

More Formula Practice

Determine the formulas of the resulting compounds. (Remember to place brackets around the polyatomic ions with the subscript outside the bracket if there is more than one in the compound.)

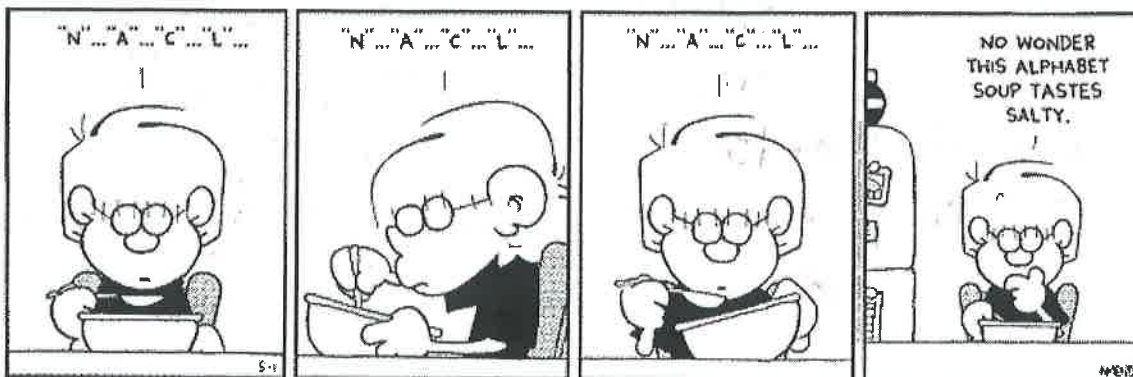
X	Cl ¹⁻	O ²⁻	P ³⁻	OH ¹⁻	CO ₃ ²⁻
Na ¹⁺	NaCl	Na ₂ O	Na ₃ P	NaOH	Na ₂ CO ₃
Ca ²⁺	CaCl ₂	CaO	Ca ₃ P ₂	Ca(OH) ₂	CaCO ₃
Al ³⁺	AlCl ₃	Al ₂ O ₃	AlP	Al(OH) ₃	Al ₂ (CO ₃) ₃
Fe ²⁺	FeCl ₂	FeO	Fe ₃ P ₂	Fe(OH) ₂	FeCO ₃
Fe ³⁺	FeCl ₃	Fe ₂ O ₃	FeP	Fe(OH) ₃	Fe ₂ (CO ₃) ₂
NH ₄ ¹⁺	NH ₄ Cl	(NH ₄) ₂ O	(NH ₄) ₃ P	NH ₄ OH	(NH ₄) ₂ CO ₃

Note that if the names of the ions are given, it is necessary to look up the symbols and valences.

E.g. Potassium (K¹⁺) and nitrate (NO₃⁻) combine to form KNO₃.

Lithium (Li) and sulphate (SO₄²⁻) combine to form Li₂SO₄.

Copper (II) (Cu²⁺) and chloride (Cl¹⁻) combine to form CuCl₂.



The name of an ionic compound is simply the name of the positive ion followed by the name of the negative ion, e.g.:

NaCl	<u>sodium chloride</u>
CaCl ₂	<u>calcium chloride</u>
Li ₂ O	<u>lithium oxide</u>
KOH	<u>potassium hydroxide</u>
Mg(ClO ₃) ₂	<u>magnesium chlorate</u>
NH ₄ F	<u>ammonium fluoride</u>

The only tricky ones to name are those that contain multivalent ions. It is necessary to look at how the ions have combined to figure out the valence of the multivalent ion.

^{2x1x2} FeO	<u>iron (II) oxide</u> (because oxide is O ²⁻)
Fe ₂ O ₃	<u>iron (III) oxide</u>
CuCl ₂	<u>copper (II) chloride</u>
^{2x1x2} CuSO ₄	<u>copper (II) sulphate</u>
Cu ₂ O	<u>copper (I) oxide</u>

More Practice:

BaF ₂	<u>barium fluoride</u>	CoCl ₂	<u>cobalt (II) chloride</u>
AlPO ₄	<u>aluminum phosphate</u>	K ₃ N	<u>potassium nitride</u>
PbI ₄	<u>lead (IV) iodide</u>	NaOH	<u>sodium hydroxide</u>
(NH ₄) ₂ O	<u>ammonium oxide</u>	Ca ₃ P ₂	<u>calcium phosphide</u>
MgCO ₃	<u>magnesium carbonate</u>	CuBr	<u>copper (I) bromide</u>
NiCl ₂	<u>nickel (II) chloride</u>	KNO ₂	<u>potassium nitrite</u>
Sn ₃ P ₄	<u>tin (IV) phosphide</u>	Ca ₃ (PO ₄) ₂	<u>calcium phosphate</u>
AuCl ₃	<u>gold (III) chloride</u>	^{2x1x2} SnO	<u>tin (II) oxide</u>