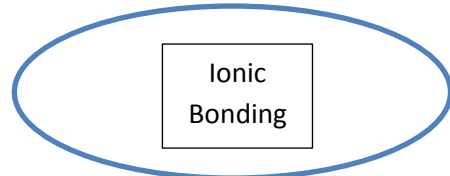


Attractive Forces between atoms, molecules and ions

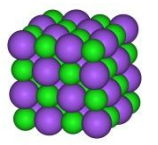


An attraction between oppositely charged ions

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											6	B	7	C	8	N	9	O	10	F	11	Ne										
11	Na	12	Mg											13	Al	14	Si	15	P	16	S	17	Cl	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	57-71	Lu	72	Hf	73	Ta	74	W	75	Re	76	Os	77	Ir	78	Pt	79	Au	80	Hg	81	Tl	82	Pb	83	Bi	84	Po	85	At	86	Rn
87	Fr	88	Ra	89-103	Lr	104	Rf	105	Db	106	Sg	107	Bh	108	Hs	109	Mt	110	Uun	111	Uuu	112	Uub	113	Uut	114	Uuq	115	Uuq	116	Uuq	117	Uuq	118	Uuq
*Lanthanide series				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				
** Actinide series				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				