

LESSON
20

CLASSWORK

Getting Connected Ionic Compounds

Name _____

Date _____ Period _____

Purpose

To predict the ionic compounds that form between metal and nonmetal elements.

1. Use a periodic table to complete the table on the next page.
2. What patterns do you notice in the table?
3. The total charge in a compound must be 0. Explain how this is possible when the anions and cations do not have equal and opposite charges, such as in magnesium chloride and aluminum oxide.
4. **Making Sense** Make a rule that helps you predict the formulas of ionic compounds formed between metal and nonmetal elements.

Ionic compound	Metal	Number of valence electrons	Cation	Nonmetal	Number of valence electrons	Anion	Total number of valence electrons	Total charge = 0
NaF, sodium fluoride	Na	1	Na ⁺	F	7	F ⁻	8	(+1) + (-1) = 0
MgO, magnesium oxide	Mg			O		O ²⁻		(+2) + (-2) = 0
MgCl ₂ , magnesium chloride	Mg	2		Cl	7		16	(+2) + 2(-1) = 0
Ne, neon				Ne	8			0
BeF ₂ , beryllium fluoride	Be			F				
MgS, magnesium sulfide								
CaCl ₂ , calcium chloride								
	Na			Br				
	K			Se				
	Al			N				
Al ₂ O ₃ , aluminum oxide	Al			O				
	Al			F				