

32 supplements for lecture, lab, testing,
and student enrichment . . .

BIOLOGY: THE UNITY AND DIVERSITY OF LIFE, 7TH EDITION

CECIE STARR & RALPH TAGGART



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A STATE-OF-THE-ART VIDEODISC AND OTHER AUDIO-VISUAL MATERIALS

TEXT-SPECIFIC VIDEODISC

Developed by Bill Surver of Clemson University in collaboration with Carolina Biological Supply Company, this is the first all-inclusive video laser disc ever developed specifically for a particular text. The videodisc corresponds with *BIOLOGY: THE UNITY AND DIVERSITY OF LIFE*, 7TH EDITION, in two ways: it parallels the text organization, and it's correlated, chapter by chapter, with the text. It also provides almost all of the text illustrations and some of its photos. Highlights include:

- **Crisp Illustrations:** Most of the line art from *BIOLOGY: THE UNITY AND DIVERSITY OF LIFE* is included and clearly labeled in large, boldfaced type. In addition, text illustrations are either broken down into a step-by-step format or animated in full motion. Many drawings are also available for testing with numbered leader lines for easy identification, plus fill-in-the-blank labels. In addition, complex biochemical pathways have been divided and diagrammed for more clarity.
- **New Computer Animations:** New computer animation sequences depicting cellular and physiological processes clarify difficult concepts. More than 30 of the text illustrations have been converted to full animations that break down a complicated process or structure into series of steps.
- **New Motion Sequences:** Some 45 minutes of new, never-before-seen motion footage brings biology to life for students in a way they'll not soon forget.
- **Illuminating Interviews:** Interviews with well-known scientists highlight their discoveries and exciting new research that may help solve significant new medical or societal problems.
- **Diverse Photographs:** Includes over 3,500 images of art and still photos from Carolina Biological Supply's excellent collection of micrographs, organisms, and environments.



- **Correlation Directory Available:** A Videodisc Directory correlates images to each text chapter, listing complete printed documentation of the images and motion sequences with a barcode guide for each image or sequence.

CORRELATION DIRECTORY AND BARCODE GUIDE TO THREE ADDITIONAL VIDEODISCS

Written by Denny Smith and Bill Surver, this handy manual contains directories that correlate each chapter of *BIOLOGY: THE UNITY AND DIVERSITY OF LIFE* to three generic general biology videodiscs: *The Biology Encyclopedia* (Carolina Biological Supply Co.), *BioSci II* (Videodiscovery, Inc.), and *Principles of Biology* (Optical Data Corp.).

LIQUID ASSETS: THE ECOLOGY OF WATER—INTERACTIVE VIDEOS

This pair of interactive videodiscs, *Liquid Assets: The Ecology of Water*, explores endangered species, environmental restoration, and other topics.

HYPERCARD STACKS (MAC)

This software for the Macintosh is a quick and easy guide to the images on the videodiscs mentioned above and correlates them with each chapter of the text. Giving instructors the ability to access an image in just seconds, this directory is invaluable for demonstrating concepts visually or answering students' questions in a timely manner.

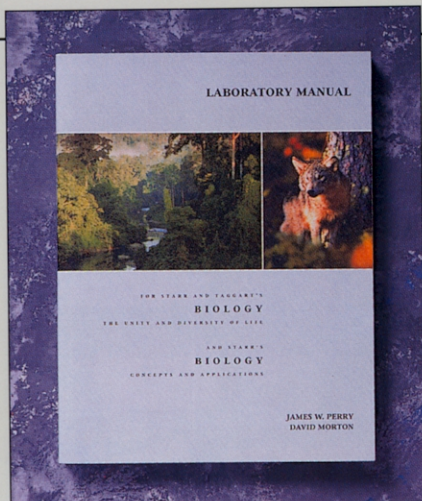
TOOLBOOK (IBM)

For those of you with access to IBM-PC or compatible hardware, Toolbook will guide you to videodisc images and correlate them with each chapter of the text. (3 1/2" and 5 1/4" disks available.)

OTHER AV MATERIALS

Not shown, but also available: a wide variety of filmstrips, slide sets, transparencies, videotapes, and self-instructional software covering all major topics in biology (from Carolina Biological Supply Company, Ward's Natural Science, Conduit, and Diversified Educational Enterprises).

FULL-COLOR LABORATORY MANUAL (CUSTOMIZED LAB MANUAL ALSO AVAILABLE)



LABORATORY MANUAL

Written by James W. Perry and David Morton, this lab manual for **BIOLOGY: THE UNITY AND DIVERSITY OF LIFE** includes hundreds of labeled photographs and illustrations—all in full color. The labeled photos and diagrams of the materials students see in the lab help them identify the material and can also be used at home to help them study for lab exams.

