

## Chapter 5 The Periodic Table

**Section 5.3 Representative Groups****(pages 139–145)**

*This section discusses how the number of valence electrons affects the properties of elements. It also describes properties of elements in Groups 1A through 8A.*

**Reading Strategy (page 139)**

**Monitoring Your Understanding** As you read, record an important fact about each element listed in the table. For more information on this reading strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.

Element	Important Fact
Magnesium	
Aluminum	
Chlorine	

**Valence Electrons (page 139)**

1. An electron that is in the highest occupied energy level of an atom is a(n) \_\_\_\_\_ electron.
2. Elements within a group have the \_\_\_\_\_ number of valence electrons.

**The Alkali Metals (page 140)**

3. The reactivity of alkali metals \_\_\_\_\_ from the top of Group 1A to the bottom.
4. Sodium is stored under oil because it \_\_\_\_\_.

**The Alkaline Earth Metals (page 141)**

5. Differences in reactivity among alkaline earth metals are shown by the way they react with \_\_\_\_\_.

*Find and match two properties to each element listed.*

Alkaline Earth Metal	Property
_____ 6. magnesium	a. Helps build strong teeth and bones
_____ 7. calcium	b. Helps plants produce sugar
	c. Is used to make lightweight bicycle frames
	d. Is the main ingredient in limestone

**Chapter 5 The Periodic Table****The Boron Family (page 142)**

8. List the four metals in Group 3A.
- a. \_\_\_\_\_ b. \_\_\_\_\_
- c. \_\_\_\_\_ d. \_\_\_\_\_
9. Circle the letter of each sentence that is true about aluminum.
- a. It is the most abundant metal in Earth's crust.
- b. It is often found combined with oxygen in bauxite.
- c. It is more reactive than sodium and magnesium.
- d. It is a good conductor of electric current.

**The Carbon Family (page 142)**

10. List the two metalloids in Group 4A.
- a. \_\_\_\_\_ b. \_\_\_\_\_
11. Except for water, most of the compounds in your body contain \_\_\_\_\_.

**The Nitrogen Family (page 143)**

12. List the nonmetals in Group 5A.
- a. \_\_\_\_\_ b. \_\_\_\_\_
13. Name two elements in the nitrogen family that are contained in fertilizer.
- a. \_\_\_\_\_ b. \_\_\_\_\_

**The Oxygen Family (page 143)**

14. List the nonmetals in Group 6A.
- a. \_\_\_\_\_ b. \_\_\_\_\_ c. \_\_\_\_\_
15. Name the most abundant element in Earth's crust.
- \_\_\_\_\_

**The Halogens (page 144)**

16. List the four nonmetals in Group 7A.
- a. \_\_\_\_\_ b. \_\_\_\_\_
- c. \_\_\_\_\_ d. \_\_\_\_\_
17. Halogens have similar \_\_\_\_\_ properties but different \_\_\_\_\_ properties.

**The Noble Gases (page 145)**

18. Name three characteristics of noble gases.
- a. \_\_\_\_\_ b. \_\_\_\_\_ c. \_\_\_\_\_
19. How can an element that does not react easily with other elements be useful? \_\_\_\_\_
- \_\_\_\_\_