Name _____ Date _____ Class _____

CHAPTER 7 STUDY GUIDE

Ionic Compounds and Metals

Section 7.1 Ion Formation

In your textbook, read about chemical bonds and formation of ions.

Use each of the terms below just once to complete the passage.

chemical bond	electrons	energy level	ions	noble gases
nucleus	octet	pseudo-noble gas formations		valence

The force that holds two atoms together is called a(n) (1) _____.
Such an attachment may form by the attraction of the positively charged
(2) _____ of one atom for the negatively charged
(3) _____ of another atom, or by the attraction of charged atoms, which are called
(4) _____. The attractions may also involve
(5) _____ electrons, which are the electrons in the outermost
(6) _____. The (7) _____ are a family of elements that have very little tendency to react. Most of these elements have a set of eight outermost electrons, which is called a stable (8) _____. The relatively stable electron structures developed by loss of electrons in certain elements of groups 3, 4, 13, and 14 are called (9) _____.

For each statement below, write *true* or *false*.

_____ **10.** A positively charged ion is called an anion.

_____ **11.** Elements in group 1 lose their one valence electron, forming an ion with a 1+ charge.

_____ **12.** Elements tend to react so that they acquire the electron structure of a halogen.

_____ **13.** A sodium atom tends to lose one electron when it reacts.

_____ **14.** The electron structure of a zinc ion (Zn^{2+}) is an example of a pseudo- noble gas formation.

_____ **15.** A Cl^- ion is an example of a cation.

_____ **16.** The ending *-ide* is used to designate an anion.

_____ **17.** Nonmetals form a stable outer electron configuration by losing electrons and becoming anions.

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IONIC COMPOUNDS (Continued)

Potassium nitrite	FeO
Calcium chlorate	$NaHCO_3$
Iron(II) hydroxide	CaI_2
[redacted]	NH_4Br
Aluminum sulfite	$BaCl_2$
Magnesium oxide	$FePO_4$
Lead(II) iodide	Ag_2SO_4
Sodium hypochlorite	$Co(OH)_2$
Lithium hydrogen sulfite	NH_4NO_2
[redacted]monium carbonate	Cu_2O
Mercury(I) chloride	K_3PO_4
Aluminum oxide	$(NH_4)_2HPO_4$
[redacted]	[redacted]