Sept 20, 2019

1) go over answers Ionic Compounds WS
2) notes on Polyatomic Compounds

Quiz Wednesday on ALL Ionic Compounds!!
Test Tuesday Oct 1st on Chp 5

Warm-Up

Name each of the following ionic compounds:

1. Cr_3O_2 Chromium (III) oxide
2. K_3P potassium phosphide

Write the formula for each of the following:

1. strontium phosphide $Sr^{2+}P^{3-}$ Sr_3P_2
2. tin (IV) oxide $Sn^{4+}O^{2-}$ Sn_2O_4 SnO_2

(a) magnesium oxide $Mg^{2+}O^{2-}$ = MgO

(b) sodium fluoride $Na^{1+}F^{1-}$ = NaF

(c) aluminum nitride $Al^{3+}N^{3-}$ = AlN

(d) potassium sulfide $K^{1+}S^{2-}$ K_2S

(e) lithium iodide $Li^{1+}I^{1-}$ LiI

(f) calcium bromide $Ca^{2+}Br^{1-}$ $CaBr_2$

(g) beryllium oxide $Be^{2+}O^{2-}$ BeO

(h) nickel chloride $Ni^{2+}Cl^{1-} = NiCl_2$

(i) magnesium nitride $Mg^{2+}N^{3-} = Mg_3N_2$

(j) aluminum sulfide $Al^{3+}S^{2-} = Al_2S_3$

(k) copper(I) bromide $Cu^{1+}Br^{1-} = CuBr$

(l) tin(II) iodide $Sn^{2+}I^{1-} = SnI_2$

(m) iron(III) chloride $Fe^{3+}Cl^{1-} = FeCl_3$

(n) calcium phosphide $Ca^{2+}P^{3-} = Ca_3P_2$

(o) lead(II) oxide $Pb^{2+}O^{2-} = PbO$

(p) lead(IV) fluoride $Pb^{4+}F^{1-} = PbF_4$

Feb 12-11:25 AM

(q) tin(IV) bromide $Sn^{4+}\ Br^{1-} = SnBr_4$

(r) copper(II) sulfide $Cu^{2+}\ S^{2-} = CuS$

(s) iron(II) oxide $Fe^{2+}\ O^{2-} = FeO$

(t) calcium nitride $Ca^{2+}\ N^{3-} = Ca_3N_2$

2. Write the names for the following compounds.

(a) Li_2O lithium oxide

(b) $AlCl_3$ aluminum chloride

(c) MgS magnesium sulfide

(d) CaO calcium oxide

(e) KBr potassium bromide

(f) BeF beryllium fluoride

(g) Na_3N sodium nitride

(h) Al_2O_3 aluminum oxide

(i) $CuCl_2$ copper (II) choride

(j) $FeBr_3$ iron (III) bromide

(k) PbS lead (II) sulfide

(l) SnO_2 tin (IV) oxide

(m) Na_2S sodium sulfide

(n) Mg_3P_2 magnesium phosphide

(o) NiO nickel (II) oxide

(p) CuI copper (I) iodide

2+,4+

(q) $PbCl_4$ lead (IV) chloride

(r) FeP iron (III) phosphide

(s) CaF_2 calcium flouride

(t) K_3P potassium phosphide

Polyatomic Compounds

many atoms

Polyatomic Compounds

- polyatomic ions are groups of atoms that stay together and carry a single charge

Ex. NO_3^- (nitrate ion) the whole ion has a charge of -1

PO_4^{-3} (phosphate) the whole ion has a charge of -3

- they are found on Table 2, pg. 196, also in the chart at the top of the periodic table you were given (they will not be on the actual periodic table of elements)

- you need to recognize polyatomic ions when they are in formulas so look over the names in the chart and become familiar with them (no need to memorize)

Sep 18-2:34 PM

Writing Formulas for Polyatomic Compounds

- Write down the symbol and charge for the first ion on the periodic table (if it is multivalent you will need to include the correct roman numeral)
- Write down the symbol and charge for the second ion from the chart
- Cross the charges the same as a regular ionic compound (if you need to put a subscript with the polyatomic ion put it in brackets first, then add the subscript on the outside of the bracket)

Ex. sodium hydroxide

$Na^{1+}OH^{-}$ $NaOH$

Ex. calcium sulphate

$Ca^{2+}SO_4^{2-}$ $CaSO_4$

Ex. magnesium phosphate

$Mg^{2+}PO_4^{3-}$

$Mg_3(PO_4)_2$

nickel (II) nitrate

$Ni^{2+}NO_3^{-}$

$Ni(NO_3)_2$

Naming Polyatomic Ions

Combination of the name of the metal, and the name of the polyatomic ion.

Remember a compound has ONLY two names no more!!!!

Ex. K_2CO_3 — chart

1. Determine which ions make compound: periodic table

3 capital letters = polyatomic

2. Name each ion:

potassium carbonate

Ex. $CaCO_3$

Ex. $CuPO_4$

Dec 1-11:12 AM

p.198 #1-7

Feb 19-8:11 AM