

## CHAPTER 3 LEARNING OBJECTIVES

1. Write the symbol and charge for an atom or ion, having been given the number of protons, neutrons, and electrons.
2. Distinguish molecular compounds from ionic compounds.
3. Explain the relationship between molecules, moles, and Avogadro's number.
4. Distinguish between structural formulas, condensed formulas, and molecular formulas.
5. Explain the difference between empirical and molecular formulas.
6. Determine the percent composition by mass of its component elements given the molecular formula of a compound.
7. Determine the molecular formula given the empirical formula and molecular weight.
8. Systematically name common polyatomic ions, ionic compounds, and binary molecular compounds.
9. Name the first ten alkane hydrocarbons (Table 3.4).
10. Discuss the general features of hydrocarbons and understand the relationship between straight-chain and branched-chain hydrocarbons.

Review the "In Closing" and "Key Terms" sections of Chapter 3 (pages 113-114).