Naming

Ionic
M/NM

Covalent
NM/NM

Binary w/ Type A metals & Zn,Cd,Ag

1. Write the name of 1st element (metal) -cation

2. Change the ending of the 2nd element (nonmetal) -anion to "-ide"

Binary w/ Type B (transition metals) metals & Sn,Pb

Do the exact same thing as Type A but leave parentheses beside the metal name to show the charge as a roman numeral.

Quick Way

1. Uncross the subscripts.
2. If the anion charge is correct, then just uncross to find the metals charge
3. If the anion charge has been reduced (is incorrect) then multiply both subscripts by the number needed to correct the nonmetals charge and un-reduce them.

Ternary w/ a Polyatomic Ion

Do the exact same thing as Type A, **BUT** look up the name of the polyatomic ion on the reference sheet.

If Type B metal don't forget (Roman Numeral) of metal's charge

Note ammonium NH_4^+ is treated like a metal so it may come first in the compound. **

Binary Covalent Compound

Use prefixes to represent the subscript # on both names
-- EXCEPT → Do NOT use MONO on the first name --

1.Write the prefix and name of 1st nonmetal
2. Write the prefix and name of the 2nd nonmetal with the IDE ending

1 = mono	6 = hexa
2 = di	7 = hepta
3 = tri	8 = octa
4 = tetra	9 = nona
5 = penta	10 = deca

$CaBr_2$

$FeCl_3$

$MgSO_4$

CO

Al_2O_3

CuO

$Co(OH)_2$

As_2O_3

LiF

Co_3N_2

$NaNO_3$

SO_6

Ca_3N_2

Y_2O

NH_4Cl

N_2H_4

K_2S

SnS_2

$(NH_4)_2CO_3$

H_2O

Formula Writing

Ionic M/NM

Binary w/ Type A metals & Zn,Cd,Ag

1. Write the symbol & charge of the metal.(cation)

2. Write the symbol & charge of the nonmetal. (anion)

3. If the charges are the same, drop them, Bring symbols together.

If the charges are different, drop sign & criss cross the numbers to the bottom as subscripts.

4. **Simply the subscripts if needed**

Binary w/ Type B (transition metals) metals & Sn,Pb

1. Write the symbol & charge of the metal (cation) that is seen in the parenthesis.

2. Write the symbol & charge of the nonmetal. (anion)

3. If the charges are the same, drop them, Bring symbols together.

If the charges are different, drop sign & criss cross the numbers to the bottom as subscripts.

4. **Simply the subscripts if needed**

Ternary w/ a Polyatomic Ion

** **Put Parentheses around all polyatomic ions****

1. Write the symbol & charge of the metal or ammonium-see ref. sheet
2. Write the symbol & charge of the nonmetal or polyatomic ion-see ref. sheet

3. If the charges are the same, drop them, Bring symbols together.

If the charges are different, drop charge & criss cross the numbers to the bottom as subscripts.

4. **Simply the subscripts if needed**

5. Remove parentheses if the subscript on the outside of it is a 1 or you did not criss cross.

Covalent NM/NM

Covalent Compound

1. Write the symbol of the first nonmetal & use the prefix as its subscript.
2. Write the symbol of the second nonmetal & use the prefix as its subscript.
3. **DO NOT SIMPLIFY!**

1 = mono 6 = hexa
2 = di 7 = hepta
3 = tri 8 = octa
4 = tetra 9 = nona
5 = penta 10 = deca

Examples:

Calcium bromide

Iron(III)chloride

Magnesium sulfate

Carbon monoxide

Aluminum oxide

Copper(I) oxide

Cobalt (II) hydroxide

Diarsenic trioxide

Lithium fluoride

Cobalt(II) nitride

Sodium nitrate

Sulfur hexoxide

Calcium nitride

Yttrium (I) oxide

Ammonium chloride

Dinitrogen tetrahydride

Potassium sulfide

Tin(IV) sulfide

Ammonium carbonate

Dihydrogen monoxide

Practice on your own using the U3 L9 CFU part TWO

You have already completed part ONE, now complete part TWO which is comprised of all naming and formula writing.

If you need the worksheet, click here: https://docs.google.com/document/d/1TK-ts3_DMeSYDmvTr3ukJkN-IvMfpbTAqiRzxItdbFE/edit?usp=sharing

Part TWO: **Mixed Review**

Determine whether the substance is ionic type A (I -A) ionic type B (I -B)or covalent (molecular) (C). If Ionic, you will need to decide whether you need to put a roman numeral in the name and always check charges in the formula. If Covalent, no need to use roman numerals in the name and not need to check charges in the formula.

I /C		Provide the chemical name:
_____	1. CuO	_____
_____	2. SrO	_____
_____	3. B_2O_3	_____
_____	4. $TiCl_4$	_____
_____	5. K_2S	_____
_____	6. OF_2	_____
_____	7. NH_3	_____
_____	8. VF_5	_____
_____	9. $CuCl$	_____
_____	10. MnO_2	_____

I /C		Provide the chemical formula:
_____	26. Phosphorus trichloride	_____
_____	27. Chlorine monofluoride	_____
_____	28. Copper(II) chloride	_____
_____	29. Copper(I) sulfide	_____
_____	30. Calcium nitride	_____
_____	31. Carbon tetrabromide	_____
_____	32. Lithium oxide	_____
_____	33. Potassium chloride	_____
_____	34. Titanium(IV) bromide	_____
_____	35. Magnesium sulfide	_____

_____ 11. MgO _____

_____ 12. B_2H_6 _____

_____ 13. Li_2Te _____

_____ 14. $Fe(NO_3)_3$ _____

_____ 15. $CaSO_4$ _____

_____ 16. NaCl _____

_____ 17. K_2SO_4 _____

_____ 18. CO_2 _____

_____ 19. SF_6 _____

_____ 36. Manganese(II) nitride _____

_____ 37. Calcium bromate _____

_____ 38. Sodium chloride _____

_____ 39. Trinitrogen dioxide _____

_____ 40. Lithium phosphate _____

_____ 41. Ammonium chloride _____

_____ 42. Copper(II) chlorite _____

_____ 43. Nitrogen monoxide _____

_____ 44. Iron(II) iodide _____