

## Chapter 6 Tables 13 & 14 Formula Writing Exercises

By: Eugene F. Leafly III

Instructions: In each box, write the chemical formula of the compound formed by the cation at the head of the column and the anion at the left of the row. Refer only to the periodic table when completing this exercise. Correct formulas are listed in the Answers to Questions, Exercises, and Problems at the end of the book.\*

Ions	Potassium	Calcium	Chromium(III)	Zinc	Silver	Iron(III)	Aluminum	Mercury(II)
Nitrate	KNO <sub>3</sub>	Ca(NO <sub>3</sub> ) <sub>2</sub>	Cr(NO <sub>3</sub> ) <sub>3</sub>	Zn(NO <sub>3</sub> ) <sub>2</sub>	AgNO <sub>3</sub>	Fe(NO <sub>3</sub> ) <sub>3</sub>	Al(NO <sub>3</sub> ) <sub>3</sub>	Hg(NO <sub>3</sub> ) <sub>2</sub>
Sulfate	K <sub>2</sub> SO <sub>4</sub>	CaSO <sub>4</sub>	Cr <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	ZnSO <sub>4</sub>	Ag <sub>2</sub> SO <sub>4</sub>	Fe <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	HgSO <sub>4</sub>
Hypochlorite	KClO	Ca(ClO) <sub>2</sub>	Cr(ClO) <sub>3</sub>	Zn(ClO) <sub>2</sub>	AgClO	Fe(ClO) <sub>3</sub>	Al(ClO) <sub>3</sub>	Hg(ClO) <sub>2</sub>
Nitride	K <sub>3</sub> N	Ca <sub>3</sub> N <sub>2</sub>	CrN	Zn <sub>3</sub> N <sub>2</sub>	Ag <sub>3</sub> N	FeN	AlN	
Hydrogen sulfide	KHS	Ca(HS) <sub>2</sub>	Cr(HS) <sub>3</sub>	Zn(HS) <sub>2</sub>	AgHS	Fe(HS) <sub>3</sub>	Al(HS) <sub>3</sub>	Hg(HS) <sub>2</sub>
Bromite	KBrO <sub>2</sub>	Ca(BrO <sub>2</sub> ) <sub>2</sub>	Cr(BrO <sub>2</sub> ) <sub>3</sub>	Zn(BrO <sub>2</sub> ) <sub>2</sub>	AgBrO <sub>2</sub>	Fe(BrO <sub>2</sub> ) <sub>3</sub>	Al(BrO <sub>2</sub> ) <sub>3</sub>	Hg(BrO <sub>2</sub> ) <sub>2</sub>
Hydrogen phosphate	K <sub>2</sub> HPO <sub>4</sub>	CaHPO <sub>4</sub>	Cr <sub>2</sub> (HPO <sub>4</sub> ) <sub>3</sub>	ZnHPO <sub>4</sub>	Ag <sub>2</sub> HPO <sub>4</sub>	Fe <sub>2</sub> (HPO <sub>4</sub> ) <sub>3</sub>	Al <sub>2</sub> (HPO <sub>4</sub> ) <sub>3</sub>	HgHPO <sub>4</sub>
Chloride	KCl	CaCl <sub>2</sub>	CrCl <sub>3</sub>	ZnCl <sub>2</sub>	AgCl	FeCl <sub>3</sub>	AlCl <sub>3</sub>	HgCl <sub>2</sub>
Hydrogen carbonate	KHCO <sub>3</sub>	Ca(HCO <sub>3</sub> ) <sub>2</sub>	Cr(HCO <sub>3</sub> ) <sub>3</sub>	Zn(HCO <sub>3</sub> ) <sub>2</sub>	AgHCO <sub>3</sub>	Fe(HCO <sub>3</sub> ) <sub>3</sub>	Al(HCO <sub>3</sub> ) <sub>3</sub>	Hg(HCO <sub>3</sub> ) <sub>2</sub>
Acetate	KC <sub>2</sub> H <sub>3</sub> O <sub>2</sub>	Ca(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>2</sub>	Cr(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>3</sub>	Zn(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>2</sub>	AgC <sub>2</sub> H <sub>3</sub> O <sub>2</sub>	Fe(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>3</sub>	Al(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>3</sub>	Hg(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>2</sub>
Selenite	K <sub>2</sub> SeO <sub>3</sub>	CaSeO <sub>3</sub>	Cr <sub>2</sub> (SeO <sub>3</sub> ) <sub>3</sub>	ZnSeO <sub>3</sub>	Ag <sub>2</sub> SeO <sub>3</sub>	Fe <sub>2</sub> (SeO <sub>3</sub> ) <sub>3</sub>	Al <sub>2</sub> (SeO <sub>3</sub> ) <sub>3</sub>	HgSeO <sub>3</sub>

