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## **KEY=THE - CARRILLO CRISTOPHER**

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### **BIOLOGY FOR AP® COURSES**

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*Biology for AP® courses covers the scope and sequence requirements of a typical two-semester Advanced Placement® biology course. The text provides comprehensive coverage of foundational research and core biology concepts through an evolutionary lens. Biology for AP® Courses was designed to meet and exceed the requirements of the College Board's AP® Biology framework while allowing significant flexibility for instructors. Each section of the book includes an introduction based on the AP® curriculum and includes rich features that engage students in scientific practice and AP® test preparation; it also highlights careers and research opportunities in biological sciences.*

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### **EXPERIMENTS IN PLANT-HYBRIDISATION**

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### **THE TRANSFORMING PRINCIPLE**

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### **DISCOVERING THAT GENES ARE MADE OF DNA**

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*W. W. Norton & Company Tells how research aimed at a cure for pneumonia, based on the determination of how an inactive bacterium*

became active, led to an understanding of the role of DNA

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## **POGIL ACTIVITIES FOR AP BIOLOGY**

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### **THE MAKING OF THE FITTEST: DNA AND THE ULTIMATE FORENSIC RECORD OF EVOLUTION**

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*W. W. Norton & Company A geneticist discusses the role of DNA in the evolution of life on Earth, explaining how an analysis of DNA reveals a complete record of the events that have shaped each species and how it provides evidence of the validity of the theory of evolution.*

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## **PREPARING FOR THE BIOLOGY AP EXAM**

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*Benjamin Cummings Key Benefit: Fred and Theresa Holtzclaw bring over 40 years of AP Biology teaching experience to this student manual. Drawing on their rich experience as readers and faculty consultants to the College Board and their participation on the AP Test Development Committee, the Holtzclaws have designed their resource to help your students prepare for the AP Exam. \* Completely revised to match the new 8th edition of Biology by Campbell and Reece. \* New Must Know sections in each chapter focus student attention on major concepts. \* Study tips, information organization ideas and misconception warnings are interwoven throughout. \* New section reviewing the 12 required AP labs. \* Sample practice exams. \* The secret to success on the AP Biology exam is to understand what you must know—and these experienced AP teachers will guide your students toward top scores! Market Description: Intended for those interested in AP Biology.*

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## **CONCEPTS OF BIOLOGY**

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*Concepts of Biology is designed for the single-semester introduction to biology course for non-science majors, which for many students is their only college-level science course. As such, this course represents an important opportunity for students to develop the necessary knowledge, tools, and skills to make informed decisions as they continue with their lives. Rather than being mired down with facts and vocabulary, the typical non-science major student needs information presented in a way that is easy to read and understand. Even more importantly, the content should be meaningful. Students do much better when they understand why biology is relevant to their everyday lives. For these reasons, Concepts of Biology is grounded on an evolutionary basis and includes exciting features that highlight careers in the biological sciences and everyday applications of the concepts at hand. We also strive to show the interconnectedness of topics within this extremely broad discipline. In order to meet the needs of today's instructors and students, we*

*maintain the overall organization and coverage found in most syllabi for this course. A strength of Concepts of Biology is that instructors can customize the book, adapting it to the approach that works best in their classroom. Concepts of Biology also includes an innovative art program that incorporates critical thinking and clicker questions to help students understand--and apply--key concepts.*

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## **THE DOUBLE HELIX**

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### **A PERSONAL ACCOUNT OF THE DISCOVERY OF THE STRUCTURE OF DNA**

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*Simon and Schuster* *The classic personal account of Watson and Crick's groundbreaking discovery of the structure of DNA, now with an introduction by Sylvia Nasar, author of A Beautiful Mind. By identifying the structure of DNA, the molecule of life, Francis Crick and James Watson revolutionized biochemistry and won themselves a Nobel Prize. At the time, Watson was only twenty-four, a young scientist hungry to make his mark. His uncompromisingly honest account of the heady days of their thrilling sprint against other world-class researchers to solve one of science's greatest mysteries gives a dazzlingly clear picture of a world of brilliant scientists with great gifts, very human ambitions, and bitter rivalries. With humility unspoiled by false modesty, Watson relates his and Crick's desperate efforts to beat Linus Pauling to the Holy Grail of life sciences, the identification of the basic building block of life. Never has a scientist been so truthful in capturing in words the flavor of his work.*