Instructors can choose from a carefully selected variety of 38 exercises and experiments, most of which can be completed within two hours and require minimal input from the instructor. Many are divided into several parts so instructors can pick and choose parts to vary the completion time required in their labs. Each exercise is cross-referenced with pages in the text and follows this format:

- Objectives • Introduction
- List of materials for each part
- Procedure with each step numbered
- Pre-lab and post-lab questions

INVESTIGATIVE LABS

The laboratory manual also includes optional experiments that are inquiry-oriented and are extensions based upon an activity just completed. Each follows the cognitive techniques of the scientific method, which are reviewed in Appendix I. Additional investigative labs are available in the accompanying Instructor's Manual to copy and hand out to students.

CUSTOMIZED LAB MANUAL

Imagine a lab manual customized specifically for the course you teach... a manual that contains only the exercises you teach in the sequence you teach them...written at an appropriate reading level for your students...and including your own personal materials. Thanks to author Phillip Shelp and Wadsworth's new Adaptable Courseware System—up and running now—you can have any one (or all) of the items listed above, plus be able to make changes and upgrade material every year.

It's easy to order your own customized laboratory manual. Just give us a call at 1-800-245-6724, and select how you want to set up your customized laboratory manual from the several options we've made available. For instance, select lab activities from a set of 35 exercises developed by Phillip Shelp that are commonly taught in first-year biology courses. Or choose black-and-white versions of exercises from the lab manual accompanying **BIOLOGY: THE UNITY AND DIVERSITY OF LIFE**. Or add your own lab activities, class schedule, syllabus, or other materials. *You* decide!

OBJECTIVES

To help students focus on what they should know or be able to do after finishing the exercise.

INTRODUCTION

Provide background information and show the relevance of the exercise to stimulate student interest.

EXERCISE 16

Fungi

OBJECTIVES

After completing this exercise you will be able to:

1. define *parasite*, *saprophyte*, *mycologist*, *pathogen*, *gametangium*, *oogonium*, *antheridium*, *hypha*, *mycelium*, *multinucleate*, *monocious*, *dioecious*, *sporangium*, *rhizoid*, *zygospore*, *ascus*, *conidium*, *ascospore*, *ascocarp*, *basidium*, *basidiospore*, *basidiocarp*;
2. recognize representatives of the major divisions of fungi;
3. distinguish structures that are used to place various representatives of the fungi in their proper divisions;
4. list reasons why fungi are important;
5. distinguish between the structures associated with asexual and sexual reproduction described in this exercise;
6. identify the structures (those in **boldface**) of the fungi examined.

INTRODUCTION

As you walk into the woods following a warm rain you are likely to be met by a vast assemblage of colorful fungi. Some of them are growing on dead or diseased trees, some on the surface of the soil, some in pools of water. Some are edible, some deadly poisonous.

Group	Common Name
Division Mastigomycota	flagellated fungi
Class Chytridiomycetes	chytrids
Class Oomycetes	water molds
Division Amastigomycota	nonflagellated fungi
Class Zygomycetes	zygospore-forming fungi
Class Ascomycetes	sac fungi
Class Basidiomycetes	club fungi
Division Deuteromycota	imperfect fungi

I. Division Mastigomycota: The Flagellated Fungi

All members of this division produce structures that bear flagella, which serve to propel the structure through a watery medium. The division gets its scientific name from the Greek root *mastig*, which means "a whip." Indeed, many flagella resemble tiny whips, which thrash back and forth, pushing the organism along. Others, however, actually pull the organism through the water; there are different types of flagella.

A. Class Chytridiomycetes

Commonly known as chytrids, these fungi are among the most simple in body form. While most are saprophytes, some are parasitic on economically important

ADDITIONAL READINGS ON INTRIGUING, SCIENCE-RELATED TOPICS

CONTEMPORARY READINGS FOR GENERAL BIOLOGY, FOURTH EDITION
edited by John W. Crane,
Washington State University

This Fourth Edition contains 25 fascinating articles—22 new to this edition—that demonstrate the importance and impact of the biological sciences. The material in *Contemporary Readings for General Biology* follows the unit-by-unit organization used in the text. The Starr table of contents is printed in *Contemporary Readings*, and listed under each chapter heading are the readings that apply to that particular chapter.

