1. monatomic cations: (metals)

(a) element can only form one cation

Symbol of element	Na	K	Mg	Al	Ba
Symbol of cation	Na^+	K^+	Mg^{2+}	Al^{3+}	Ba^{2+}
Name of cation	sodium cation	potassium cation	magnesium cation	aluminum cation	barium cation

(b) element can form multiple cations

Symbol of element	Symbol of cation	Name of cation
Fe	Fe^{2+}	iron (II) ion
	Fe^{3+}	iron (III) ion
Cu	Cu^+	copper (I) ion
	Cu^{2+}	copper (II) ion
Mn	Mn^{2+}	manganese (II) ion
	Mn^{4+}	manganese (IV) ion
Cr	Cr^{2+}	chromium (II) ion
	Cr^{3+}	chromium (III) ion
Co	Co^{2+}	cobalt (II) ion
	Co^{3+}	cobalt (III) ion
Pb	Pb^{2+}	lead (II) ion
	Pb^{4+}	lead (IV) ion
Sn	Sn^{2+}	tin (II) ion
	Sn^{4+}	Tin (IV) ion

2. polyatomic cation:

NH_4^+: ammonium ion

3. monatomic anions: (non-metals)

Group number	Symbol of element	Symbol of anion	Name of anion
17	F	F^-	fluoride
	Cl	Cl^-	chloride
	Br	Br^-	bromide
	I	I^-	iodide
16	O	O^{2-}	oxide
	S	S^{2-}	sulfide
15	N	N^{3-}	nitride
	P	P^{3-}	phosphide
14	C	C^{4-}	Carbide
	Si	Si^{4-}	Silicide
1	H	H^-	hydride