

## Polyatomic Ions Worksheet

### Polyatomic Practice

1. Name or write the formula for the following polyatomic ions

sulfate

\_\_\_\_\_



\_\_\_\_\_

nitrite

\_\_\_\_\_



\_\_\_\_\_

perphosphate

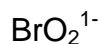
\_\_\_\_\_



\_\_\_\_\_

hypoiodite

\_\_\_\_\_



\_\_\_\_\_

chlorite

\_\_\_\_\_



\_\_\_\_\_

phosphite

\_\_\_\_\_



\_\_\_\_\_

percarbonate

\_\_\_\_\_



\_\_\_\_\_

bromate

\_\_\_\_\_



\_\_\_\_\_

hyposulfite

\_\_\_\_\_



\_\_\_\_\_

permanganate

\_\_\_\_\_



\_\_\_\_\_

carbonite

\_\_\_\_\_

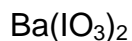


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2. Name or write the formula for the following Type I polyatomic ionic compounds

beryllium hydroxide

\_\_\_\_\_



\_\_\_\_\_

sodium nitrite

\_\_\_\_\_



\_\_\_\_\_

ammonium chloride

\_\_\_\_\_



\_\_\_\_\_

calcium bisulfate

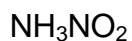
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rubidium perchlorate

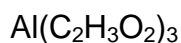
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\_\_\_\_\_

strontium sulfite

\_\_\_\_\_



\_\_\_\_\_

aluminum acetate

\_\_\_\_\_



\_\_\_\_\_

ammonium nitrate

\_\_\_\_\_



\_\_\_\_\_

magnesium hypocarbonite

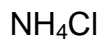
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\_\_\_\_\_

silver hyposulfite

\_\_\_\_\_



\_\_\_\_\_

gallium cyanate

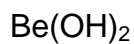
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\_\_\_\_\_

barium iodate

\_\_\_\_\_



\_\_\_\_\_

3. Name or write the formula for the following Type II polyatomic ionic compounds

iron (III) bromate	_____	Ni(MnO <sub>3</sub> ) <sub>3</sub>	_____
copper (I) cyanate	_____	CrSO <sub>5</sub>	_____
plumbous perchlorate	_____	Sn(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>4</sub>	_____
mercury (I) bicarbonate	_____	Cu <sub>2</sub> SO <sub>5</sub>	_____
antimony (III) perphosphate	_____	MnCO <sub>4</sub>	_____
arsenic (V) hypophosphite	_____	Au(NO) <sub>3</sub>	_____
manganese (II) carbonate	_____	SbPO <sub>3</sub>	_____
copper (I) sulfate	_____	HgHCO <sub>3</sub>	_____
tin (IV) acetate	_____	Pb(ClO <sub>2</sub> ) <sub>2</sub>	_____
nickel (III) permanganate	_____	Fe(BrO) <sub>3</sub>	_____

Putting It All together

4. Name or write the formula for the following ionic compounds

magnesium chloride	_____	In <sub>2</sub> O <sub>3</sub>	_____
Strontium phosphate	_____	Zn(BrO <sub>3</sub> ) <sub>2</sub>	_____
Tin (IV) nitrite	_____	AgNO <sub>3</sub>	_____
iron (III) thiosulfate	_____	Au <sub>3</sub> PO <sub>3</sub>	_____
lead (IV) sulfide	_____	KCNO	_____
Calcium nitride	_____	FeS	_____
Sodium sulfate	_____	FeSO <sub>3</sub>	_____
aluminum hydroxide	_____	Ga(IO) <sub>3</sub>	_____
nickel (III) permanganate	_____	Hg <sub>2</sub> SO <sub>4</sub>	_____
cuprous chloride	_____	CuCl	_____
Gallium hypoiodite	_____	Al(OH) <sub>3</sub>	_____
Ferrous sulfite	_____	Na <sub>2</sub> SO <sub>4</sub>	_____
potassium cyanate	_____	PbS <sub>2</sub>	_____
Sodium hydrogen carbonate	_____	Ca(BrO <sub>4</sub> ) <sub>2</sub>	_____

## Polyatomic Ions Worksheet Answer Key

### Polyatomic Practice

1. Name or write the formula for the following polyatomic ions

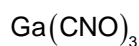
sulfate	<u><math>\text{SO}_4^{2-}</math></u>	$\text{CO}_3^{2-}$	carbonate
nitrite	<u><math>\text{NO}_3^-</math></u>	$\text{MnO}_3^{1-}$	manganate
perphosphate	<u><math>\text{PO}_5^{3-}</math></u>	$\text{SO}_5^{2-}$	persulfate
hypoiodite	<u><math>\text{IO}^-</math></u>	$\text{BrO}_2^{1-}$	bromite
chlorite	<u><math>\text{ClO}_2^-</math></u>	$\text{CO}_4^{2-}$	percarbonate
phosphite	<u><math>\text{PO}_3^{3-}</math></u>	$\text{PO}_5^{3-}$	perphosphate
percarbonate	<u><math>\text{CO}_4^{2-}</math></u>	$\text{ClO}^{1-}$	hypochlorite
bromate	<u><math>\text{BrO}_3^-</math></u>	$\text{IO}_2^{1-}$	iodite
hyposulfite	<u><math>\text{SO}_2^{2-}</math></u>	$\text{PO}_4^{3-}$	phosphate
permanganate	<u><math>\text{MnO}_4^-</math></u>	$\text{NO}_2^{1-}$	nitrite
carbonite	<u><math>\text{CO}_2^{2-}</math></u>	$\text{SO}_4^{2-}$	sulfate

