# Writing In The Life Sciences A Critical Thinking Approach

Effective Learning in the Life SciencesScientific Writing and CommunicationWriting in the Biological SciencesLife SciencesExperimental Design for the Life SciencesEngineering in the Life Sciences, 9-12Notable Women in the Life SciencesThe Age of Living Machines: How Biology Will Build the Next Technology RevolutionA Field Guide for Science WritersMastering Academic Writing in the SciencesAn Introduction to Statistical Analysis in ResearchOn Beyond LivingWriting Science in Plain EnglishPython for the Life SciencesUndergraduate Mathematics for the Life SciencesScientific Writing and PublishingMaking SenseWriting ScienceCommunicating in ScienceMathematics for the Life SciencesMaking Sense in the Life SciencesSuccessful Scientific WritingWriting in the Environmental SciencesWriting Papers in the Biological SciencesWriting, Reading, and Understanding in Modern Health SciencesLife Science Quest for Middle Grades, Grades 6 - 8Writing for Science StudentsAn Editor's Guide to Writing and Publishing ScienceA Student's Guide to Writing in the Life SciencesCommunicating in Science: Writing and SpeakingData Analysis for the Life Sciences with RWriting Science in the Twenty-First CenturyWriting in the Life SciencesGetting Published in the Life SciencesCreative Writing in ScienceGetting Published in the Life SciencesHow to Write and Illustrate a Scientific PaperMethods and Morals in the Life SciencesWriting Scientific Research ArticlesEssays on Life Sciences, with Related Science Fiction Stories

## Effective Learning in the Life Sciences

Treat yourself to a lively, intuitive, and easy-to-follow introduction to computer programming in Python. The book was written specifically for biologists with little or no prior experience of writing code - with the goal of giving them not only a foundation in Python programming, but also the confidence and inspiration to start using Python in their own research. Virtually all of the examples in the book are drawn from across a wide spectrum of life science research, from simple biochemical calculations and sequence analysis, to modeling the dynamic interactions of genes and proteins in cells, or the drift of genes in an evolving population. Best of all, Python for the Life Sciences shows you how to implement all of these projects in Python, one of the most popular programming languages for scientific computing. If you are a life scientist interested in learning Python to jump-start your research, this is the book for you. What You'll Learn Write Python scripts to automate your lab calculations Search for important motifs in genome sequences Use object-oriented programming with Python Study mining interaction network data for patterns Review dynamic modeling of biochemical switches Who This Book Is For Life scientists with little or no programming experience, including undergraduate and graduate students, postdoctoral researchers in academia and industry, medical professionals, and teachers/lecturers. "A comprehensive introduction to using Python for computational biology A lovely book with humor and perspective" -- John Novembre, Associate Professor of Human Genetics, University of Chicago and MacArthur Fellow "Fun, entertaining, witty and darn useful. A magical portal to the big data revolution" -- Sandro Santagata, Assistant Professor in Pathology, Harvard Medical School "Alex and Gordon's enthusiasm for

Python is contagious" -- Glenys Thomson Professor of Integrative Biology, University of California, Berkeley

## Scientific Writing and Communication

Van der Steen and Ho present tools from logic and ethics for assessing and creating scientific literature in biology and biomedicine. Contending that logic and methodology are not well applied in medicine and biology, they argue that the impact of social and moral factors on claims within the disciplines are underestimated by most researchers. They then set forth approaches to better assess the literature and to generate more effectively argued and accurate materials.