Instructions: In each box, write the chemical formula and name of the compound formed by the cation at the head of the column and the anion at the left of the row. Refer only to the periodic table when completing this exercise. Correct formulas are listed in the Answers to Questions, Exercises, and Problems at the end of the book.\*

Ions	Na <sup>+</sup>	Mg <sup>2+</sup>	Pb <sup>2+</sup>	Cu <sup>2+</sup>	Fe <sup>3+</sup>	NH <sub>4</sub> <sup>+</sup>	Hg <sup>2+</sup>	Ga <sup>3+</sup>
OH <sup>-</sup>	NaOH, Sodium hydroxide	Mg(OH) <sub>2</sub> , magnesium hydroxide	Pb(OH) <sub>2</sub> , lead(II) hydroxide	Cu(OH) <sub>2</sub> , copper(II) hydroxide	Fe(OH) <sub>3</sub> , iron (III) hydroxide	NH <sub>4</sub> OH, ammonium hydroxide	Hg(OH) <sub>2</sub> , mercury(II) hydroxide	Ga(OH) <sub>3</sub> , gallium hydroxide
BrO <sup>-</sup>	NaBrO, Sodium hypobromite	Mg(BrO) <sub>2</sub> , magnesium hypobromite	Pb(BrO) <sub>2</sub> , lead(II) hypobromite	Cu(BrO) <sub>2</sub> , copper(II) hypobromite	Fe(BrO) <sub>3</sub> , iron(III) hypobromite	NH <sub>4</sub> BrO, ammonium hypobromite	Hg(BrO) <sub>2</sub> , mercury(II) hypobromite	Ga(BrO) <sub>3</sub> , gallium hypobromite
CO <sub>3</sub> <sup>2-</sup>	Na <sub>2</sub> CO <sub>3</sub> , Sodium carbonate	MgCO <sub>3</sub> , magnesium carbonate	PbCO <sub>3</sub> , lead(II) carbonate	CuCO <sub>3</sub> , copper(II) carbonate	Fe <sub>2</sub> (CO <sub>3</sub> ) <sub>3</sub> , iron(III) carbonate	(NH <sub>4</sub> ) <sub>2</sub> CO <sub>3</sub> , ammonium carbonate	HgCO <sub>3</sub> , mercury(II) carbonate	Ga <sub>2</sub> (CO <sub>3</sub> ) <sub>2</sub> , gallium carbonate
ClO <sub>3</sub> <sup>-</sup>	NaClO <sub>3</sub> , Sodium chlorate	Mg(ClO <sub>3</sub> ) <sub>2</sub> , magnesium chlorate	Pb(ClO <sub>3</sub> ) <sub>2</sub> , lead(II) chlorate	Cu(ClO <sub>3</sub> ) <sub>2</sub> , copper(II) chlorate	Fe(ClO <sub>3</sub> ) <sub>3</sub> , iron(III) chlorate	NH <sub>4</sub> ClO <sub>3</sub> , ammonium chlorate	Hg(ClO <sub>3</sub> ) <sub>2</sub> , mercury(II) chlorate	Ga(ClO <sub>3</sub> ) <sub>3</sub> , gallium chlorate
HSO <sub>4</sub> <sup>-</sup>	NaHSO <sub>4</sub> , Sodium hydrogen sulfate	Mg(HSO <sub>4</sub> ) <sub>2</sub> , magnesium hydrogen sulfate	Pb(HSO <sub>4</sub> ) <sub>2</sub> , lead(II) hydrogen sulfate	Cu(HSO <sub>4</sub> ) <sub>2</sub> , copper(II) hydrogen sulfate	Fe(HSO <sub>4</sub> ) <sub>3</sub> , iron(III) hydrogen sulfate	NH <sub>4</sub> HSO <sub>4</sub> , ammonium hydrogen sulfate	Hg(HSO <sub>4</sub> ) <sub>2</sub> , mercury(II) hydrogen sulfate	Ga(HSO <sub>4</sub> ) <sub>3</sub> , gallium hydrogen sulfate
