



structure of material

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

atom = smallest known part of any material

molecule = two or more atoms, bonded

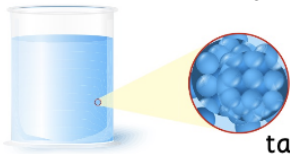
particles = atoms + molecules



gas

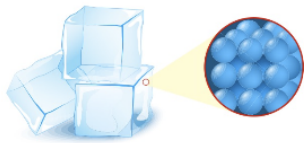
air-like
can flow

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

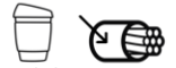
conductor ↔

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**



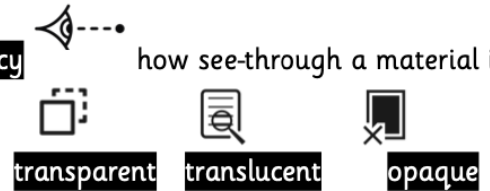
solubility

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



transparency ↗

how see-through a material is



magnetism C

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



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