## Writing in the Biological Sciences

"Margaret Cargill's background as a linguist and research communications educator and Patrick O'Connor's experience as both research scientist and educator synergize to improve both the science and art of scientific writing. If the authors' goal is to give scientists the tools to write and publish compelling, well documented, clear narratives that convey their work honestly and in proper context, they have succeeded admirably." Veterinary Pathology, July 2009 "[The book is] clearly written, has a logical step-by-step structure, is easy to read and contains a lot of sensible advice about how to get scientific work published in international journals. The book is a most useful addition to the literature covering scientific writing." Aquaculture International, April 2009 Writing Scientific Research Articles: Strategy and Steps guides authors in how to write, as well as what to write, to improve their chances of having their articles accepted for publication in international, peer reviewed journals. The book is designed for scientists who use English as a first or an additional language; for research students and those who teach them paper writing skills; and for early-career researchers wanting to hone their skills as authors and mentors. It provides clear processes for selecting target journals and writing each section of a manuscript, starting with the results. The stepwise learning process uses practical exercises to develop writing and data presentation skills through analysis of well-written example papers. Strategies are presented for responding to referee comments, as well as ideas for developing discipline-specific English language skills for manuscript writing. The book is designed for use by individuals or in a class setting. Visit the companion site at www.writeresearch.com.au for more information.

## Life Sciences

## Experimental Design for the Life Sciences

From the former president of MIT, the story of the next technology revolution, and how it will change our lives. A century ago, discoveries in physics came together with engineering to produce an array of astonishing new technologies: radios, telephones, televisions, aircraft, radar, nuclear power, computers, the Internet, and a host of still-evolving digital tools. These technologies so radically reshaped our

world that we can no longer conceive of life without them. Today, the world's population is projected to rise to well over 9.5 billion by 2050, and we are currently faced with the consequences of producing the energy that fuels, heats, and cools us. With temperatures and sea levels rising, and large portions of the globe plagued with drought, famine, and drug-resistant diseases, we need new technologies to tackle these problems. But we are on the cusp of a new convergence, argues world-renowned neuroscientist Susan Hockfield, with discoveries in biology coming together with engineering to produce another array of almost inconceivable technologies—next-generation products that have the potential to be every bit as paradigm shifting as the twentieth century's digital wonders. The Age of Living Machines describes some of the most exciting new developments and the scientists and engineers who helped create them. Virus-built batteries. Protein-based water filters. Cancer-detecting nanoparticles. Mind-reading bionic limbs. Computer-engineered crops. Together they highlight the promise of the technology revolution of the twenty-first century to overcome some of the greatest humanitarian, medical, and environmental challenges of our time.

## Engineering in the Life Sciences, 9-12

Writing scientific papers and giving talks at meetings and conferences are essential parts of research scientists' work, and this short, straightforwardly written book will help workers in all scientific disciplines to present their results effectively. The first chapter is about writing a scientific paper and is a revision of a prize-winning essay. Later chapters discuss the preparation of typescripts, speaking at meetings and writing theses. There are also chapters addressed particularly to those scientists to whom English is a foreign language and to those in North America. The last chapter gives information about dictionaries, style books and other literature. The book draws on the author's wealth of experience in presenting his own work and in editing the work of others, and he draws his examples from a range of subjects.

## Notable Women in the Life Sciences

The Making Sense series offers clear, concise guides to research and writing for students at all levels of undergraduate study. The volumes in the Making Sense series - covering the humanities, social sciences, life sciences, engineering, psychology, religious studies, and education - areintended for students in any undergraduate course with a research and writing component, but are especially appropriate for those at the first-year level.Intended for life science students, Making Sense in the Life Sciences provides detailed information on writing essays and lab reports; conducting research and using academic sources; grammar, punctuation, and usage; conducting presentations; using graphics; and more. This revised edition includes acomplete CMS update; new discussions on writing for an audience, the importance of DOIs, and graphics in oral presentations; and more examples of key concepts.

## The Age of Living Machines: How Biology Will Build the Next Technology Revolution

Effective Learning in the Life Sciences is intended to help ensure that each student achieves his or her true potential by learning how to solve problems creatively in laboratory, field or other workplace setting. Each chapter describes state of the art approaches to learning and teaching and will include case studies, worked examples and a section that lists additional online and other resources. All of the chapters are written from the perspective both of students and academics and emphasize and embrace effective scientific method throughout. This title also draws on experience from a major project conducted by the Centre for Bioscience, with a wide range of collaborators, designed to identify and implement creative teaching in bioscience laboratories and field settings. With a strong emphasis on students thinking for themselves and actively learning about their chosen subject Effective Learning in the Life Sciences provides an invaluable guide to making the university experience as effective as possible.

