



**structure of material**

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

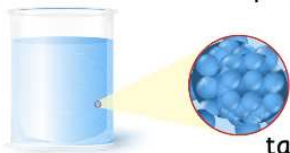
● **atom** = smallest known part of any material

● **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

**transparent** **translucent** **opaque**

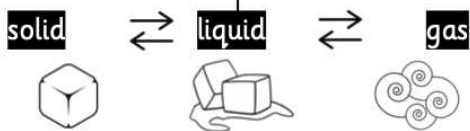
**magnetism** when a material is attracted by **magnetic** force

**physical change**

generally **reversible** ↔

2 or more materials **combined**

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



**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** ← ● →

