

NAME: _____

IONIC COMPOUNDS (Gr. 9 - Pg. 158-159)

What is the order of element symbols in the chemical formula of a binary ionic compound?

What do subscripts in chemical formulas of binary ionic compounds indicate?

What does the chemical formula for an ionic compound represent, and what is it called?

Why must the positive charges on metal ions balance the negative charges on non-metal ions in an ionic compound?

How can you determine the charges on ions when writing the formula of a binary ionic compound for metals that form only one type of ion?

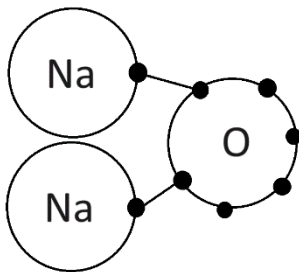
Where can you find information about the charges for non-metal ions when writing the formula of a binary ionic compound?

BOHR DIAGRAMS OF IONIC COMPOUNDS

Draw the Bohr Diagrams and show how the elements are connected to each other.

Na₂O

Metals want to EMPTY their outer electron orbitals to reach a 0 charge. A Metal can only give the amount of electrons equal to their charge.



Non-metals want to FILL their outer electron orbitals to reach a 0 charge. It takes 8 electrons to fill. A Non-Metal can only accept the amount of electrons equal to their charge.

sodium sulfide Na₂S

lithium sulfide Li₂S

magnesium fluoride MgF₂

sodium nitride Na₃N

magnesium sulfide MgS

calcium chloride CaCl₂

potassium fluoride KF

aluminum oxide Al₂O₃

IONIC COMPOUNDS

Name each element in the compound to find the compound name.

Compound Formula	Metal Ion	Non-Metal Ion	Compound Name
MgCl ₂	Mg ²⁺	Cl ¹⁻	magnesium chloride
KBr			
Al ₂ S ₃			
Ca ₃ P ₂			
Na ₂ O			

Which element is always written first in an ionic compound – the metal or the non-metal element?

Do the names of the metal elements change when they are part of a compound?

Do the names of the non-metal elements change when they are part of a compound?

How do you name ionic compounds?

IONIC COMPOUNDS

Balance the charges to find the compound formula.

Compound Name	Metal Ion	Non-Metal Ion	Compound Formula
magnesium chloride	Mg ²⁺	Cl ¹⁻	MgCl ₂
lithium chloride			
magnesium oxide			
barium fluoride			
cesium nitride			
rubidium iodide			
strontium sulfide			

What are the superscript (the upper) numbers on the elements?

Why do metal ions attract non-metal ions?

How do the charges of the ions help to construct the compound formula?

How do you decide how many of each ion is needed to balance a compound?