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## **THE BEAK OF THE FINCH**

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### **A STORY OF EVOLUTION IN OUR TIME**

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*Vintage* *Winner of the Pulitzer Prize Winner of the Los Angeles Times Book Prize On a desert island in the heart of the Galapagos archipelago, where Darwin received his first inklings of the theory of evolution, two scientists, Peter and Rosemary Grant, have spent twenty years proving that Darwin did not know the strength of his own theory. For among the finches of Daphne Major, natural selection is neither rare nor slow: it is taking place by the hour, and we can watch. In this dramatic story of groundbreaking scientific research, Jonathan Weiner follows these scientists as they watch Darwin's finches and come up with a new understanding of life itself. The Beak of the Finch is an elegantly written and compelling masterpiece of theory and explication in the tradition of Stephen Jay Gould. With a new preface.*

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**STATISTICS FOR PEOPLE WHO (THINK THEY) HATE STATISTICS**

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**THE EXCEL EDITION**

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*SAGE* Now in its third edition, this title teaches an often intimidating and difficult subject in a way that is informative, personable, and clear.

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**TEACHING AND LEARNING STEM**

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**A PRACTICAL GUIDE**

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*John Wiley & Sons* Rethink traditional teaching methods to improve student learning and retention in STEM Educational research has repeatedly shown that compared to traditional teacher-centered instruction, certain learner-centered methods lead to improved learning outcomes, greater development of critical high-level skills, and increased retention in science, technology, engineering, and mathematics (STEM) disciplines. *Teaching and Learning STEM* presents a trove of practical research-based strategies for designing and teaching STEM courses at the university, community college, and high school levels. The book draws on the authors' extensive backgrounds and decades of experience in STEM education and faculty development. Its engaging and well-illustrated descriptions will equip you to implement the strategies in your courses and to deal effectively with problems (including student resistance) that might occur in the implementation. The book will help you: Plan and conduct class sessions in which students are actively engaged, no matter how large the class is Make good use of technology in face-to-face, online, and hybrid courses and flipped classrooms Assess how well students are acquiring the knowledge, skills, and conceptual understanding the course is designed to teach Help students develop expert problem-solving skills and skills in communication, creative thinking, critical thinking, high-performance teamwork, and self-directed learning Meet the learning needs of STEM students with a broad diversity of attributes and backgrounds The strategies presented in *Teaching and Learning STEM* don't require revolutionary time-intensive changes in your teaching, but rather a gradual integration of traditional and new methods. The result will be continual improvement in your teaching and your students' learning. More information about *Teaching and Learning STEM* can be found at <http://educationdesignsinc.com/book> including its preface, foreword, table of contents, first chapter, a reading guide, and reviews in 10 prominent STEM education journals.

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**ANATOMY & PHYSIOLOGY**

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**DISCIPLINE-BASED EDUCATION RESEARCH**

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**UNDERSTANDING AND IMPROVING LEARNING IN UNDERGRADUATE SCIENCE AND ENGINEERING**

