

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 How Cells Release Chemical Energy

UNIT II GENETICS

- 8 DNA Structure and Function
- 9 From DNA to Protein
- 10 Controls Over Genes
- 11 How Cells Reproduce
- 12 Meiosis and Sexual Reproduction
- 13 Observing Patterns in Inherited Traits
- 14 Human Inheritance
- 15 Biotechnology

UNIT III PRINCIPLES OF EVOLUTION

- 16 Evidence of Evolution
- 17 Processes of Evolution
- 18 Life's Origin and Early Evolution

UNIT IV EVOLUTION AND BIODIVERSITY

- 19 Viruses, Bacteria, and Archaeans
- 20 The Protists
- 21 Plant Evolution
- 22 Fungi
- 23 Animals I: Major Invertebrate Groups
- 24 Animals II: The Chordates

UNIT V HOW PLANTS WORK

- 25 Plant Tissues
- 26 Plant Nutrition and Transport
- 27 Plant Reproduction and Development

UNIT VI HOW ANIMALS WORK

- 28 Animal Tissues and Organ Systems
- 29 Neural Control
- 30 Sensory Perception
- 31 Endocrine Control
- 32 Structural Support and Movement
- 33 Circulation
- 34 Immunity
- 35 Respiration
- 36 Digestion and Human Nutrition
- 37 The Internal Environment
- 38 Reproduction and Development

UNIT VII PRINCIPLES OF ECOLOGY

- 39 Animal Behavior
- 40 Population Ecology
- 41 Community Ecology
- 42 Ecosystems
- 43 The Biosphere
- 44 Human Effects on the Biosphere

