

GROUP 1 ALKALI METALS 786

APPLICATION <i>Technology</i>	
Sodium Vapor Lighting	788
APPLICATION <i>Health</i>	
Electrolyte Balance in the Body	789

GROUP 2 ALKALINE EARTH METALS 792

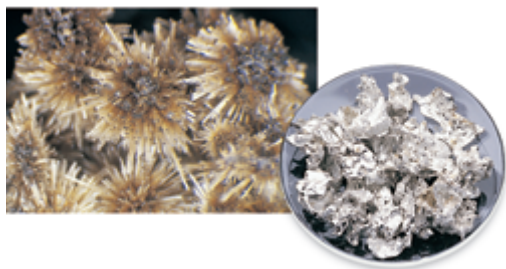
APPLICATION <i>Technology</i>	
Fireworks	794
APPLICATION <i>Health</i>	
Calcium: An Essential Mineral in the Diet	796
Magnesium: An Essential Mineral in the Diet	796

GROUPS 3–12 TRANSITION METALS 798

APPLICATION <i>Geology</i>	
Gemstones and Color	801
APPLICATION <i>Technology</i>	
Alloys	802
APPLICATION <i>The Environment</i>	
Mercury Poisoning	805
APPLICATION <i>Health</i>	
Elements in the Body	806
Role of Iron	807

GROUP 13 BORON FAMILY 808

APPLICATION <i>Technology</i>	
Aluminum	810
Aluminum Alloys	811



GROUP 14 CARBON FAMILY 812

APPLICATION <i>Chemical Industry</i>	
Carbon and the Reduction of Iron Ore	814
Carbon Dioxide	815
Carbon Monoxide	815
APPLICATION <i>Biochemistry</i>	
Carbon Dioxide and Respiration	816
APPLICATION <i>The Environment</i>	
Carbon Monoxide Poisoning	818
APPLICATION <i>Biochemistry</i>	
Macromolecules	819
APPLICATION <i>Chemical Industry</i>	
Silicon and Silicates	825
Silicones	825
APPLICATION <i>Technology</i>	
Semiconductors	826

GROUP 15 NITROGEN FAMILY 828

APPLICATION <i>Biology</i>	
Plants and Nitrogen	830
APPLICATION <i>Chemical Industry</i>	
Fertilizers	831

GROUP 16 OXYGEN FAMILY 832

APPLICATION <i>Chemical Industry</i>	
Oxides	834
APPLICATION <i>The Environment</i>	
Ozone	836
APPLICATION <i>Chemical Industry</i>	
Sulfuric Acid	837

GROUP 17 HALOGEN FAMILY 838

APPLICATION <i>The Environment</i>	
Chlorine in Water Treatment	840
Fluoride and Tooth Decay	841

Reference

Preparing for Chemistry Lab	842	Appendix D: Problem Bank	881
Appendix A: Reference Tables	854	Appendix E: Selected Answers	916
Appendix B: Study Skills for Chemistry	864	Glossary	924
Appendix C: Graphing Calculator Technology	879	Index	935