

Contents in Brief

About the Authors ix Preface x

- 1 What Is Plant Biology? 1
- 2 The Nature of Life 13
- 3 Cells 29
- 4 Tissues 53
- 5 Roots and Soils 65
- 6 Stems 85
- 7 Leaves 104
- 8 Flowers, Fruits, and Seeds 124
- 9 Water in Plants 147
- 10 Plant Metabolism 164
- 11 Growth and Development 191
- 12 Meiosis and Alternation of Generations 216
- 13 Genetics and Molecular Biology 226
- 14 Plant Breeding, Propagation, and Biotechnology 249
- 15 Evolution 268
- 16 Plant Names and Classification 282
- 17 Domain (Kingdom) Bacteria, Domain (Kingdom) Archaea, and Viruses 298
- 18 Kingdom Protista 324
- 19 Kingdom Fungi 353
- 20 Introduction to the Plant Kingdom: Bryophytes 378
- 21 The Seedless Vascular Plants: Ferns and Their Relatives 393
- 22 Introduction to Seed Plants: Gymnosperms 418
- 23 Seed Plants: Angiosperms 437
- 24 Flowering Plants and Civilization 457
- 25 Ecology 483
- 26 Biomes 508

Appendix 1 Scientific Names of Organisms Mentioned in the Text A1

Appendix 2 Biological Controls A20

Appendix 3 Useful and Poisonous Plants, Fungi, and Algae A26

Appendix 4 House Plants and Home Gardening A51

Appendix 5 Metric Equivalents and Conversion Tables A75

Appendix 6 Periodic Table of the Elements A77

Glossary G1

Index I1