## A Field Guide for Science Writers

A good research paper is more than just a clear, concise, scientific expose. It is a document that needs to go beyond the science to attract attention. There are both strict and less definable norms for doing this, but many authors are unaware as to what they are or their use. Publishing is rapidly changing, and needs to be explained with a fresh perspective. Simply writing good, clear, concise, science is no longer enough-there is a different mind-set now required that students need to adopt if they are to succeed. The purpose of this book is to provide the foundations of this new approach for both young scientists at the start of their careers, as well as for more experienced scientists to teach the younger generation. Most importantly, the book will make the reader think in a fresh, creative, and novel way about writing and publishing science. This is an introductory guide suitable for advanced undergraduates, graduate students, and professional researchers in both the life and physical sciences.

## Mastering Academic Writing in the Sciences

The goal of this book is to make it easier for scientists, especially those new to scientific writing, to write about their results and to get their manuscripts accepted in peer-reviewed journals. The book covers each step throughout the submission process, from organizing and outlining the manuscript, presenting statistical data and results, to what happens during the in-house manuscript review process and what to do if an article is initially rejected. In addition to providing practical exercises on these topics, the book focuses on helping writers distil their research into concise take-home messages for readers, in order to convey information as clearly as possible to the target audience.

## An Introduction to Statistical Analysis in Research

The Harvard Writing Project's disciplinary writing guides aim to introduce students to some of the basic practices and conventions of writing and conducting research in the various academic disciplines. In many ways, writing in the sciences is no different from writing in other fields. However, writing in the sciences follows certain conventions, styles, and formats. This guide details the major forms of

writing you are likely to encounter in the sciences, including short answers and essays typical of science examinations, the laboratory notebook, research papers, research proposals, reviews, and writing for the general public.

## On Beyond Living

Writing Science in the Twenty-First Century offers guidance to help writers succeed in a broad range of writing tasks and purposes in science and other STEM fields. Concise and current, the book takes most of its examples and lessons from scientific fields such as the life sciences, chemistry, physics, and geology, but some examples are taken from mathematics and engineering. The book emphasizes building confidence and rhetorical expertise in fields where diverse audiences, high ethical stakes, and multiple modes of presentation provide unique writing challenges. Using a systematic approach—assessing purpose, audience, order of information, tone, evidence, and graphics—it gives readers a clear road map to becoming accurate, persuasive, and rhetorically savvy writers.

## Writing Science in Plain English

Medical articles are one of the main vehicles of knowledge translation and evidence communication in the health sciences. Their correct structure and style alone are no longer enough to convey a clear understanding of the intended message. Readers must be able to understand the very essence of the article message. That is the purpose of this book. Writing, Reading, and Understanding in Modern Health Sciences: Medical Articles and Other Forms of Communication will help the authors of medical articles communicate more effectively in today's practice and health research environment. It explores the most effective practices for communicating using three main medical literature formats: through scientific articles, articles where the subject is not based on the practice of the scientific method, and business reports. Describing how to think beyond the prevailing IMRAD article format, this book focuses on the nature, content, domains of thought, and meanings of medical articles. The ideas and underlying propositions in this book are complementary to specific requirements appropriate for each type of medical journal. After reading this book you will better understand: How to write what is considered the most important type of medical article, the research-based medical article How to write an evidence-based argumentative medical article The challenges of clinical case reporting The general framework of medical and research ethics Classification of medical articles and their underlying studies from the causal standpoint Supplying you with the understanding required to write more effective medical articles, the book includes details about essay-type articles, research-based articles, thesis as introduction sections, definitions as part of the material and methods sections, modern argumentation and critical thinking underlying results and their discussion and conclusions about them. It also examines qualitative research and case study methodologies from other domains. A must-read for all writers, readers, and users of medical articles, this book supplies the tools you need to write compelling medical reports that can help to improve the practice, research, and quality of healthcare at all levels.

