ALL TRENDS OF p-BLOCK ELEMENTS

GROUP - 13

Atomic Radius	B < Ga < Al < In < Tl
Ionisation Enthalpy	B > Tl > Ga > Al > In
Electronegativity	B > Tl > In > Ga > Al
Melting Point	B > Al > Tl > In > Ga
Boiling Point	B > Al > Ga > In > Tl
Density	Tl > In > Ga > Al > B $(Ga_{(l)} > Ga_{(s)})$
Stability of +1 OS	Tl > In > Ga > Al > B
Stability of +3 OS	B > Al > Ga > In > Tl
Extent of Back Bonding	$BF_3 > BCl_3 > BBr_3 > BI_3$
Lewis Acidic Strength	$BF_3 < BCl_3 < BBr_3 < BI_3$

GROUP - 14

Atomic Radius	Pb > Sn > Ge > Si > C
Ionisation Enthalpy	C > Si > Ge > Pb > Sn
Electronegativity	C > Pb > Si = Ge = Sn
Melting Point	C > Si > Ge > Pb > Sn
Boiling Point	Si > Ge > Sn > Pb
Density	Pb > Sn > Ge > C > Si
Bond Enthalpy	C-C > Si-Si > Ge-Ge > Sn-Sn
Catenation	C >> Si > Ge = Sn (Pb don't show)

GROUP - 15

Covalent Radius	$N < P < As < Pb < Bi$
Ionic Radius	$Sb^{3+} < Bi^{3+} < N^{3-} < P^{3-} < As^{3-}$
Ionisation Enthalpy	$N > P > As > Sb > Bi$
Electronegativity	$N > P > As > Sb = Bi$
Melting Point	$As > Sb > Bi > P > N$
Boiling Point	$Sb > Bi > As > P > N$
Density	$N < P < As < Sb < Bi$

GROUP - 15

Bond Length	$NH_3 < PH_3 < AsH_3 < SbH_3 < BiH_3$
Bond Energy	$NH_3 > PH_3 > AsH_3 > SbH_3 > BiH_3$
Thermal Stability	$NH_3 > PH_3 > AsH_3 > SbH_3 > BiH_3$
Bond Angle	$NH_3 > PH_3 > AsH_3 > SbH_3 > BiH_3$
Reducing Nature	$NH_3 < PH_3 < AsH_3 < SbH_3 < BiH_3$
Basicity	$NH_3 > PH_3 > AsH_3 > SbH_3 > BiH_3$
Boiling Point	$PH_3 < AsH_3 < NH_3 < SbH_3 < BiH_3$
Melting Point	$PH_3 < AsH_3 < SbH_3 < NH_3$

GROUP - 16

Atomic Radius	O < S < Se < Te < Po
Ionisation Enthalpy	O > S > Se > Te > Po
Electron Gain Enthalpy	S > Se > Te > Po > O
Electronegativity	O > S > Se > Te > Po
Melting Point	O < S < Se < Te
Boiling Point	O < S < Se < Te
Density	O < S < Se < Te

GROUP - 16

Reducing Nature	$H_2O < H_2S < H_2Se < H_2Te$
Acidic Strength	$H_2O < H_2S < H_2Se < H_2Te$
Boiling Point	$H_2S < H_2Se < H_2Te < H_2O$
Melting Point	$H_2S < H_2Se < H_2Te < H_2O$
Bond Dissociation Enthalpy	$H_2O > H_2S > H_2Se > H_2Te$

GROUP - 17

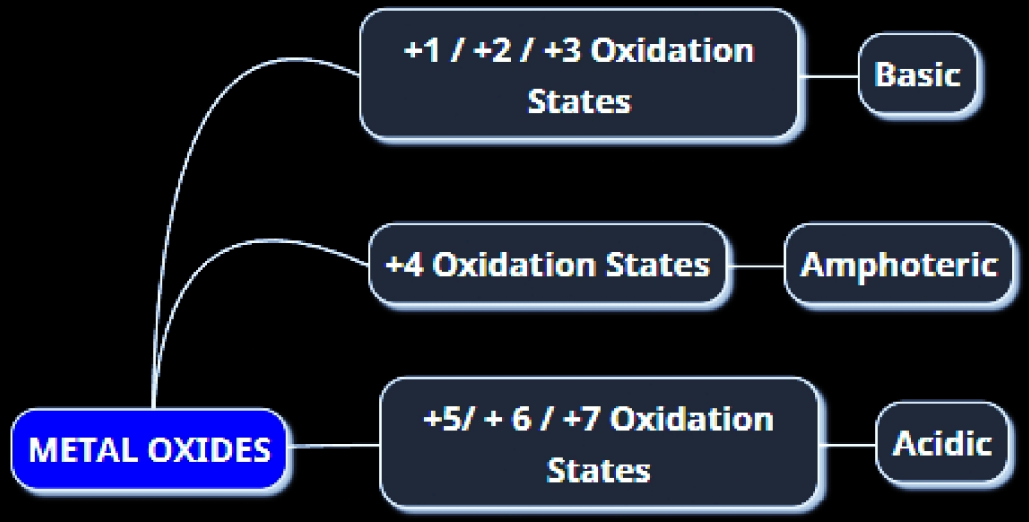
Atomic Radius	$F < Cl < Br < I$
Ionisation Enthalpy	$F > Cl > Br > I$
Electronegativity	$F > Cl > Br > I$
Electron Gain Enthalpy	$Cl > F > Br > I$
Melting Point	$F_2 < Cl_2 < Br_2 < I_2$
Boiling Point	$F_2 < Cl_2 < Br_2 < I_2$
Density	$F < Cl < Br < I$
Bond Enthalpy	$Cl_2 > Br_2 > F_2 > I_2$
Oxidising Nature	$F_2 > Cl_2 > Br_2 > I_2$

