

CHAPTER TWO

Periodic Table

2.18 What is the periodic table, and what is its significance in the study of chemistry?

2.19 State two differences between a metal and a nonmetal.

2.20 Write the names and symbols for four elements in each of the following categories: (a) nonmetal, (b) metal, (c) metalloid.

2.21 Define, with two examples, the following terms: (a) alkali metals, (b) alkaline earth metals, (c) halogens, (d) noble gases.

2.22 Elements whose names end with *ium* are usually metals; sodium is one example. Identify a nonmetal whose name also ends with *ium*.

2.23 Describe the changes in properties (from metals to nonmetals or from nonmetals to metals) as we move (a) down a periodic group

and (b) across the periodic table from left to right.

2.24 Consult a handbook of chemical and physical data (ask your instructor where you can locate a copy of the handbook) to find (a) two metals less dense than water, (b) two metals more dense than mercury, (c) the densest known solid metallic element, (d) the densest known solid nonmetallic element.

2.25 Group the following elements in pairs that you would expect to show similar chemical properties: K, F, P, Na, Cl, and N.

2.26 Of the 115 elements known, only two are liquids at room temperature (25°C). What are they? (*Hint*: One element is a familiar metal and the other element is in Group 7A.)

2.27 List the elements that exist as gases at room temperature. (*Hint*: These elements can be found in Groups 5A, 6A, 7A, and 8A.)