## Python for the Life Sciences

The goal of this book is to make it easier for scientists, especially those new to scientific writing, to write about their results and to get their manuscripts accepted in peer-reviewed journals. The book covers each step throughout the submission process, from organizing and outlining the manuscript, presenting statistical data and results, to what happens during the in-house manuscript review process and what to do if an article is initially rejected. In addition to providing practical exercises on these topics, the book focuses on helping writers distil their research into concise take-home messages for readers, in order to convey information as clearly as possible to the target audience.

## Undergraduate Mathematics for the Life Sciences

## Scientific Writing and Publishing

Provides well-organized coverage of statistical analysis and applications in biology, kinesiology, and physical anthropology with comprehensive insights into the techniques and interpretations of R, SPSS®, Excel®, and Numbers® output An Introduction to Statistical Analysis in Research: With Applications in the Biological and Life Sciences develops a conceptual foundation in statistical analysis while providing readers with opportunities to practice these skills via research-based data sets in biology, kinesiology, and physical anthropology. Readers are provided with a detailed introduction and orientation to statistical analysis as well as practical examples to ensure a thorough understanding of the concepts and methodology. In addition, the book addresses not just the statistical concepts researchers should be familiar with, but also demonstrates their relevance to real-world research questions and how to perform them using easily available software packages including R, SPSS®, Excel®, and Numbers®. Specific emphasis is on the practical application of statistics in the biological and life sciences, while enhancing reader skills in identifying the research questions and testable hypotheses, determining the appropriate experimental methodology and statistical analyses, processing data, and reporting the research outcomes. In addition, this book: • Aims to develop readers' skills including how to report research outcomes, determine the appropriate experimental methodology and statistical analysis, and identify the needed research questions and testable hypotheses • Includes pedagogical elements throughout that enhance the overall learning experience including case studies and tutorials, all in an effort to gain full comprehension of designing an experiment, considering biases and uncontrolled variables, analyzing data, and applying the appropriate statistical application with valid justification • Fills the gap between theoretically driven, mathematically heavy texts and introductory, step-by-step type books while preparing readers with the programming skills needed to carry out basic statistical tests, build support figures, and interpret the results • Provides a companion website that features related R, SPSS, Excel, and Numbers data sets, sample PowerPoint® lecture slides, end of the chapter review questions, software video tutorials that highlight basic statistical concepts, and a student workbook and instructor manual An Introduction to Statistical Analysis in Research: With Applications in the Biological and Life Sciences is an ideal textbook for upper-undergraduate and graduate-level courses in research methods, biostatistics, statistics, biology, kinesiology, sports science and medicine, health and physical education, medicine, and nutrition. The book is

also appropriate as a reference for researchers and professionals in the fields of anthropology, sports research, sports science, and physical education. KATHLEEN F. WEAVER, PhD, is Associate Dean of Learning, Innovation, and Teaching and Professor in the Department of Biology at the University of La Verne. The author of numerous journal articles, she received her PhD in Ecology and Evolutionary Biology from the University of Colorado. VANESSA C. MORALES, BS, is Assistant Director of the Academic Success Center at the University of La Verne. SARAH L. DUNN, PhD, is Associate Professor in the Department of Kinesiology at the University of La Verne and is Director of Research and Sponsored Programs. She has authored numerous journal articles and received her PhD in Health and Exercise Science from the University of New South Wales. KANYA GODDE, PhD, is Assistant Professor in the Department of Anthropology and is Director/Chair of Institutional Review Board at the University of La Verne. The author of numerous journal articles and a member of the American Statistical Association, she received her PhD in Anthropology from the University of Tennessee. PABLO F. WEAVER, PhD, is Instructor in the Department of Biology at the University of La Verne. The author of numerous journal articles, he received his PhD in Ecology and Evolutionary Biology from the University of Colorado.