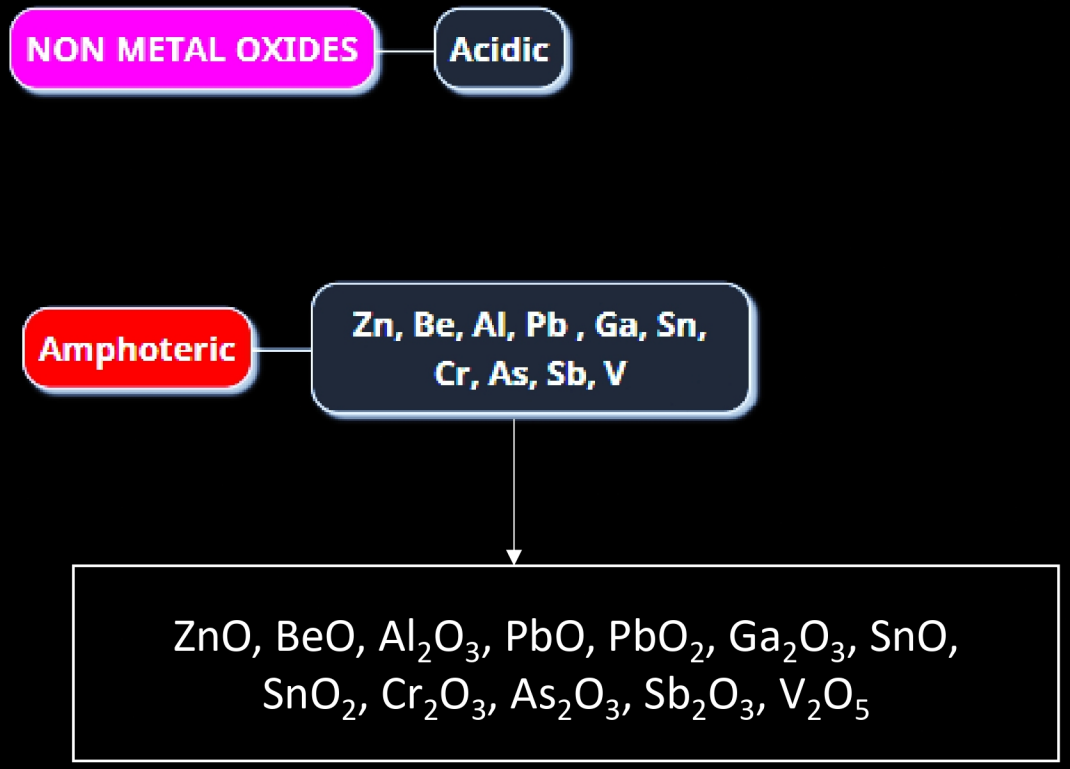
GROUP - 17

Bond Length	HF < HCl < HBr < HI
Bond Energy	HF > HCl > HBr > HI
Thermal Stability	HF > HCl > HBr > HI
Acidic Nature	HF < HCl < HBr < HI
Dipole Moment	HF > HCl > HBr > HI
Boiling Point	HCl < HBr < HI < HF
Melting Point	HCl < HBr < HF < HI
Reducing Nature	HF < HCl < HBr < HI

GROUP - 18

Atomic Radius	He < Ne < Ar < Kr < Xe < Rn
Ionisation Enthalpy	He > Ne > Ar > Kr > Xe > Rn
Solubility	He < Ne < Ar < Kr < Xe < Rn
Melting Point	He < Ne < Ar < Kr < Xe < Rn
Boiling Point	He < Ne < Ar < Kr < Xe < Rn
Volatile Nature	He > Ne > Ar > Kr > Xe > Rn
Ease of Liquification	He < Ne < Ar < Kr < Xe < Rn
Density	He < Ne < Ar < Kr < Xe < Rn


METAL OXIDES
+1 / +2 / +3 Oxidation States
Basic
+4 Oxidation States
Amphoteric
+5/ + 6 / +7 Oxidation States
Acidic


NON METAL OXIDES
Acidic
Amphoteric
Zn, Be, Al, Pb , Ga, Sn, Cr, As, Sb, V
ZnO, BeO, Al_2O_3, PbO, PbO_2, Ga_2O_3, SnO, SnO_2, Cr_2O_3, As_2O_3, Sb_2O_3, V_2O_5