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National Academies Press *The National Science Foundation funded a synthesis study on the status, contributions, and future direction of discipline-based education research (DBER) in physics, biological sciences, geosciences, and chemistry. DBER combines knowledge of teaching and learning with deep knowledge of discipline-specific science content. It describes the discipline-specific difficulties learners face and the specialized intellectual and instructional resources that can facilitate student understanding. Discipline-Based Education Research is based on a 30-month study built on two workshops held in 2008 to explore evidence on promising practices in undergraduate science, technology, engineering, and mathematics (STEM) education. This book asks questions that are essential to advancing DBER and broadening its impact on undergraduate science teaching and learning. The book provides empirical research on undergraduate teaching and learning in the sciences, explores the extent to which this research currently influences undergraduate instruction, and identifies the intellectual and material resources required to further develop DBER. Discipline-Based Education Research provides guidance for future DBER research. In addition, the findings and recommendations of this report may invite, if not assist, post-secondary institutions to increase interest and research activity in DBER and improve its quality and usefulness across all natural science disciplines, as well as guide instruction and assessment across natural science courses to improve student learning. The book brings greater focus to issues of student attrition in the natural sciences that are related to the quality of instruction. Discipline-Based Education Research will be of interest to educators, policy makers, researchers, scholars, decision makers in universities, government agencies, curriculum developers, research sponsors, and education advocacy groups.*

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**THE MEMOIRS OF LADY HYEGYONG**

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**THE AUTOBIOGRAPHICAL WRITINGS OF A CROWN PRINCESS OF EIGHTEENTH-CENTURY KOREA**

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Univ of California Press *Lady Hyegyong's memoirs, which recount the chilling murder of her husband by his father, form one of the best known and most popular classics of Korean literature. From 1795 until 1805 Lady Hyegyong composed this masterpiece, depicting a court life Shakespearean in its pathos, drama, and grandeur. Presented in its social, cultural, and historical contexts, this first complete English translation opens a door into a world teeming with conflicting passions, political intrigue, and the daily preoccupations of a deeply intelligent and articulate woman. JaHyun Kim Haboush's accurate, fluid translation captures the intimate and expressive voice of this consummate storyteller. Reissued nearly twenty years after its initial publication with a new foreword by*

*Dorothy Ko, The Memoirs of Lady Hyegyong is a unique exploration of Korean selfhood and an extraordinary example of autobiography in the premodern era.*

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## **DIETARY REFERENCE INTAKES FOR ENERGY, CARBOHYDRATE, FIBER, FAT, FATTY ACIDS, CHOLESTEROL, PROTEIN, AND AMINO ACIDS**

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*National Academies Press Responding to the expansion of scientific knowledge about the roles of nutrients in human health, the Institute of Medicine has developed a new approach to establish Recommended Dietary Allowances (RDAs) and other nutrient reference values. The new title for these values Dietary Reference Intakes (DRIs), is the inclusive name being given to this new approach. These are quantitative estimates of nutrient intakes applicable to healthy individuals in the United States and Canada. This new book is part of a series of books presenting dietary reference values for the intakes of nutrients. It establishes recommendations for energy, carbohydrate, fiber, fat, fatty acids, cholesterol, protein, and amino acids. This book presents new approaches and findings which include the following: The establishment of Estimated Energy Requirements at four levels of energy expenditure Recommendations for levels of physical activity to decrease risk of chronic disease The establishment of RDAs for dietary carbohydrate and protein The development of the definitions of Dietary Fiber, Functional Fiber, and Total Fiber The establishment of Adequate Intakes (AI) for Total Fiber The establishment of AIs for linolenic and  $\alpha$ -linolenic acids Acceptable Macronutrient Distribution Ranges as a percent of energy intake for fat, carbohydrate, linolenic and  $\alpha$ -linolenic acids, and protein Research recommendations for information needed to advance understanding of macronutrient requirements and the adverse effects associated with intake of higher amounts Also detailed are recommendations for both physical activity and energy expenditure to maintain health and decrease the risk of disease.*

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## **OVERCOMING STUDENTS' MISCONCEPTIONS IN SCIENCE**

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### **STRATEGIES AND PERSPECTIVES FROM MALAYSIA**

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*Springer This book discusses the importance of identifying and addressing misconceptions for the successful teaching and learning of science across all levels of science education from elementary school to high school. It suggests teaching approaches based on research data to address students' common misconceptions. Detailed descriptions of how these instructional approaches can be incorporated into teaching and learning science are also included. The science education literature extensively documents the findings of studies about students' misconceptions or alternative conceptions about various science concepts. Furthermore, some of the studies involve systematic approaches to not only creating but also implementing instructional programs to reduce the incidence of*

these misconceptions among high school science students. These studies, however, are largely unavailable to classroom practitioners, partly because they are usually found in various science education journals that teachers have no time to refer to or are not readily available to them. In response, this book offers an essential and easily accessible guide.

