Name Key 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) Bond.
Such an attachment may form by the attraction of the positively charged
(2) Nucleus of one atom for the negatively charged
(3) electrons of another atom, or by the attraction of charged atoms, which are called
(4) Chemical Bond. The attractions may also involve
(5) Valance electrons, which are the electrons in the outermost
(6) energy level. The (7) Noble Gasses 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) Octet. The relatively stable electron structures developed by loss of electrons in certain elements of groups 3, 4, 13, and 14 are called (9) Pseudo noble gas formations

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

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

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

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

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

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

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

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

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

IONIC COMPOUNDS (Continued)

Potassium nitrite KNO_2	FeO Iron(II) Oxide
Calcium chlorate $Ca(ClO_3)_2$	$NaHCO_3$ Sodium Bicarbonate
Iron(II) hydroxide $Fe(OH)_2$	CaI_2 Calcium Iodide
[redacted]	NH_4Br Ammonium Bromide
Aluminum sulfite $Al_2(SO_3)_3$	$BaCl_2$ Barium Chloride
Magnesium oxide MgO	$FePO_4$ Iron(III) Phosphate
Lead(II) iodide PbI_2	Ag_2SO_4 Silver Sulfate
Sodium hypochlorite $NaClO$	$Co(OH)_2$ Cobalt(II) hydroxide
Lithium hydrogen sulfite $LiHSO_3$	NH_4NO_2 Ammonium Nitrite
monium carbonate $(NH_4)_2CO_3$	Cu_2O Copper(I) oxide
Mercury(I) chloride $HgCl$	K_3PO_4 Potassium Phosphate
Aluminum oxide Al_2O_3	$(NH_4)_2HPO_4$ Ammonium Biphosphate
[redacted]	[redacted]