible
- transparent
- absorbent
- waterproof
- magnetic
- translucent
- opaque

Different materials are suitable for different jobs because of their qualities and properties.

For example, rubber is a good material for tyres because it is **durable.**

Reversible changes

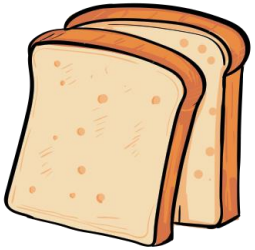
Reversible changes are when you can get the original materials back. Materials can be separated in different ways.

making ice cubes

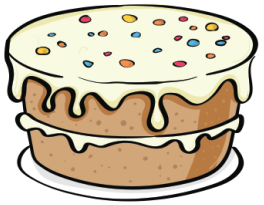
mixing sugar in tea

Irreversible changes

Irreversible changes are when you cannot get the original materials back again. Heating and chemical reactions can both cause irreversible changes.



making toast



baking a cake

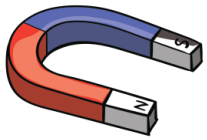
Separating materials

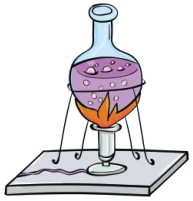
evaporation – used for separating a soluble solid and a liquid

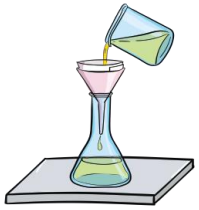
sieving – used for separating two solids

magnets – used for separating magnetic and non-magnetic materials

filtration – used for separating a liquid and a solid







Solutions

A **solution** is made when a material dissolves in a liquid. Sugar and water are **soluble** materials. An **insoluble** material does not dissolve in liquid, such as sand. Materials in a solution can be separated by **evaporation.**