

Announcements

Monday, February 09, 2009

- Ch 4 MasteringChemistry due Wed, Feb 11 9:45 am.
- Ch 5 MC due next week **Tues**, Feb 17 9:45 am.

Experiment 6 in lab this week. (Check the syllabus for the lab schedule!)

Exam 1 is next week Wed, Feb 18 covering chapters 1-5 (through this Wednesday's material).

- Mostly multiple choice, 25-30 mult choice q's
- 1-2 pages of short answer / show your work
- 100 points, 75 minutes

For practice:

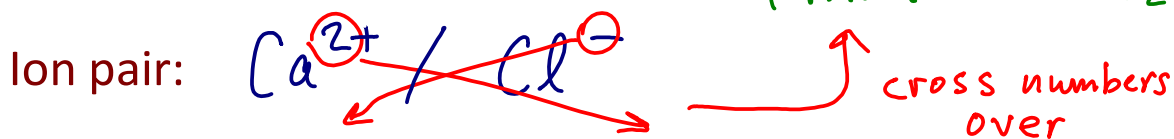
- Rework previous MC assignments
- Practice worksheets on webpage (unit conversion, density, binary naming)

If you're having trouble:

- See me during my office hours
- See a tutor in the academic support center - bring a problem you're having trouble with
- Work with a friend or study group
- Post a question to the D2L discussions (you need at least 2 posts in Exam 1 discussions before Exam 1)

Naming ionic compounds

Write the name and formula of the compound formed from calcium and chlorine



Name: cation (+) name then anion (-) name
of an ionic cpd (element name) (element root + ide)

name Calcium chloride

Anion names:

VA

N^{3-} nitride

P^{3-} phosphide

VIA

O^{2-} oxide

S^{2-} sulfide

Se^{2-} selenide

VIIA

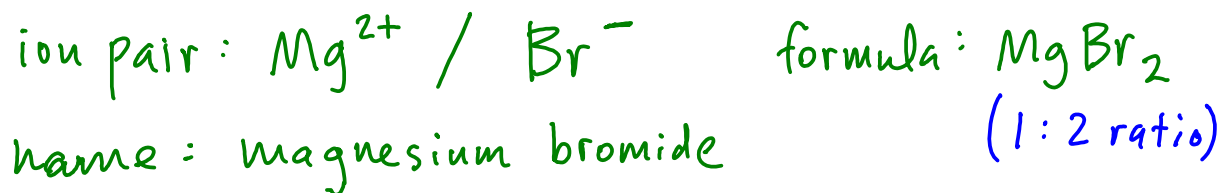
F^{-} fluoride

Cl^{-} chloride

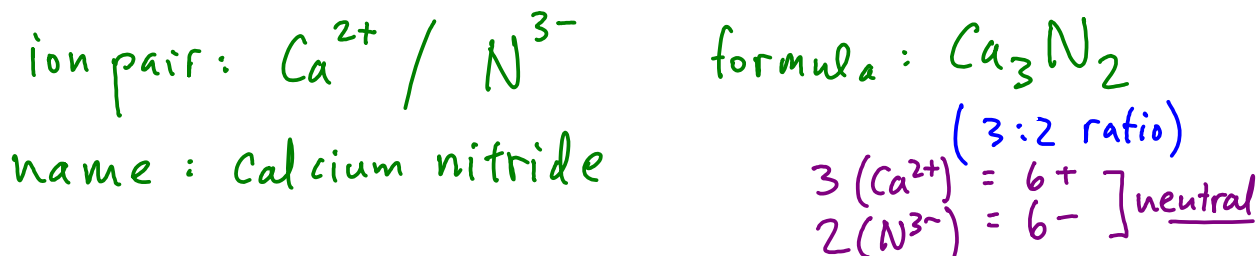
Br^{-} bromide

I^{-} iodide

Write the name and formula of the cpd with Mg and Br:

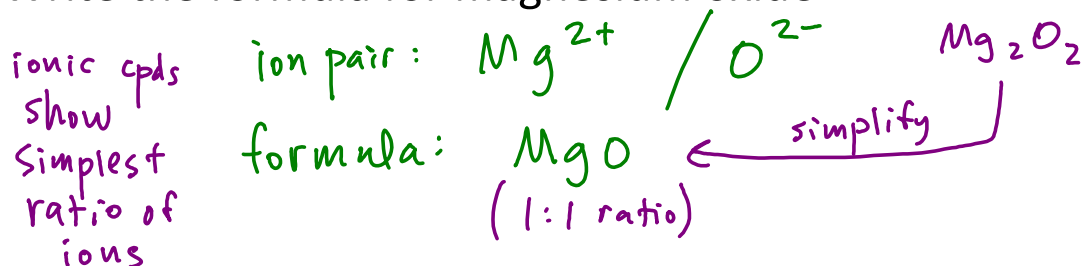


Write the name and formula of the cpd with Ca and N:



Naming ionic compounds

Write the formula for magnesium oxide



	<u>Ion pair</u>	<u>Formula</u>
aluminum selenide	Al^{3+}/Se^{2-}	Al_2Se_3
lithium phosphide	Li^+/P^{3-}	Li_3P
barium sulfide	Ba^{2+}/S^{2-}	BaS
barium chloride	Ba^{2+}/Cl^-	$BaCl_2$

Types of binary compounds (two elements only):

	<u>Type I</u>	<u>Type II</u>	<u>Type III (molecular)</u>
Ions?	ionic <u>fixed charge</u>	ionic variable charge metal	molecular
Elements?	main group metal + nonmet	trans met + nonmet.	
Example:	calcium chloride: $CaCl_2$	iron (II) chloride: $FeCl_2$	

Type II ionic compounds

<u>Name</u>	<u>Ion pair</u>	<u>Ratio</u>	<u>Formula</u>
titanium(IV) chloride	Ti ⁴⁺ /Cl ⁻	1:4	TiCl ₄
titanium(IV) oxide	Ti ⁴⁺ /O ²⁻	1:2	TiO ₂
		1(Ti ⁴⁺) = 4+] neutral
		2(O ²⁻) = 4-	

<u>Formula</u>	<u>Ratio</u>	<u>Ion pair</u>	<u>Name</u>
WF ₆	1:6	W ⁶⁺ /F ⁻	tungsten(VI) fluoride
MnP ₂	1:2	Mn ⁶⁺ /P ³⁻	manganese(VI) phosphide
Cu ₂ O ₃	2:3	Cu ³⁺ /O ²⁻	copper(III) oxide

$$2(P^{3-}) = 6-$$

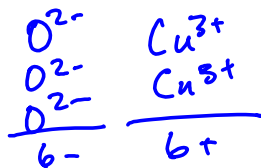
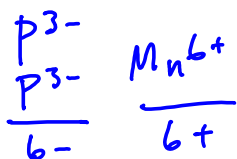
$$1(Mn^{6+}) = 6+$$

$$3(O^{2-}) = 6-$$

$$2(Cu^{3+}) = 6+$$

$$6(F^{-}) = 6-$$

$$1(W^{6+}) = 6+$$



<u>Formula</u>	<u>Type</u>	<u>Ratio</u>	<u>Ion pair</u>	<u>Name</u>
K ₂ O	I	2:1	K ⁺ /O ²⁻	potassium oxide
CrO ₂	II	1:2	Cr ⁴⁺ /O ²⁻	chromium(IV) oxide
MgI ₂	I	1:2	Mg ²⁺ /I ⁻	magnesium iodide
Ni ₂ O	II	2:1	Ni ¹⁺ /O ²⁻	nickel(I) oxide

