

Ionic compounds are composed of cations (or anions) and anions (or cations). When writing an ionic formula, the total positive (or negative) charge must equal the total negative (or positive) charge because the number of electrons lost (or gained) must equal the number of electrons gained (or lost). Always write the symbol of the cation first, followed by the symbol of the anion. The criss-cross method is a short-cut to correct formula writing as long as we remember to simplify our subscripts!

In each box, write the formula of the ionic compound consisting of the positive ion to the left of the box and the negative ion above the box.

	Cl^-	S^{2-}	F^-	N^{3-}	O^{2-}	P^{3-}
Mg^{2+}	MgCl_2	MgS	MgF_2	Mg_3N_2	MgO	Mg_3P_2
Cs^+	CsCl	Cs_2S	CsF	Cs_3N	Cs_2O	Cs_3P
Cr^{3+}	CrCl_3	Cr_2S_3	CrF_3	CrN	Cr_2O_3	CrP
Na^+	NaCl	Na_2S	NaF	Na_3N	Na_2O	Na_3P
Zn^{2+}	ZnCl_2	ZnS	ZnF_2	Zn_3N_2	ZnO	Zn_3P_2
Al^{3+}	AlCl_3	Al_2S_3	AlF_3	AlN	Al_2O_3	AlP