

- Put the correct charges on the following ions.
- Fill in the table with the formula of the compounds made from the appropriate pairs of ions. Remember that the POSITIVE ion comes FIRST.

Ions	Na <sup>+</sup>	Ca <sup>2+</sup>	Al <sup>3+</sup>	NH <sub>4</sub> <sup>+</sup>	Mg <sup>2+</sup>	Fe (III) <sup>3+</sup>
Cl <sup>-</sup>	NaCl	CaCl <sub>2</sub>	AlCl <sub>3</sub>	NH <sub>4</sub> Cl	MgCl <sub>2</sub>	FeCl <sub>3</sub>
O <sup>2-</sup>	Na <sub>2</sub> O	CaO	Al <sub>2</sub> O <sub>3</sub>	(NH <sub>4</sub> ) <sub>2</sub> O	MgO	Fe <sub>2</sub> O <sub>3</sub>
N <sup>3-</sup>	Na <sub>3</sub> N	Ca <sub>3</sub> N <sub>2</sub>	AlN	(NH <sub>4</sub> ) <sub>3</sub> N	Mg <sub>3</sub> N <sub>2</sub>	FeN
OH <sup>-</sup>	NaOH	Ca(OH) <sub>2</sub>	Al(OH) <sub>3</sub>	NH <sub>4</sub> OH	Mg(OH) <sub>2</sub>	Fe(OH) <sub>3</sub>
SO <sub>4</sub> <sup>2-</sup>	Na <sub>2</sub> SO <sub>4</sub>	CaSO <sub>4</sub>	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>	MgSO <sub>4</sub>	Fe <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>
PO <sub>4</sub> <sup>3-</sup>	Na <sub>3</sub> PO <sub>4</sub>	Ca <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub>	AlPO <sub>4</sub>	(NH <sub>4</sub> ) <sub>3</sub> PO <sub>4</sub>	Mg <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub>	FePO <sub>4</sub>

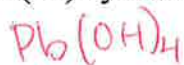
- Name the chemical compounds. Here are the rules:

- Representative metal cation + representative anion = metal + anion name with ide ending
- Transition metal cation + representative anion = metal (roman numeral for the charge of the ion) + anion name with ide ending
- If the cation or anion is a polyatomic ion, just use the name of the ion (don't add ide)
- Covalent bonds use prefixes (mono, di, tri, tetra, penta, hexa, hepta, octo plus ide at the end)

i	Li <sub>3</sub> N	<u>lithium nitride</u>
C	P <sub>4</sub> O <sub>6</sub>	<u>tetraphosphorus hexaoxide</u>
i	CuCl <sub>2</sub>	<u>copper (II) chloride</u>
C	N <sub>2</sub> Cl <sub>2</sub>	<u>dinitrogen dichloride</u>
i	(NH <sub>4</sub> ) <sub>2</sub> Se	<u>ammonium selenide</u>
i	FeO	<u>iron (II) oxide</u>
i	Fe <sub>2</sub> O <sub>3</sub>	<u>iron (III) oxide</u>
i	Cr <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	<u>chromium (III) sulfate</u>
i	Hg <sub>2</sub> I <sub>2</sub>	<u>mercury (II) iodide</u>
i	MgO <sub>2</sub>	<u>magnesium oxide</u>
i	NaClO	<u>sodium hypochlorite</u>
i	Mg(HCO <sub>3</sub> ) <sub>2</sub>	<u>magnesium hydrogen carbonate</u>
C	NO <sub>2</sub>	<u>nitrogen dioxide</u>

4. Turn the following names into formulas. Make sure all compounds are neutral.

lead(IV) hydroxide  $\text{Pb}^{4+}$   $\text{OH}^-$



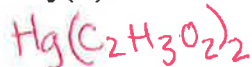
sulfur dioxide



dichlorine monoxide



mercury(II) acetate



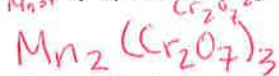
nitrogen tribromide



aluminum nitride



manganese(III) dichromate



ammonium dihydrogen phosphate



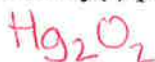
dinitrogen tetrafluoride



Tin(II) fluoride



Mercury(I) peroxide



peroxide =  $\text{O}^{2-}$

sulfur hexachloride



sodium bromide



Iron(II) chlorate



Gallium sulfide

