



CHAPTER 4

Arrangement of Electrons in Atoms 96

1 The Development of a New Atomic Model	97
2 The Quantum Model of the Atom	104
3 Electron Configurations	111
Chemistry in Action Fireflies	102
Quick Lab The Wave Nature of Light: Interference	106
Historical Chemistry The Noble Decade	114
Math Tutor Weighted Averages and Atomic Mass	128
Standardized Test Prep	129
Experiment Flame Tests	130



CHAPTER 5

The Periodic Law 132

1 History of the Periodic Table	133
2 Electron Configuration and the Periodic Table	138
3 Electron Configuration and Periodic Properties	150
Quick Lab Designing Your Own Periodic Table	137
Careers in Chemistry Materials Scientist	145
Math Tutor Writing Electron Configurations	170
Standardized Test Prep	171
Experiment The Mendeleev Lab of 1869	172



CHAPTER 6

Chemical Bonding 174

1 Introduction to Chemical Bonding	175
2 Covalent Bonding and Molecular Compounds	178
3 Ionic Bonding and Ionic Compounds	190
4 Metallic Bonding	195
5 Molecular Geometry	197
Chemistry in Action Ultrasonic Toxic-Waste Destroyer	180
Careers in Chemistry Computational Chemist	204
Math Tutor Drawing Lewis Structures	214
Standardized Test Prep	215
Experiment Types of Bonding in Solids	216