A BEGINNER'S GUIDE TO SCIENTIFIC METHOD
by Stephen S. Carey

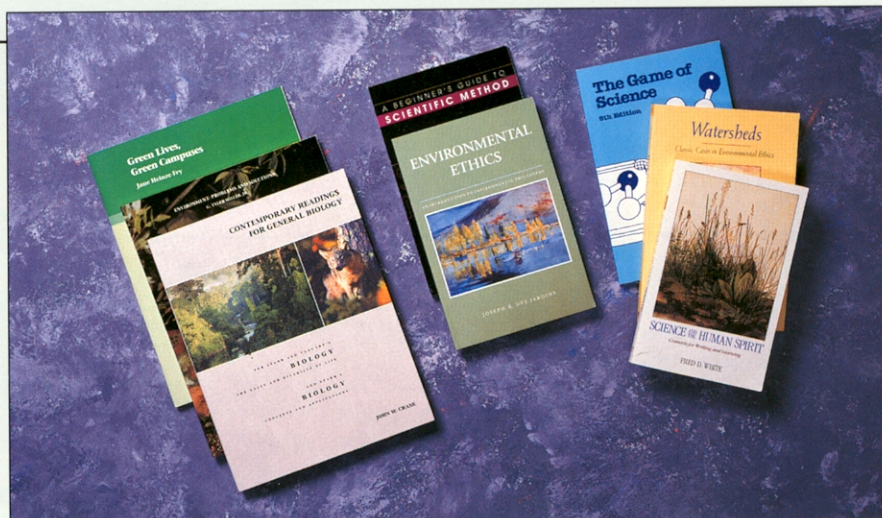
This concise, hands-on introduction to the principles and practices of good science helps students develop the critical thinking skills that are specific and essential to the scientific process. Its wealth of intriguing exercises—many based on real scientific cases—will engross students in designing and assessing experiments and prepare them to succeed in the sciences.

THE GAME OF SCIENCE, FIFTH EDITION
by Garvin McCain and Erwin M. Segal

Accurate, lively, and up to date, *The Game of Science* presents an engaging picture of the scientific community and the people in it. Students are exposed to a realistic view of what science is, who scientists are, and how they approach science.

SCIENCE AND THE HUMAN SPIRIT: CONTEXTS FOR WRITING AND LEARNING
by Fred D. White

This exciting anthology presents a rich variety of science-related topics to help students write effectively about biology and other scientific subfields.



ENVIRONMENT: PROBLEMS AND SOLUTIONS
by G. Tyler Miller, Jr.

Miller's latest book offers a brief overview of environmental concerns and issues. Filled with dramatic black-and-white illustrations, *Environment: Problems and Solutions* is an authoritative yet inexpensive supplement for your human biology course.

WATERSHEDS: CLASSIC CASES IN ENVIRONMENTAL ETHICS
by Lisa H. Newton and Catherine K. Dillingham

In balanced terms that give voice to divergent perspectives, Newton and Dillingham present detailed accounts of nine pivotal events in the life of our planet: Love Canal, the ozone layer and its depletion, UNCED at Rio, the Exxon Valdez, the north coast forests and the spotted owl, Chernobyl, tropical rainforests, the global greenhouse and our changing climate, and Bhopal.

ENVIRONMENTAL ETHICS: AN INTRODUCTION TO ENVIRONMENTAL PHILOSOPHY
by Joseph R. Des Jardins

From the relevance of Aristotle's ethics to controversial theories such as deep ecology and ecofeminism, this survey of the developing field of environmental ethics examines the full spectrum of current philosophical positions. All topics are covered accurately and fairly and invite students to analyze the strengths and weaknesses of each position. Brief case studies and many specific examples are also included.

GREEN LIVES, GREEN CAMPUSES
by Jane Heinze-Fry

This hands-on workbook for students contains projects to help them evaluate the environmental impact of their own lifestyles and guide them in making an environmental audit of their campus. It helps students develop advanced learning skills, environmental education skills, and science skills, as well as an understanding of the interdisciplinary nature of environmental studies.



SEPARATE MINI-VOLUMES OF MAJOR UNITS

Now you can tailor *BIOLOGY: THE UNITY AND DIVERSITY OF LIFE* to fit just the topics you cover in your course. Besides the full-length hardbound text, Wadsworth offers separate paperbound mini-volumes—in full color—of the major text units.

These six volumes include: *Cell Biology and Genetics*, *Evolution of Life*, *Diversity of Life*, *Plant Structure and Function*, *Animal Structure and Function*, and *Ecology and Behavior*. To request one or several mini-volumes, contact your Wadsworth representative or fax your request to 1-800-522-4923.