- Part 1 Basic Principles: How Traits Are Transmitted
- 2 Mendel's Breakthrough: Patterns, Particles, and Principles of Heredity
- 3 Extensions to Mendel: Complexities in Relating Genotype to Phenotype
- 4 The Chromosome Theory of Inheritance
- 5 Linkage, Recombination, and the Mapping of Genes on Chromosomes
- Part 2 What Genes Are and What They Do
- 6 DNA: How the Molecule of Heredity Carries, Replicates, and Recombines Information
- 7 Anatomy and Function of a Gene: Dissection Through Mutation
- 8 Gene Expression: The Flow of Genetic Information from DNA via RNA to Protein
- Part 3 Genomes
- 9 Deconstructing the Genome: DNA at High Resolution
- 10 Reconstructing the Genome Through Genetic and Molecular Analysis
- 11 The Direct Detection of Genotype Distinguishes Individual Genomes
- Part 4 How Genes Travel
- 12 The Eukaryotic Chromosome: An Organelle for Packaging and Managing DNA
- 13 Chromosomal Rearrangements and Changes in Chromosome Number Reshape Eukaryotic Genomes
- 14 The Prokaryotic Chromosome: Genetic Analysis in Bacteria
- 15 The Chromosomes of Organelles Outside the Nucleus Exhibit Non-Mendelian Patterns of Inheritance
- Part 5 How Genes Are Regulated
- 16 Gene Regulation in Prokaryotes
- 17 Gene Regulation in Eukaryotes
- 18 Cell-Cycle Regulation and the Genetics of Cancer
- 19 Using Genetics to Study Development
- Part 6 How Genes Change
- 20 The Genetic Analysis of Populations and How They Evolve
- 21 Evolution at the Molecular Level Reference: Portraits of Model Eukaryotic
  Organisms A Saccharomyces cerevisiae: Genetic Portrait of Yeast B Arabidopsis
  thaliana: Genetic Portrait of a Model Plant C Caenorhabditis elegans: Genetic
  Portrait of a Simple Multicellular Organism D Drosophila melanogaster: Genetic
  Portrait of the Fruit Fly E Mus musculus: Genetic Portrait of the House Mouse
  Guidelines for Gene Nomenclature Brief Answer Section