

Contents in Brief

INTRODUCTION

- 1 Invitation to Biology

UNIT I PRINCIPLES OF CELLULAR LIFE

- 2 Life's Chemical Basis
- 3 Molecules of Life
- 4 Cell Structure
- 5 Ground Rules of Metabolism
- 6 Where It Starts—Photosynthesis
- 7 Releasing Chemical Energy

UNIT II GENETICS

- 8 DNA Structure and Function
- 9 From DNA to Protein
- 10 Control of Gene Expression
- 11 How Cells Reproduce
- 12 Meiosis and Sexual Reproduction
- 13 Observing Patterns in Inherited Traits
- 14 Chromosomes and Human Inheritance
- 15 Studying and Manipulating Genomes

UNIT III PRINCIPLES OF EVOLUTION

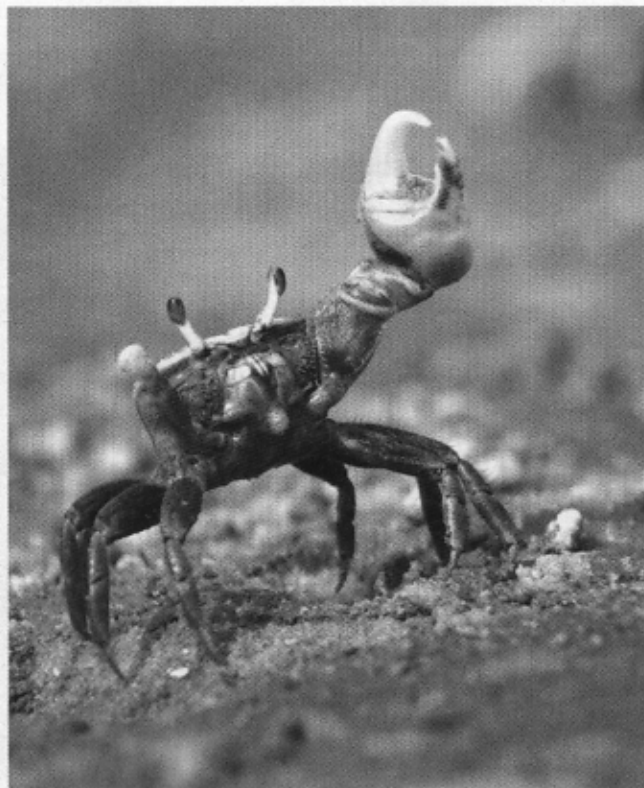
- 16 Evidence of Evolution
- 17 Processes of Evolution
- 18 Organizing Information About Species
- 19 Life's Origin and Early Evolution

UNIT IV EVOLUTION AND BIODIVERSITY

- 20 Viruses, Bacteria, and Archaea
- 21 Protists—The Simplest Eukaryotes
- 22 The Land Plants
- 23 Fungi
- 24 Animal Evolution—The Invertebrates
- 25 Animal Evolution—The Vertebrates
- 26 Human Evolution

UNIT V HOW PLANTS WORK

- 27 Plant Tissues
- 28 Plant Nutrition and Transport
- 29 Life Cycles of Flowering Plants
- 30 Communication Strategies in Plants



UNIT VI HOW ANIMALS WORK

- 31 Animal Tissues and Organ Systems
- 32 Neural Control
- 33 Sensory Perception
- 34 Endocrine Control
- 35 Structural Support and Movement
- 36 Circulation
- 37 Immunity
- 38 Respiration
- 39 Digestion and Nutrition
- 40 Maintaining the Internal Environment
- 41 Animal Reproduction
- 42 Animal Development
- 43 Animal Behavior

UNIT VII PRINCIPLES OF ECOLOGY

- 44 Population Ecology
- 45 Community Ecology
- 46 Ecosystems
- 47 The Biosphere
- 48 Human Impacts on the Biosphere