

## Predicting and Naming Polyatomic Ionic Compounds Worksheet

Name \_\_\_\_\_

You are required to know numbers of atoms and charge on the following polyatomic ions:

Name of the ion	Chemical structure	Name of the ion	Chemical structure
Phosphate ion	$\text{PO}_4^{3-}$	Sulfate ion	$\text{SO}_4^{2-}$
Hydrogen phosphate ion	$\text{HPO}_4^{2-}$	Hydrogen sulfate ion	$\text{HSO}_4^-$
Dihydrogen phosphate ion	$\text{H}_2\text{PO}_4^-$	Nitrate ion	$\text{NO}_3^-$
Carbonate ion	$\text{CO}_3^{2-}$	Acetate ion	$\text{C}_2\text{H}_3\text{O}_2^-$
Hydrogen carbonate ion	$\text{HCO}_3^-$	Hydroxide ion	$\text{OH}^-$
		Ammonium ion	$\text{NH}_4^+$

Given the following **polyatomic** ionic compounds, fill in the formula of the compound from its name.

Name of Compound	Element or Polyatomic Cation	Element or Polyatomic Anion	Compound Formula
Lithium Nitrate			
Sodium Sulfate			
Potassium Phosphate			
Lithium Carbonate			
Sodium Acetate			
Potassium Hydroxide			

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Name of Compound	Element or Polyatomic Cation	Element or Polyatomic Anion	Compound Formula
Ammonium Fluoride			
Beryllium Nitrate			
Magnesium Sulfate			
Calcium Phosphate			
Strontium Carbonate			
Barium Acetate			
Magnesium Hydroxide			
Ammonium Sulfide			
Aluminum Nitrate			
Aluminum Phosphate			

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Name of Compound	Element or Polyatomic Cation	Element or Polyatomic Anion	Compound Formula
Aluminum Carbonate			
Aluminum Acetate			
Aluminum Hydroxide			

Given the following **polyatomic** ionic compounds, fill in the name of the compound from its formula.

Compound Formula	Compound Name
$\text{BaCO}_3$	
$\text{Sr}(\text{C}_2\text{H}_3\text{O}_2)_2$	
$\text{NaOH}$	
$\text{NH}_4\text{Cl}$	
$\text{Fe}(\text{NO}_3)_3$	
$\text{CdSO}_4$	
$\text{Ca}_3(\text{PO}_4)_2$	
$\text{Ag}_2\text{CO}_3$	
$\text{KC}_2\text{H}_3\text{O}_2$	
$\text{Fe}(\text{OH})_2$	