## Making Sense

Practical and easy to use, Writing in the Biological Sciences: A Comprehensive Resource for Scientific Communication, Third Edition, presents students with all of the techniques and information they need to communicate their scientific ideas, insights, and discoveries. Angelika H. Hofmann introduces students to the underlying principles and guidelines of professional scientific writing and then teaches them how to apply these methods when composing essential forms of scientific writing and communication. Ideal as a free-standing textbook for courses on writing in the biological sciences--or as an accompanying text or reference guide in courses and laboratories with writing-intensive components--this indispensable handbook gives students the tools they need to succeed in their undergraduate science careers and beyond.New to This Edition:New sections on: the scientific methodscientific writingscientific ethicsbasic statistical analysisthe most common interview questionsAn expanded section on plagiarismA glossary of scientific and technical termsAn updated layout of the text and chapter overviewsUpdated PowerPoint slides

## Writing Science

This second edition of How to Write and Illustrate a Scientific Paper will help both first-time writers and more experienced authors, in all biological and medical disciplines, to present their results effectively. Whilst retaining the easy-to-read and well-structured approach of the previous edition, it has been broadened to include comprehensive advice on writing compilation theses for doctoral degrees, and a detailed description of preparing case reports. Illustrations, particularly graphs, are discussed in detail, with poor examples redrawn for comparison. The reader is offered advice on how to present the paper, where and how to submit the manuscript, and finally, how to correct the proofs. Examples of both good and bad writing, selected from actual journal articles, illustrate the author's advice - which has been developed through his extensive teaching experience - in this accessible

and informative guide.

## Communicating in Science

The newest book in the best-selling Making Sense series, Making Sense in the Life Sciences is an indispensable guide for students in any area of the life sciences - including biology, biochemistry, health sciences, pharmacology, and zoology. Designed specifically for students in the lifesciences, this book outlines general principles of style, grammar, and usage, while covering such topics as writing essays and lab reports, conducting research, evaluating Internet sources, using electronic journal databases, documenting sources, and preparing resumes and application letters.Maintaining the clear, straightforward style of the other books in the series, Making Sense in the Life Sciences is an invaluable resource for students throughout their academic careers and beyond.

## Mathematics for the Life Sciences

This book covers several of the statistical concepts and data analytic skills needed to succeed in data-driven life science research. The authors proceed from relatively basic concepts related to computed p-values to advanced topics related to analyzing highthroughput data. They include the R code that performs this analysis and connect the lines of code to the statistical and mathematical concepts explained.

## Making Sense in the Life Sciences

Presents biographial essays on ninety-seven women scientists who have contributed to the life sciences from antiquity to the present

## Successful Scientific Writing

Knowing how to prepare, write and publish high-quality research papers can be challenging for scientists at all stages of their career. This manual guides readers through successfully framing and presenting research findings, as well as the processes involved in publishing in learned journals. It draws on the author's wealth of practical experience, from working in academic research for over 40 years and teaching scientific writing in over 20 countries, to gaining insights as a journal editor. Well-written and logical, it provides clear step-by-step instructions to enable readers to become more effective at writing articles, and navigating difficulties related to journal submission, the review process, editing and publication. It comprehensively covers themes such as publication ethics, along with current topics including Open Access publishing and pre-print servers. This is a useful, user-friendly guide for graduate students, early career scientists, and more experienced researchers, particularly in the life and medical sciences.

## Writing in the Environmental Sciences

Practical and easy to use, Writing in the Biological Sciences: A Comprehensive Resource for Scientific Communication, Fourth Edition, presents students with all of

the techniques and information they need to communicate their scientific ideas, insights, and discoveries. Angelika H. Hofmannintroduces students to the underlying principles and guidelines of professional scientific writing and then teaches them how to apply these methods when composing essential forms of scientific writing and communication. Ideal as a free-standing textbook for courses on writing in the biologicalsciences or as reference guide in laboratories, this indispensable handbook gives students the tools they need to succeed in their undergraduate science careers and beyond.