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## **GENETIC VARIATION**

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### **A LABORATORY MANUAL**

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*CSHL Press Genetic Variation: A Laboratory Manual* is the first compendium of protocols specifically geared towards genetic variation studies, and includes thorough discussions on their applications for human and model organism studies. Intended for graduate students and professional scientists in clinical and research settings, it covers the complete spectrum of genetic variation—from SNPs and microsatellites to more complex DNA alterations, including copy number variation. Written and edited by leading scientists in the field, the early sections of the manual are devoted to study design and generating genotype data, the use of resources such as HapMap and dbSNP, as well as experimental, statistical, and bioinformatic approaches for analyzing the data. The final sections include descriptions of genetic variation in model organisms and discussions of recent insights into human genetic ancestry, forensics, and human variation.

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### **PROCESS ORIENTED GUIDED INQUIRY LEARNING (POGIL)**

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*Amer Chemical Society* The volume begins with an overview of POGIL and a discussion of the science education reform context in which it was developed. Next, cognitive models that serve as the basis for POGIL are presented, including Johnstone's Information Processing Model and a novel extension of it. Adoption, facilitation and implementation of POGIL are addressed next. Faculty who have made the transformation from a traditional approach to a POGIL student-centered approach discuss their motivations and implementation processes. Issues related to implementing POGIL in large classes are discussed and possible solutions are provided. Behaviors of a quality facilitator are presented and steps to create a facilitation plan are outlined. Succeeding chapters describe how POGIL has been successfully implemented in diverse academic settings, including high school and college classrooms, with both science and non-science majors. The challenges for implementation of POGIL are presented, classroom practice is described, and topic selection is addressed. Successful POGIL instruction can incorporate a variety of instructional techniques. Tablet PC's have been used in a POGIL classroom to allow extensive communication between students and instructor. In a POGIL laboratory section, students work in groups to carry out experiments rather than merely verifying previously taught principles. Instructors need to know if students are benefiting from POGIL practices. In the final chapters, assessment of student performance is discussed. The concept of a feedback

loop, which can consist of self-analysis, student and peer assessments, and input from other instructors, and its importance in assessment is detailed. Data is provided on POGIL instruction in organic and general chemistry courses at several institutions. POGIL is shown to reduce attrition, improve student learning, and enhance process skills.

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## **INNOVATIVE STRATEGIES FOR TEACHING IN THE PLANT SCIENCES**

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Springer Science & Business Media *Innovative Strategies for Teaching in the Plant Sciences* focuses on innovative ways in which educators can enrich the plant science content being taught in universities and secondary schools. Drawing on contributions from scholars around the world, various methods of teaching plant science is demonstrated. Specifically, core concepts from ethnobotany can be used to foster the development of connections between students, their environment, and other cultures around the world. Furthermore, the volume presents different ways to incorporate local methods and technology into a hands-on approach to teaching and learning in the plant sciences. Written by leaders in the field, *Innovative Strategies for Teaching in the Plant Sciences* is a valuable resource for teachers and graduate students in the plant sciences.

