Name Date Class

SECTION 2 Study Guide

How Elements Bond

Chapter 1

Directions: *Correctly complete the following paragraphs using terms from the list below. Some terms may not be used, and some terms may be used more than once.*

electrons	losing	positive	covalent	
molecules	protons	gaining	negative	
random	gains	neutral	regular	ionic
nonpolar	ions	loses	polar	sharing

Elements in Group 1 become more stable by **1.** _____ an electron. These elements form **2.** _____ ions because they have more **3.** _____ than **4.** _____. Chlorine readily **5.** _____ an electron, forming a **6.** _____ ion. The attraction between sodium ions and chlorine ions forms **7.** _____ bonds. In sodium chloride, the ions are lined up in a **8.** _____ pattern.

Unlike sodium and chlorine, some atoms become more stable by sharing **9.** _____, forming **10.** _____ rather than charged **11.** _____. The bonds in a molecule of oxygen are **12.** _____ **13.** _____ bonds, while the bonds in a molecule of water are **14.** _____ **15.** _____ bonds.

Directions: *Next to each formula, write the number of atoms of each element found in one unit of the compound.*

16. potassium iodide, KI _____
17. sodium sulfide, Na_2S _____
18. silicon dioxide, SiO_2 _____
19. carbonic acid, H_2CO_3 _____

Directions: *Complete the following activity.*

20. Hydrogen combines with sulfur much like hydrogen combines with oxygen. Draw an electron dot diagram showing hydrogen combined with sulfur and write the chemical formula below.

Name _____ Date _____ Class _____

SECTION 2 Reinforcement

How Elements Bond

Directions: *Correctly complete the following paragraphs using terms from the list below. Some terms may not be used, and some terms may be used more than once.*

electrons	**losing**	**positive**	**covalent**
molecules	**protons**	**gaining**	**negative**
random	**gains**	**neutral**	**regular**	**ionic**
nonpolar	**ions**	**loses**	**polar**	**sharing**

Elements in Group 1 become more stable by **1.** _____ an electron. These elements form **2.** _____ ions because they have more **3.** _____ than **4.** _____. Chlorine readily **5.** _____ an electron, forming a **6.** _____ ion. The attraction between sodium ions and chlorine ions forms **7.** _____ bonds. In sodium chloride, the ions are lined up in a **8.** _____ pattern.

Unlike sodium and chlorine, some atoms become more stable by sharing **9.** _____, forming **10.** _____ rather than charged **11.** _____. The bonds in a molecule of oxygen are **12.** _____ **13.** _____ bonds, while the bonds in a molecule of water are **14.** _____ **15.** _____ bonds.

Directions: *Next to each formula, write the number of atoms of each element found in one unit of the compound.*

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17. sodium sulfide, Na_2S _____
18. silicon dioxide, SiO_2 _____
19. carbonic acid, H_2CO_3 _____

Directions: *Complete the following activity.*

20. Hydrogen combines with sulfur much like hydrogen combines with oxygen. Draw an electron dot diagram showing hydrogen combined with sulfur and write the chemical formula below.

Meeting Individual Needs