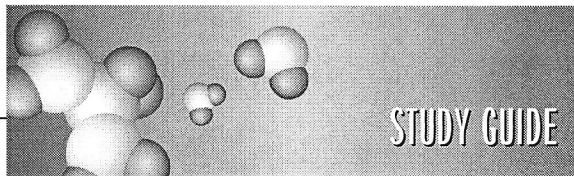


Name _____

Date _____

Class _____



3.2 Using the Periodic Table

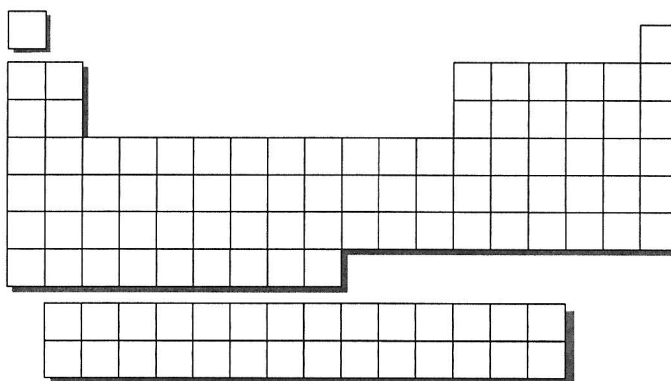
CHAPTER 3

Use with text pages 95 - 113

Select the group of elements that most closely fits each of the properties listed below. Write *M* for metals, *N* for nonmetals, and *O* for metalloids.

- _____ 1. luster
- _____ 2. tightly held valence electrons
- _____ 3. at the right side of the periodic table
- _____ 4. semiconductors
- _____ 5. good conductors of electricity
- _____ 6. usually quite brittle
- _____ 7. properties intermediate between metals and nonmetals
- _____ 8. a variety of colors
- _____ 9. three to eight valence electrons
- _____ 10. poor conductors of heat

Use the outline of the periodic table to complete the steps below. Each box represents an element.



- 11. Draw a straight blue line from the beginning to the end of any one period.
- 12. Draw a straight red line from the beginning to the end of any one group.
- 13. Place a *V* in any five boxes that you would expect to be metallic elements.
- 14. Place a *W* in any three boxes that you would expect to be nonmetallic elements.
- 15. Place an *X* in any box that you would expect to be a metalloid.
- 16. Place a *Y* in any box that you would expect to be a lanthanide element.
- 17. Place a *Z* in any box that you would expect to be an actinide element.

For each item in Column A, write the letter of the matching item in Column B.

Column A

- _____ 18. hydrogen
_____ 19. first period
_____ 20. second period
_____ 21. Group 2 elements
_____ 22. magnesium
_____ 23. oxygen
_____ 24. noble gases
_____ 25. transition elements
_____ 26. metals
_____ 27. nonmetals

Column B

- a. has six valence electrons
b. are very unreactive
c. have unpredictable properties
d. has one more electron than sodium
e. have loosely bound valence electrons
f. has only one electron
g. contains two elements
h. have two valence electrons
i. tend to gain electrons in chemical reactions
j. contains eight elements

Place a *T* for true or an *F* for false on the blank for each of the following statements. Change the underlined word or phrase in each false statement to make it true. Write your correction on the blank.

- _____ 28. A Lewis electron dot structure shows the total number of electrons in the atoms of an element.
_____ 29. The electron dot structure for a metal is likely to have one, two, or three electrons.
_____ 30. An element with an electron dot structure containing only one electron is likely to be found in Group 7 of the periodic table.
_____ 31. Copper is a metal used in electrical circuits and in the manufacture of the alloy known as steel.
_____ 32. Steel surfaces are sometimes plated with chromium to protect them from corrosion.
_____ 33. Metalloids, such as silicon, are widely used in the manufacture of semiconductors.
_____ 34. Pure silicon conducts an electrical current very well.
_____ 35. The conductivity of silicon can be improved by doping it with other materials.