

Practicing Ionic Bonding

Name: _____ P: _____

I. Writing Lewis Dot Structures

For each of the elements below, complete the following steps.

1. Write the electron configuration of the element
2. Circle the valence shells of the element
3. Write the Lewis Dot Structure for the element.

	Electron Configuration (Shorthand Ok except for Ar)	Lewis Dot Structure
Li		
Al		
O		
Ar		
N		

b. Given the element pairs below, draw out a sketch to illustrate how they would ionically bond with one another.

Li + F

Be + O

Mg + Cl

c. Determine the chemical formula of the following compounds after they ionically bond. Hint: they will all form neutral compounds!

Ca + F _____

H + Br _____

B + P _____

Al + O _____

Sr + N _____

K + N _____

B + I _____

Li + Se _____

Ba + N _____

In + Te _____

d. To name binary ionic compounds like those above (those with only two representative elements), simply change the ending of the anion to "ide". If the elements below form binary ionic compounds, write out their formula and their names in the spaces below:

Na + F	_____	H + S	_____
Rb + P	_____	Al + F	_____
Ca + N	_____	Cs + N	_____
B + I	_____	Li + S	_____
Mg + N	_____	In + Se	_____

e. Can you determine the chemical formula of these binary ionic compounds?

Magnesium Sulfide	_____	Calcium Chloride	_____
Lithium Bromide	_____	Gallium Nitride	_____
Strontium Phosphide	_____	Aluminum Telluride	_____

f. Circle the compounds that are likely to be ionically bonded:

CaO	N ₂ O	RbI	K ₂ Cl	Al ₂ S ₃	B ₃ O ₂
SCl ₅	PBr	Na ₂ O	SeBr	BP	B ₂ O

g. How many electrons do the following elements need to gain or lose in order to form a stable octet?

Flourine (F) –

Sodium (Na) –

Magnesium (Mg) –

Carbon (C) –

h. If the following elements form ions, what will be the numerical charge (+1 or -1, +2 or -2, etc.)?

Iodine (I) –

Phosphorous (P) –

Oxygen (O) –

Silicon (Si) –

i. Can you determine the formula for the following binary ionic compounds?

Iron (II) Chloride	_____	Gold (IV) Bromide	_____
Iron (III) Oxide	_____	Silver (II) Flouride	_____
Tungsten (I) Carbide	_____	Tungsten (VI) Oxide	_____

For the list on the left, name the compound. For the list on the right, give the chemical formula that corresponds to the name

	Name	Formula
1)	NaF	13) potassium fluoride
2)	K ₂ CO ₃	14) ammonium sulfate
3)	MgCl ₂	15) magnesium iodide
4)	Be(OH) ₂	16) copper (II) sulfite
5)	SrS	17) aluminum phosphate
6)	Cu ₂ S	18) lead (II) nitrite
7)	ZnI ₂	19) cobalt (II) selenide
8)	Ca ₃ (PO ₄) ₂	20) silver cyanide
9)	NH ₄ I	21) copper (II) bicarbonate
10)	Mn(NO ₃) ₃	22) iron (II) oxide
11)	FePO ₄	23) lithium cyanide
12)	CoCO ₃	24) lead (IV) sulfite