## Writing Papers in the Biological Sciences

Scientific writing is often dry, wordy, and difficult to understand. But, as Anne E. Greene shows in Writing Science in Plain English,writers from all scientific disciplines can learn to produce clear, concise prose by mastering just a few simple principles. This short, focused guide presents a dozen such principles based on what readers need in order to understand complex information, including concrete subjects, strong verbs, consistent terms, and organized paragraphs. The author, a biologist and an experienced teacher of scientific writing, illustrates each principle with real-life examples of both good and bad writing and shows how to revise bad writing to make it clearer and more concise. She ends each chapter with practice exercises so that readers can come away with new writing skills after just one sitting. Writing Science in Plain English can help writers at all levels of their academic and professional careers—undergraduate students working on research reports, established scientists writing articles and grant proposals, or agency employees working to follow the Plain Writing Act. This essential resource is the perfect companion for all who seek to write science effectively.

## Writing, Reading, and Understanding in Modern Health Sciences

## Life Science Quest for Middle Grades, Grades 6 - 8

The detailed, practical, step-by-step advice in this user-friendly guide will help students and researchers to communicate their work more effectively through the written word. Covering all aspects of the writing process, this concise, accessible resource is critically acclaimed, well-structured, comprehensive, and entertaining. Self-help exercises and abundant examples from actual typescripts draw on the authors' extensive experience working both as researchers and with them. Whilst retaining the user-friendly and pragmatic style of earlier editions, this third edition has been updated and broadened to incorporate such timely topics as guidelines for successful international publication, ethical and legal issues including plagiarism and falsified data, electronic publication, and text-based talks and poster presentations. With advice applicable to many writing contexts in the majority of scientific disciplines, this book is a powerful tool for improving individual skills and an eminently suitable text for classroom courses or seminars.

## Writing for Science Students

This book provides a comprehensive and coherent step-by-step guide to writing in scientific academic disciplines. It is an invaluable resource for those working on a PhD thesis, research paper, dissertation, or report. Writing these documents can be a long and arduous experience for students and their supervisors, and even for experienced researchers. However, this book can hold the key to success. Mapping the steps involved in the writing process - from acquiring and organizing sources of information, to revising early drafts, to proofreading the final product - it provides clear guidance on what to write and how best to write it.

## An Editor's Guide to Writing and Publishing Science

Practicing scientists know that the quality of their livelihood is strongly connected to the quality of their writing, and critical thinking is the most necessary and valuable tool for effectively generating and communicating scientific information. Writing in the Life Sciences is an innovative, process-based text that gives beginning writers the tools to write about science skillfully by taking a critical thinking approach. Laurence Greene emphasizes "writing as thinking" as he takes beginning writers through the important stages of planning, drafting, and revising their work. Throughout, he uses focused and systematic critical reading and thinking activities to help scientific writers develop the skills to effectively communicate. Each chapter addresses a particular writing task rather than a specific type of document. The book makes clear which tasks are important for all writing projects (i.e., audience analysis, attending to instructions) and which are unique to a specific writing project (rhetorical goals for each type of document). Ideal for Scientific Writing courses and writing-intensive courses in various science departments (e.g., Biology, Environmental Studies, etc.), this innovative, process-based text goes beyond explaining what scientific writing is and gives students the tools to do it skillfully.

## A Student's Guide to Writing in the Life Sciences

Scientific and technological texts have not played a significant role in modern literary criticism. This applies to Classics, too, despite the fact that a large part of the field's extant texts deal with questions of medicine, mathematics, and natural philosophy. Focusing mostly on medical and mathematical texts, this collection aims at approaching ancient Greek science and its texts from the cross-disciplinary perspective of authorship. Among the questions addressed are: What is a scientific author? In what respect does scientific writing differ from 'literary' writing? How does the author present himself as an authoritative figure through his text? What strategies of trust do these authors employ? These and related questions cannot be discussed within the typical boundaries of modern academic disciplines,thus most of the sixteen authors, many of them leading experts in the fields of ancient science, bring a comparative perspective to their subjects. As a result, the collection not only offers a new approach to this vast area of ancient literature, thus effectively discovering new possibilities for literary criticism, it also reflects on our current forms of scientific and scholarly written communication.

