

College Prep (CP) Chemistry of the Earth Data Tables

Ionic Compound Bonding and Nomenclature Data Sheets

Atomic Structure for Main Group Elements (1 – 18) [No Rare Earth Elements]

Group Number	1	2	3 - 12	13	14	15	16	17	18
Element Type	Metals	Metals	Trans Metals	Metals*	Non-Metals*	Non-Metals*	Non-Metals	Non-Metals	Non-Metals
Family Name	Alkali Metals	Alkali Earth Metals	Transition Metals	Earth Metals	Carbon Group	Picogens	Chalcogens	Halogens	Noble Gases
Valance Electrons (e ⁻)	1	2	2	3	4	5	6	7	8
Ion Charge	+1	+2	Var.** +1 to +7	+3	+4*** -4	-3	-2	-1	0
Ion Type	Cation	Cation	Cation	Cation	Cation Anion	Anion	Anion	Anion	Anion
Ion Valance Electrons (e ⁻)	0	0	0	0	0 / 8	8	8	8	N/A
Lewis Dot Structure	X •	• X •	• X •	• X •	• X •	• X •	• X •	• X •	• X •

*Includes Transition Metals (*Ga, In, Tl, Pb, Sn*) and Metalloids (*B, Si, Ge, As, Sb, Te, Po*)

**Transition Metals, Variable Charges

***Group 14: C = -4, Si = +4, Sn and Pb = +2 or +4 (*Transition Metals*)