

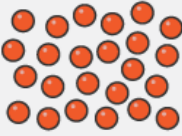


Particle arrangement in solids liquids and gasses

State	Solid	Liquid	Gas
Diagram			
Arrangement of particles	Regular arrangement	Randomly arranged	Randomly arranged
Movement of particles	Vibrate about a fixed position	Move around each other	Move quickly in all directions
Closeness of particles	Very close	Close	Far apart

Properties of solids

Property	Reason
They have a fixed shape and cannot flow	The particles cannot move from place to place
They cannot be compressed (squashed)	The particles are close together and have no space to move into

Properties of liquids

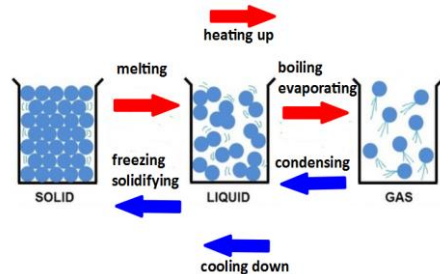
Property	Reason
They flow and take the shape of the bottom of their container	The particles can move around each other
They cannot be compressed (squashed)	The particles are close together and have no space to move into

Properties of gasses

Property	Reason
They flow and completely fill their container	The particles can move quickly in all directions
They can be compressed (squashed)	The particles are far apart and have space to move into

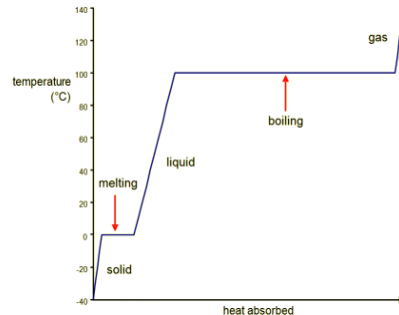
Changing state

If we heat 10g of ice it becomes 10g of water then 10g of steam. This is called conservation of mass



Nature of Matter

Heating graph



Gas particles move at random and **collide** with the walls of the container. This gives **gas pressure**



Symbol	Name
K	
Ni	
	Phosphorus
Na	
C	
	Gold
	Neon
Al	
Cu	
	Oxygen
	Water
CO ₂	

How does the energy of the particles change from a solid to a liquid and then into a gas?

What is an atom?

What is an element?

What is a compound?

What is a mixture?

What is diffusion?

Y7 Nature of Matter

Write a word equation to show the reaction between Iron and sulfur.



Write a symbol equation to show the reaction between Iron and sulfur.



Which are the reactants?

Describe the three experiment variable:

Dependent:

Independent:

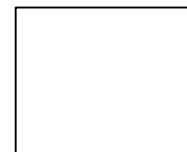
Control:

Draw a particle diagram to show what a solid, liquid and gas look like. Then explain underneath how they are arranged.

SOLID



LIQUID



GAS



What do we call the process of turning a solid into a liquid?

Now complete the diagram to the right to show the states and state changes.