## Communicating in Science: Writing and Speaking

Tailored to environmental scientists, this guide outlines seven steps for writing documents in the context of conserving natural resources.

## Data Analysis for the Life Sciences with R

At the core of good research lies the careful design of experiments. Yet all too often a successful design comes only after a painful trial-and-error process, wasting valuable time and valuable resources.Experimental Design for the Life Sciences teaches the reader how to effectively design experiments, to ensure that today's students are equipped with the skills they need to be the researchers of tomorrow. With a refreshingly approachable and articulate style, the book explains the essentialelements of experimental design in clear, practical terms, so that the reader can grasp and apply even the most challenging concepts, including power analysis and pseudoreplication.Emphasising throughout the inter-relatedness of experimental design, statistics, and ethical considerations, the book ensures that the reader really understands experimental design in the broader context of biological research, using examples drawn from a range of fields across the biosciences toshow to the student how the theory is applied in active research.Above all, Experimental Design for the Life Sciences shows how good experimental design is about clear thinking and biological understanding, not mathematical or statistical complexity - putting it at the heart of any biosciences student's education.Online Resource Centre:The companion web site features:For lecturers:DT Figures from the book available to download, to facilitate lecture preparationFor students and lecturers:DT Discussion forum, promoting the discussion of experimental design in real research, to stimulate active learning on the part of the student.

## Writing Science in the Twenty-First Century

This guide offers practical tips on science writing - from investigative reporting to pitching ideas to magazine editors. Some of the best known science witers in the US share their hard earned knowledge on how they do their job.

## Writing in the Life Sciences

Everything you need to create exciting thematic science units can be found in these handy guides. Developed for educators who want to take an integrated approach, these guides contain resource lists, reading selections, and activities that can be easily pulled together for units on virtually any science topic. Chapters identify and describe comprehensive teaching resources (nonfiction) and related fiction reading selections, then detail hands-on science and extension activities that help students learn the scientific method and build learning across the curriculum.

## Getting Published in the Life Sciences

What do biologists study when they study "life" today? Drawing on tools from rhetoric and poststructuralist theory, the author argues that the ascent of molecular biology, with its emphasis on molecules such as DNA rather than

organisms, was enabled by crucial rhetorical "softwares." Metaphors such as the genetic "code" made possible a transformation of the very concept of life, a transformation that often casts organisms as information systems. With careful readings of key texts from the history of molecular biology—such as those of Erwin Schrödinger, George Gamow, Jacques Monod, and François Jacob—the author maps out the complex relations between the practices of rhetoric and the technoscientific triumphs they accompanied, triumphs that bolstered a "postvital" biology that increasingly elides and questions the boundary between organisms and machines. There have been many popular books, and a few academic ones, on the Human Genome Initiatives. On Beyond Living is a genealogy of these initiatives, a map of how we have come to equate human beings with "information." Melding contemporary theory with scientific discourse, it is certain to provoke discussion (and controversy) in the fields of cultural studies, theory, and science with its penetrating inquiries into the relations between rhetoric and technoscience.

## Creative Writing in Science

Writing for Science Students is a practical guide to the techniques you need for accurate, clear and effective writing. This book takes you through each stage of the process, from understanding the requirements of your assignment and planning your research, right through to reading, structuring your writing and editing. It will equip you with the key skills you need to complete all types of assignments, including essays, lab reports, posters and dissertations. You'll learn how to: · Analyse the question you've been set"/p> · Find and critically evaluate sources of information · Incorporate other people's work into your writing · Communicate your ideas clearly · Use feedback to improve your work Enriched by helpful examples and activities throughout, Writing for Science Students is an ideal companion for science students of all levels. Jennifer Boyle is the Writing Adviser for Postgraduate Researchers at the University of Glasgow, UK. She works with students from all disciplines in the development of academic writing skills. Scott Ramsay is the Effective Learning Adviser for students in the College of Medicine, Veterinary Medicine, and Life Sciences at the University of Glasgow, UK.

