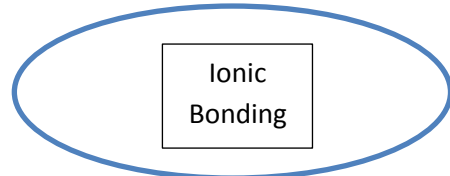


Demonstrate understanding of thermochemical principles and the properties of particles and substances

Attractive Forces between atoms, molecules and ions

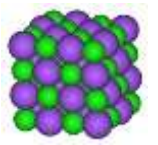


An attraction between oppositely charged ions

Anions = -ve charged

Cations = +ve charged

Ionic lattice



properties

May be soluble in polar solvents e.g. water

Ionic lattice does not conduct electricity

Ionic lattice is brittle

High melting and boiling points

Solution will conduct electricity – ions (charge carriers) are free to move and carry charge.

Ions (charge carriers are unable to move) – strongly held in place by electrostatic force of attraction.

A force will align ions of same charge alongside each other and then repulsion forces crystal planes to part.

Energy is required to separate charged ions from lattice.

Molten ionic compounds conduct electricity as ions are free to move and carry charge.

Metal atoms lose electrons to form cations – metal elements have a low first ionisation energy

Non – metal atoms gain electrons to form anions (negatively charged ions)

1	H																	2	He																
3	Li	4	Be											10	Ne																				
11	Na	12	Mg											18	Ar																				
19	K	20	Ca	21	Sc	22	Ti	23	V	24	Cr	25	Mn	26	Fe	27	Co	28	Ni	29	Cu	30	Zn	31	Ga	32	Ge	33	As	34	Se	35	Br	36	Kr
37	Rb	38	Sr	39	Y	40	Zr	41	Nb	42	Mo	43	Tc	44	Ru	45	Rh	46	Pd	47	Ag	48	Cd	49	In	50	Sn	51	Sb	52	Te	53	I	54	Xe
55	Cs	56	Ba	57	La	58	Ce	59	Pr	60	Nd	61	Pm	62	Sm	63	Eu	64	Gd	65	Tb	66	Dy	67	Ho	68	Er	69	Tm	70	Yb				
87	Fr	88	Ra	89	Ac	90	Th	91	Pa	92	U	93	Np	94	Pu	95	Am	96	Cm	97	Bk	98	Cf	99	Es	100	Fm	101	Md	102	No				

* Lanthanide series
** Actinide series

