Name _____ Date _____ Class _____

MATH SKILLS TRANSPARENCY WORKSHEET 6

Using the Periodic Table

Use with Chapter 6, Section 6.2

1. Identify the number of valence electrons in each of the following elements.

a. Ne _____ **e.** O _____

b. K _____ **f.** Cl _____

c. B _____ **g.** P _____

d. Mg _____ **h.** Si _____

2. Identify the energy level of the valence electrons in each of the following elements.

a. Br _____

b. N _____

c. Ra _____

d. H _____

e. Ar _____

f. I _____

3. Use the periodic table to write the electron configurations (using noble gas notation) for each of the following elements.

a. Li _____

b. F _____

c. As _____

d. Sr _____

e. Bi _____

4. Determine the group, period, and block of the elements having the following electron configurations.

a. $1s^2$ _____

b. $[Ne]3s^23p^1$ _____

c. $[Ar]4s^1$ _____

d. $[Kr]5s^24d^1$ _____

e. $[Xe]6s^24f^{14}5d^{10}6p^4$ _____

Name _____ Date _____

Section 6.2 Classification of the Elements (continued)

Main Idea — **Details**

Organizing the Elements by Electron Configuration

Use with pages 182–183.

Organize *information about electron configurations by completing the outline below.*

I. Electrons

A. Valence electrons

1. electrons in _____

2. atoms in the _____ have _____ _____.

B. Valence electrons and period

1. The _____ of an element's valence electrons indicates _____.

   a. Elements with valence electrons in energy level 2 are found in _____.

   b. Elements with _____ are found in the fourth period.

C. Valence electrons and group number

1. Representative elements.

   a. All elements in group 1 have _____.

   b. All elements in group 2 have _____.

   c. Group 13 elements have _____, group 14 elements have _____, and so on.

2. Helium, in group 18, is an _____.

Describe *the relationship between the number of valence electrons and the chemical properties of atoms.*

_____

_____

_____