## Getting Published in the Life Sciences

Connect students in grades 6–8 with science using Life Science Quest for Middle Grades. This 96-page book helps students practice scientific techniques while studying cells, plants, animals, DNA, heredity, ecosystems, and biomes. The activities use common classroom materials and are perfect for individual, team, and whole-group projects. The book includes a glossary, standards lists, unit overviews, and enrichment suggestions. It is great as core curriculum or a supplement and supports National Science Education Standards.

## How to Write and Illustrate a Scientific Paper

Balloons & marginal instructions; Writing a scientific paper; Preparation of the typescript and figures; Speaking at scientific meetings; Addressed to those for whom english is a foreign language; An appeal to north americans; Preparation of a

dissertation or thesis; Biblliography; Index.

## Methods and Morals in the Life Sciences

The life sciences deal with a vast array of problems at different spatial, temporal, and organizational scales. The mathematics necessary to describe, model, and analyze these problems is similarly diverse, incorporating quantitative techniques that are rarely taught in standard undergraduate courses. This textbook provides an accessible introduction to these critical mathematical concepts, linking them to biological observation and theory while also presenting the computational tools needed to address problems not readily investigated using mathematics alone. Proven in the classroom and requiring only a background in high school math, Mathematics for the Life Sciences doesn't just focus on calculus as do most other textbooks on the subject. It covers deterministic methods and those that incorporate uncertainty, problems in discrete and continuous time, probability, graphing and data analysis, matrix modeling, difference equations, differential equations, and much more. The book uses MATLAB throughout, explaining how to use it, write code, and connect models to data in examples chosen from across the life sciences. Provides undergraduate life science students with a succinct overview of major mathematical concepts that are essential for modern biology Covers all the major quantitative concepts that national reports have identified as the ideal components of an entry-level course for life science students Provides good background for the MCAT, which now includes data-based and statistical reasoning Explicitly links data and math modeling Includes end-of-chapter homework problems, end-of-unit student projects, and select answers to homework problems Uses MATLAB throughout, and MATLAB m-files with an R supplement are available online Prepares students to read with comprehension the growing quantitative literature across the life sciences A solutions manual for professors and an illustration package is available

## Writing Scientific Research Articles

Written by a professional biologist who is also an experienced writing teacher, this comprehensive guide for students writing in biology, zoology, and botany provides detailed instruction on researching, drafting, revising, and documenting papers, reviews, poster presentations, and other forms of science writing. The sixth edition features an expanded and revised chapter 1 on research strategies and sources, a greater diversity of examples from different subdisciplines (molecular biology, animal ecology, and genetics), and new technology tips throughout for searching databases and using software designed for charts, graphs, note-taking, and documentation.

## Essays on Life Sciences, with Related Science Fiction Stories

This collection of essays highlights, in a new, critical fashion, some of the classic questions in life science. These include "what is life?"; "what is death?"; "what is consciousness?"; "why is life cellular?"; and "why are enzymes macromolecules?". It also explores whether evolution is pre-determined, whether science and spirituality can harmonize with each other, whether artificial intelligence is at odds

with the human spirit, and whether, and to what extent, we are genetically determined. In this text, some of the main conceptual tools used to tackle life's many aspects are necessarily reviewed, such as the systems view of life, the notion of contingency, and the concept of autopoiesis. Each of the three chapters of the book contains a number of short science fiction stories which discuss aspects of the present-day development of artificial intelligence.

ROMANCE  ACTION & ADVENTURE  MYSTERY & THRILLER  BIOGRAPHIES & HISTORY  CHILDREN'S  YOUNG ADULT  FANTASY  HISTORICAL FICTION  HORROR  LITERARY FICTION  NON-FICTION  SCIENCE FICTION