2. Name or write the formula for the following Type I polyatomic ionic compounds

beryllium hydroxide	<u><math>\text{Be}(\text{OH})_2</math></u>	$\text{Ba}(\text{IO}_3)_2$	barium iodate
sodium nitrite	<u><math>\text{NaNO}_2</math></u>	$\text{Ga}(\text{CNO})_3$	gallium cyanate
ammonium chloride	<u><math>\text{NH}_4\text{Cl}</math></u>	$\text{Ag}_2\text{SO}_3$	silver sulfite
calcium bisulfate	<u><math>\text{Ca}(\text{HSO}_4)_2</math></u>	$\text{MgCO}$	magnesium hypocarbonite
rubidium perchlorate	<u><math>\text{RbClO}_4</math></u>	$\text{NH}_3\text{NO}_2$	ammonium nitrite
strontium sulfite	<u><math>\text{SrSO}_3</math></u>	$\text{Al}(\text{C}_2\text{H}_3\text{O}_2)_3$	aluminum acetate
aluminum acetate	<u><math>\text{Al}(\text{C}_2\text{H}_3\text{O}_2)_3</math></u>	$\text{SrSO}_5$	strontium persulfate
ammonium nitrate	<u><math>\text{NH}_4\text{NO}_3</math></u>	$\text{RbClO}_2$	rubidium chlorite
magnesium hypocarbonite	<u><math>\text{MgCO}</math></u>	$\text{Ca}(\text{HSO}_4)_2$	calcium bisulfate
silver hyposulfite	<u><math>\text{Ag}_2\text{SO}_2</math></u>	$\text{NH}_4\text{Cl}$	ammonium chloride

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gallium cyanate



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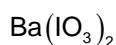
NaNO

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sodium hyponitrite

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barium iodate



Be(OH)<sub>2</sub>

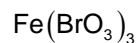
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beryllium hydroxide

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3. Name or write the formula for the following Type II polyatomic ionic compounds

iron (III) bromate



Ni(MnO<sub>3</sub>)<sub>3</sub>

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nickel (III) manganate

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copper (I) cyanate



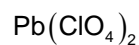
CrSO<sub>5</sub>

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chromium (II) persulfate

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plumbous perchlorate



Sn(C<sub>2</sub>H<sub>3</sub>O<sub>2</sub>)<sub>4</sub>

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tin (IV) acetate

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mercury (I) bicarbonate



Cu<sub>2</sub>SO<sub>5</sub>

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copper (I) persulfate

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antimony (III) perphosphate



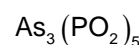
MnCO<sub>4</sub>

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manganese (II) percarbonate

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arsenic (V) hypophosphite



Au(NO)<sub>3</sub>

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gold (III) nitrate

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manganese (II) carbonate



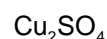
SbPO<sub>3</sub>

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antimony (III) phosphite

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copper (I) sulfate



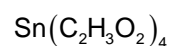
HgHCO<sub>3</sub>

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mercury (I) bicarbonate or  
mercury (I) hydrogen carbonate

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tin (IV) acetate



Pb(ClO<sub>2</sub>)<sub>2</sub>

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lead (II) chlorite

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nickel (III) permanganate



Fe(BrO)<sub>3</sub>

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iron (III) bromate

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Putting It All together

4. Name or write the formula for the following ionic compounds

magnesium chloride



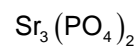
In<sub>2</sub>O<sub>3</sub>

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indium oxide

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strontium phosphate



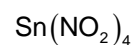
Zn(BrO<sub>3</sub>)<sub>2</sub>

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zinc bromate

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tin (IV) nitrite



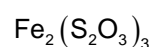
AgNO<sub>3</sub>

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silver nitrate

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iron (III) thiosulfate



Au<sub>3</sub>PO<sub>3</sub>

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gold (I) phosphite

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lead (IV) sulfide



KCNO

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potassium cyanate

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calcium nitride



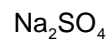
FeS

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iron (II) sulfide

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sodium sulfate



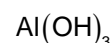
FeSO<sub>3</sub>

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iron (II) sulfate

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aluminum hydroxide



Ga(IO)<sub>3</sub>

---

gallium hypoiodite

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nickel (III) permanganate



Hg<sub>2</sub>SO<sub>4</sub>

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mercury (I) sulfate

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copper (I) chloride

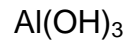
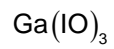


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copper (I) chloride

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gallium hypoiodite

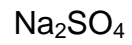


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aluminum hydroxide

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iron (II) sulfite



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sodium sulfate

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potassium cyanate

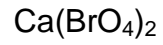
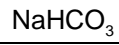


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lead (IV) sulfide

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sodium hydrogen carbonate



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calcium perbromate

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