



structure of material

everything made from **atoms** and **molecules**

● **atom** = smallest known part of any material

● **molecule** = two or more atoms, bonded

particles = atoms + molecules ● + ●



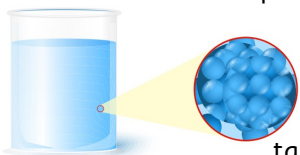
gas

air-like

can flow

no fixed shape

particles **moving apart** quickly

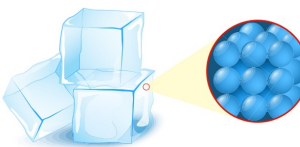


liquid

can flow

take shape of the container

particles **very close** but not fixed



solid

own shape

can't flow

fixed volume

particles **very close** and fixed position

uses and properties of materials

conductor ↔

material that **allows** heat or electricity through



insulator →

material that **does not** allow heat, electricity or sound through very well



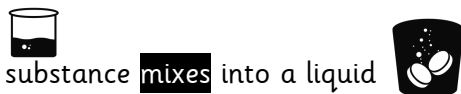
hardness |||

how easily a material can be **scratched**



solubility

how well a substance **mixes** into a liquid



transparency

how see-through a material is



magnetism

when a material is attracted by **magnetic** force



physical change

generally **reversible** ↔

2 or more materials **combined**

dissolving **melting** **freezing** **evaporating**

solid ↔ **liquid** ↔ **gas**



chemical changes

irreversible ↯
cannot change back

heating

frying an egg



mixing certain materials

vinegar and bicarbonate of soda



burning

ash and smoke



dissolving

solute + **solvent** = **solution**

a substance put into a liquid

the liquid that a solute is put into

mixture formed when a solute dissolves in a solvent



salt

+ **water**

= **saltwater**



separating

sieving



mixture made of **solid particles**

sand from pebbles

filtering



separate mixtures **filter paper**

sand from water

magnetism



separate **magnetic** material

iron from plastic

evaporating



separate solutions **heating**

salt from water
salt left behind