Warm up

Write the chemical formula or name for the following ionic compounds:

a) KI

K^+ I^-

potassium iodide

b) $SrCl_2$

Sr^{2+} Cl^- Cl^-

Strontium chloride

c) calcium nitride

Ca^{2+} N^{3-}

Ca^{2+} N^{3-}

Ca^{2+}

Ca_3N_2

d) aluminum sulfide

Al^{3+} S^{2-}

Al^{3+} S^{2-}

S^{2-}

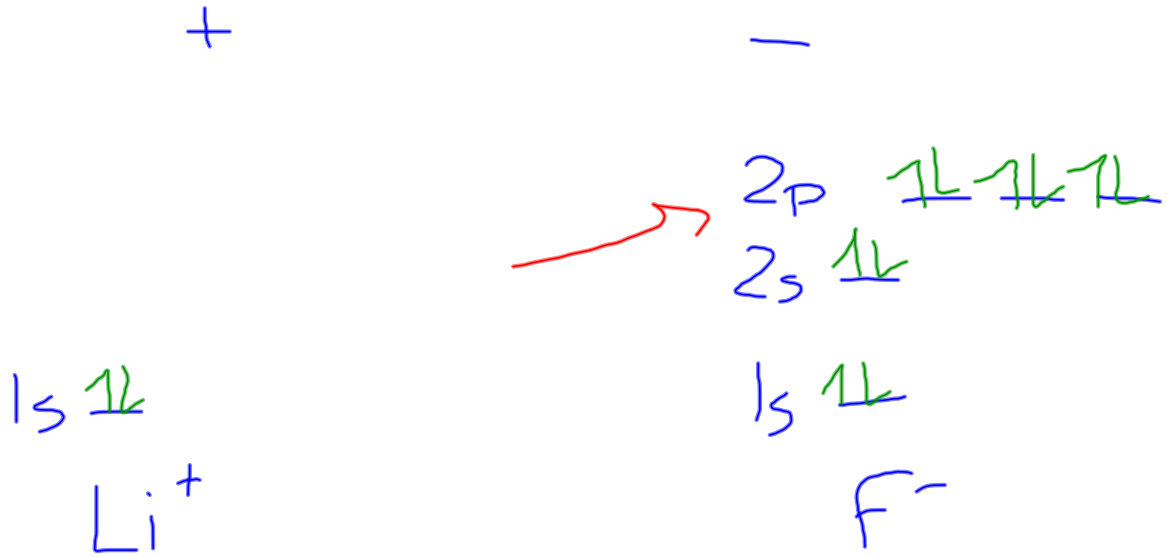
Al_2S_3

Al^{3+} S^{2-}

Ca^{2+} O^{2-}

Ca_2O_2

CaO


+
−
2p
2s
1s
1s
Li+
F−

Homework

Write the chemical formula or name for the following ionic compounds:

a) magnesium oxide

b) lithium bromide

c) KI

d) $SrCl_2$

Homework

p.258 #8,9
p. 262 #10,11

b) O^{2-} anion oxide ion

9. a) NH_4^+ b) Sn^{2+}

c) CrO_4^{2-} d) NO_3^-

Multi-Valent Metals

- can form more than one type of ion (always positive).
- include transition metals and some representative metals.

Ex. Fe^{3+} and Fe^{2+} Pb^{2+} and Pb^{4+}

In the periodic table the most common ion is usually listed in the key.

In naming multi-valent compounds (from a formula):

[a] name the two ions
[b] place the charge of the metal ion in roman numerals after the metal ion.
[c] end the anion with an -ide suffix.

Type II: Binary Ionic Compounds (Multivalent)

Ex. Name to Formula:

iron (III) oxide

Fe^{3+} O^{2-}
Fe^{3+} O^{2-}
O^{2-}

Fe_2O_3

Formula to Name :

CuF_2

Cu^{2+} F^-
F^-

Copper (II) fluoride

Ni^{2+} O^{2-}

2. b) $Ni_{(s)} + O_{2(g)} \longrightarrow NiO$

nickel (II) oxide

Binary Ionic Compounds Type II

Worksheet #1,3