# The criss-cross method of balancing charge!

Ionic compound formulas must contain the fewest number of ions that "balance" out positive and negative charge (the same amount of each). The "criss-cross" method is one way of writing the formulas properly. The formula for ionic compounds is called a "formula unit."

1. Write symbols and charges of ions.

Cu^{2+} P^{3-}

2. Crisscross:
    The cation charge becomes the anion subscript
    The anion charge becomes the cation subscript

$Cu^{2+}{}_3$ $P^{3-}{}_2$

3. Clean up format for final answer

  - do NOT write ionic charges

  - reduce subscripts to lowest ratio

  - do NOT write the subscript "1"

Cu_3P_2
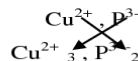
Use the criss-cross method to write formula units for these ionic compounds
(2 examples are done for you)

	Cl^-	O^{2-}	P^{3-}	S^{2-}
Na^+	NaCl	Na_2O	Na_3P	Na_2S
K^+	KCl	K_2O	K_3P	K_2S
Ba^{2+}	$BaCl_2$	BaO	Ba_3P_2	BaS
Fe^{2+}	$FeCl_2$	FeO	Fe_3P_2	FeS
Cr^{3+}	$CrCl_3$	Cr_2O_3	CrP	Cr_2S_3
Li^+	LiCl	Li_2O	Li_3P	Li_2S
Mg^{2+}	$MgCl_2$	MgO	Mg_3P_2	MgS
Al^{3+}	$AlCl_3$	Al_2O_3	AlP	Al_2S_3
Ga^{3+}	$GaCl_3$	Ga_2O_3	GaP	Ga_2S_3
Sn^{2+}	$SnCl_2$	SnO	Sn_3P_2	SnS
Ca^{2+}	$CaCl_2$	CaO	Ca_3P_2	CaS