Br <sup>-</sup>	NaBr, Sodium bromide	MgBr <sub>2</sub> , magnesium bromide	PbBr <sub>2</sub> , lead(II) bromide	CuBr <sub>2</sub> , copper(II) bromide	FeBr <sub>3</sub> , iron(III) bromide	NH <sub>4</sub> Br, ammonium bromide	HgBr <sub>2</sub> , mercury(II) bromide	GaBr <sub>3</sub> , gallium bromide
PO <sub>4</sub> <sup>3-</sup>	Na <sub>3</sub> PO <sub>4</sub> , Sodium phosphate	Mg <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> , magnesium phosphate	Pb <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> , lead(II) phosphate	Cu <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> , copper(II) phosphate	FePO <sub>4</sub> , iron(III) phosphate	(NH <sub>4</sub> ) <sub>3</sub> PO <sub>4</sub> , ammonium phosphate	Hg <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> , mercury(II) phosphate	GaPO <sub>4</sub> , gallium phosphate
IO <sub>4</sub> <sup>-</sup>	NaIO <sub>4</sub> , Sodium periodate	Mg(IO <sub>4</sub> ) <sub>2</sub> , magnesium periodate	Pb(IO <sub>4</sub> ) <sub>2</sub> , lead(II) periodate	Cu(IO <sub>4</sub> ) <sub>2</sub> , copper(II) periodate	Fe(IO <sub>4</sub> ) <sub>3</sub> , iron(III) periodate	NH <sub>4</sub> IO <sub>4</sub> , ammonium periodate	Hg(IO <sub>4</sub> ) <sub>2</sub> , mercury(II) periodate	Ga(IO <sub>4</sub> ) <sub>3</sub> , gallium periodate
S <sup>2-</sup>	Na <sub>2</sub> S, Sodium sulfide	MgS, magnesium sulfide	PbS, lead(II) sulfide	CuS, copper(II) sulfide	Fe <sub>2</sub> S <sub>3</sub> , iron(III) sulfide	(NH <sub>4</sub> ) <sub>2</sub> S, ammonium sulfide	HgS, mercury(II) sulfide	Ga <sub>2</sub> S <sub>2</sub> , gallium sulfide
MnO <sub>4</sub> <sup>-</sup>	Na(MnO <sub>4</sub> ) <sub>2</sub> , Sodium permanganate	Mg(MnO <sub>4</sub> ) <sub>2</sub> , magnesium permanganate	Pb(MnO <sub>4</sub> ) <sub>2</sub> , lead(II) permanganate	Cu(MnO <sub>4</sub> ) <sub>2</sub> , copper(II) permanganate	Fe(MnO <sub>4</sub> ) <sub>3</sub> , iron(III) permanganate	NH <sub>4</sub> MnO <sub>4</sub> , ammonium permanganate	Hg(MnO <sub>4</sub> ) <sub>2</sub> , mercury(II) permanganate	Ga(MnO <sub>4</sub> ) <sub>3</sub> , gallium permanganate
C <sub>2</sub> O <sub>4</sub> <sup>2-</sup>	Na <sub>2</sub> C <sub>2</sub> O <sub>4</sub> , Sodium oxalate	MgC <sub>2</sub> O <sub>4</sub> , magnesium oxalate	Pb(C <sub>2</sub> O <sub>4</sub> ) <sub>2</sub> , lead(II) oxalate	CuC <sub>2</sub> O <sub>4</sub> , copper(II) oxalate	Cu <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> , iron(III) oxalate	(NH <sub>4</sub> ) <sub>2</sub> C <sub>2</sub> O <sub>4</sub> , ammonium oxalate	HgC <sub>2</sub> O <sub>4</sub> , mercury(II) oxalate	Ga <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> , gallium oxalate