Introductory and General Biology

- **Supplemental Modules (Molecular Biology)**
  - Agricultural Biotechnology and Gene Therapy
  - Bird Flu
  - Case Studies: Diseases
  - Cloning and stem cells
  - DNA and the genome
  - Prions
Concepts of Biology is designed for the typical introductory biology course for nonmajors, covering standard scope and sequence requirements. The text includes interesting applications and conveys the major themes of biology, with content that is meaningful and easy to understand. The book is designed to demonstrate biology concepts and to promote scientific literacy.

- Front Matter
- 1: Introduction to Biology
- 2: Chemistry of Life
- 3: Cell Structure and Function
- 4: How Cells Obtain Energy
- 5: Photosynthesis
- 6: Reproduction at the Cellular Level
- 7: The Cellular Basis of Inheritance
- 8: Patterns of Inheritance
- 9: Molecular Biology
- 10: Biotechnology
- 11: Evolution and Its Processes
- 12: Diversity of Life
- 13: Diversity of Microbes, Fungi, and Protists
- 14: Diversity of Plants
- 15: Diversity of Animals
- 16: The Body's Systems
- 17: The Immune System and Disease
- 18: Animal Reproduction and Development
- 19: Population and Community Ecology
- 20: Ecosystems and the Biosphere
- 21: Conservation and Biodiversity
- Back Matter
Biology is a natural science concerned with the study of life and living organisms, including their structure, function, growth, evolution, distribution, and taxonomy. Modern biology is a vast and eclectic field, composed of many branches and subdisciplines. However, despite the broad scope of biology, there are certain general and unifying concepts within it that govern all study and research.
Front Matter
- Unit I: The Chemistry of Life
- Unit II: The Cell
- Unit III: Genetics
- Unit IV: Evolutionary Processes
- Unit V: Biological Diversity
- Unit VI: Plant Structure and Function
- Unit VII: Animal Structure and Function
- Unit VIII: Ecology
- Back Matter

- **Book: Biology (Kimball)**

  [Image of a tiger]

  Kimball's Biology Pages
  - Front Matter
  - Unit 1: The Chemical Basis of Life
  - Unit 2: The Molecules of Life
  - Unit 3: The Cellular Basis of Life
  - Unit 4: Cell Metabolism
  - Unit 5: DNA
  - Unit 6: Gene Expression
  - Unit 7: Cell Division
  - Unit 8: The Genetic Consequences of Meiosis
  - Unit 9: Regulation of Gene Expression
  - Unit 10: Mutation
  - Unit 11: Genomics
  - Unit 12: Cancer
  - Unit 13: Aging
  - Unit 14: Embryonic Development and its Regulation
  - Unit 15: The Anatomy and Physiology of Animals
Unit 16: The Anatomy and Physiology of Plants
◦ Unit 17: Ecology
◦ Unit 18: Evolution
◦ Unit 19: The Diversity of Life
◦ Unit 20: General Science
◦ Back Matter

• Book: General Biology (Boundless)

◦ Front Matter
◦ 1: The Study of Life
◦ 2: The Chemical Foundation of Life
◦ 3: Biological Macromolecules
◦ 4: Cell Structure
◦ 5: Structure and Function of Plasma Membranes
◦ 6: Metabolism
◦ 7: Cellular Respiration
◦ 8: Photosynthesis
◦ 9: Cell Communication
◦ 10: Cell Reproduction
◦ 11: Meiosis and Sexual Reproduction
◦ 12: Mendel's Experiments and Heredity
◦ 13: Modern Understandings of Inheritance
◦ 14: DNA Structure and Function
◦ 15: Genes and Proteins
◦ 16: Gene Expression
◦ 17: Biotechnology and Genomics
◦ 18: Evolution and the Origin of Species
◦ 19: The Evolution of Populations
◦ 20: Phylogenies and the History of Life
• 21: Viruses
• 22: Prokaryotes- Bacteria and Archaea
• 23: Protists
• 24: Fungi
• 25: Seedless Plants
• 26: Seed Plants
• 27: Introduction to Animal Diversity
• 28: Invertebrates
• 29: Vertebrates
• 30: Plant Form and Physiology
• 31: Soil and Plant Nutrition
• 32: Plant Reproductive Development and Structure
• 33: The Animal Body- Basic Form and Function
• 34: Animal Nutrition and the Digestive System
• 35: The Nervous System
• 36: Sensory Systems
• 37: The Endocrine System
• 38: The Musculoskeletal System
• 39: The Respiratory System
• 40: The Circulatory System
• 41: Osmotic Regulation and the Excretory System
• 42: The Immune System
• 43: Animal Reproduction and Development
• 44: Ecology and the Biosphere
• 45: Population and Community Ecology
• 46: Ecosystems
• 47: Conservation Biology and Biodiversity
• Back Matter

• Map: Raven Biology 12th Edition
35: Plant Form
36: Transport in Plants
37: Plant Nutrition and Soils
38: Plant Defense Responses
39: Sensory Systems in Plants
40: Plant Reproduction
41: The Animal Body and Principles of Regulation
42: The Nervous System
43: Sensory Systems
44: The Endocrine System
45: The Musculoskeletal System
46: The Digestive System
47: The Respiratory System
48: The Circulatory System
49: Osmotic Regulation and the Urinary System
50: The Immune System
51: The Reproductive System
52: Animal Development
53: Behavioral Biology
54: Ecology of Individuals and Populations
55: Community Ecology
56: Dynamics of Ecosystems
57: The Biosphere and Human Impacts
58: Conservation Biology
Back Matter

• **Book: Principles of Biology**

The Principles of Biology sequence (BI 211, 212 and 213) introduces biology as a scientific discipline for students planning to major in biology and other science disciplines.
Front Matter
- BIOLOGY 211: Cell Biology
- BIOLOGY 212: Genetics
- BIOLOGY 213: Ecology and Evolution

Back Matter

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Thumbnail: A tigress having a bath in Ranthambhore Tiger Reserve, Rajasthan (CC BY 2.0; Koshy Koshy via Wikipedia)