

WRITING FORMULAS (CRISS-CROSS METHOD)

Name Key

Write the formulas of the compounds produced from the listed ions.

	Cl ⁻	CO ₃ ⁻²	OH ⁻	SO ₄ ⁻²	PO ₄ ⁻³	NO ₃ ⁻
Na ⁺	NaCl	Na ₂ CO ₃	NaOH	Na ₂ SO ₄	Na ₃ PO ₄	NaNO ₃
NH ₄ ⁺	NH ₄ Cl	(NH ₄) ₂ CO ₃	NH ₄ OH	(NH ₄) ₂ SO ₄	(NH ₄) ₃ PO ₄	NH ₄ NO ₃
K ⁺	KCl	K ₂ CO ₃	KOH	K ₂ SO ₄	K ₃ PO ₄	KNO ₃
Ca ⁺²	CaCl ₂	CaCO ₃	Ca(OH) ₂	CaSO ₄	Ca ₃ (PO ₄) ₂	Ca(NO ₃) ₂
Mg ⁺²	MgCl ₂	MgCO ₃	Mg(OH) ₂	MgSO ₄	Mg ₃ (PO ₄) ₂	Mg(NO ₃) ₂
Zn ⁺²	ZnCl ₂	ZnCO ₃	Zn(OH) ₂	ZnSO ₄	Zn ₃ (PO ₄) ₂	Zn(NO ₃) ₂
Fe ⁺³	FeCl ₃	Fe ₂ (CO ₃) ₃	Fe(OH) ₃	Fe ₂ (SO ₄) ₃	FePO ₄	Fe(NO ₃) ₃
Al ⁺³	AlCl ₃	Al ₂ (CO ₃) ₃	Al(OH) ₃	Al ₂ (SO ₄) ₃	AlPO ₄	Al(NO ₃) ₃
Co ⁺³	CoCl ₃	Co ₂ (CO ₃) ₃	Co(OH) ₃	Co ₂ (SO ₄) ₃	CoPO ₄	Co(NO ₃) ₃
Fe ⁺²	FeCl ₂	FeCO ₃	Fe(OH) ₂	FeSO ₄	Fe ₃ (PO ₄) ₂	Fe(NO ₃) ₂
H ⁺	HCl	H ₂ CO ₃	H ₂ O	H ₂ SO ₄	H ₃ PO ₄	HNO ₃

NAMING IONIC COMPOUNDS

Name _____

Name the following compounds using the Stock Naming System.

1. CaCO_3 Calcium carbonate
2. KCl potassium chloride
3. FeSO_4 Iron (II) sulphate
4. LiBr Lithium bromide
5. MgCl_2 magnesium chloride
6. FeCl_3 Iron (III) chloride
7. $\text{Zn}_3(\text{PO}_4)_2$ Zinc phosphate
8. NH_4NO_3 Ammonium nitrate
9. $\text{Al}(\text{OH})_3$ Aluminum hydroxide
10. $\text{CuC}_2\text{H}_3\text{O}_2$ Copper (I) acetate
11. PbSO_3 lead (II) sulphite
12. NaClO_3 Sodium chlorate
13. CaC_2O_4 calcium oxalate
14. Fe_2O_3 Iron (III) oxide
15. $(\text{NH}_4)_3\text{PO}_4$ Ammonium phosphate
16. NaHSO_4 sodium hydrogen sulphate
17. Hg_2Cl_2 mercury (I) chloride
18. $\text{Mg}(\text{NO}_2)_2$ magnesium nitrite
19. CuSO_4 Copper (II) sulphate
20. NaHCO_3 sodium hydrogen carbonate
21. NiBr_3 Nickel (III) bromide
22. $\text{Be}(\text{NO}_3)_2$ beryllium nitrate
23. ZnSO_4 Zinc sulphate
24. AuCl_3 gold (III) chloride
25. KMnO_4 potassium permanganate

WRITING FORMULAS FROM NAMES

Name _____

Write the formulas of the following compounds.

1. ammonium phosphate $(\text{NH}_4)_3\text{PO}_4$
2. iron (II) oxide FeO
3. iron (III) oxide Fe_2O_3
4. carbon monoxide CO
5. calcium chloride CaCl_2
6. potassium nitrate KNO_3
7. magnesium hydroxide $\text{Mg}(\text{OH})_2$
8. aluminum sulfate $\text{Al}_2(\text{SO}_4)_3$
9. copper (II) sulfate CuSO_4
10. lead (IV) chromate $\text{Pb}(\text{CrO}_4)_2$
11. diphosphorus pentoxide P_2O_5
12. potassium permanganate KMnO_4
13. sodium hydrogen carbonate NaHCO_3
14. zinc nitrate $\text{Zn}(\text{NO}_3)_2$
15. aluminum sulfite $\text{Al}_2(\text{SO}_3)_3$