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## **BUILDING JAVA PROGRAMS**

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### **A BACK TO BASICS APPROACH**

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Addison-Wesley NOTE: Before purchasing, check with your instructor to ensure you select the correct ISBN. Several versions of Pearson's MyLab & Mastering products exist for each title, and registrations are not transferable. To register for and use Pearson's MyLab & Mastering products, you may also need a Course ID, which your instructor will provide. Used books, rentals, and purchases made outside of Pearson If purchasing or renting from companies other than Pearson, the access codes for Pearson's MyLab & Mastering products may not be included, may be incorrect, or may be previously redeemed. Check with the seller before completing your purchase. *Building Java Programs: A Back to Basics Approach, Third Edition*, introduces novice programmers to basic constructs and common pitfalls by emphasizing the essentials of procedural programming, problem solving, and algorithmic reasoning. By using objects early to solve interesting problems and defining objects later in the course, *Building Java Programs* develops programming knowledge for a broad audience. NEW! This edition is available with MyProgrammingLab, an innovative online homework and assessment tool. Through the power of practice and immediate personalized feedback, MyProgrammingLab helps students fully grasp the logic, semantics, and syntax of programming. 0133437302/ 9780133437300 *Building Java Programs: A Back to Basics Approach* plus MyProgrammingLab with Pearson eText -- Access Card Package, 3/e Package consists of: 0133360903/ 9780133360905 *Building Java Programs, 3/e* 0133379787/ 9780133379785 MyProgrammingLab with Pearson eText -- Access Card -- for *Building Java Programs*,

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## **INNUMERACY**

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### **MATHEMATICAL ILLITERACY AND ITS CONSEQUENCES**

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*Hill and Wang* *Why do even well-educated people understand so little about mathematics? And what are the costs of our innumeracy?* John Allen Paulos, in his celebrated bestseller first published in 1988, argues that our inability to deal rationally with very large numbers and the probabilities associated with them results in misinformed governmental policies, confused personal decisions, and an increased susceptibility to pseudoscience of all kinds. Innumeracy lets us know what we're missing, and how we can do something about it. Sprinkling his discussion of numbers and probabilities with quirky stories and anecdotes, Paulos ranges freely over many aspects of modern life, from contested elections to sports stats, from stock scams and newspaper psychics to diet and medical claims, sex discrimination, insurance, lotteries, and drug testing. Readers of *Innumeracy* will be rewarded with scores of astonishing facts, a fistful of powerful ideas, and, most important, a clearer, more quantitative way of looking at their world.

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## **SEX AND CULTURE**

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## **THE CELL CYCLE**

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## **PRINCIPLES OF CONTROL**

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*New Science Press* *The Cell Cycle: Principles of Control* provides an engaging insight into the process of cell division, bringing to the student a much-needed synthesis of a subject entering a period of unprecedented growth as an understanding of the molecular mechanisms underlying cell division are revealed.

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## **A FRAMEWORK FOR K-12 SCIENCE EDUCATION**

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## **PRACTICES, CROSSCUTTING CONCEPTS, AND CORE IDEAS**

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*National Academies Press* *Science, engineering, and technology permeate nearly every facet of modern life and hold the key to solving many of humanity's most pressing current and future challenges. The United States' position in the global economy is declining, in part because U.S. workers lack fundamental knowledge in these fields. To address the critical issues of U.S.*

competitiveness and to better prepare the workforce, *A Framework for K-12 Science Education* proposes a new approach to K-12 science education that will capture students' interest and provide them with the necessary foundational knowledge in the field. *A Framework for K-12 Science Education* outlines a broad set of expectations for students in science and engineering in grades K-12. These expectations will inform the development of new standards for K-12 science education and, subsequently, revisions to curriculum, instruction, assessment, and professional development for educators. This book identifies three dimensions that convey the core ideas and practices around which science and engineering education in these grades should be built. These three dimensions are: crosscutting concepts that unify the study of science through their common application across science and engineering; scientific and engineering practices; and disciplinary core ideas in the physical sciences, life sciences, and earth and space sciences and for engineering, technology, and the applications of science. The overarching goal is for all high school graduates to have sufficient knowledge of science and engineering to engage in public discussions on science-related issues, be careful consumers of scientific and technical information, and enter the careers of their choice. *A Framework for K-12 Science Education* is the first step in a process that can inform state-level decisions and achieve a research-grounded basis for improving science instruction and learning across the country. The book will guide standards developers, teachers, curriculum designers, assessment developers, state and district science administrators, and educators who teach science in informal environments.

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## **THE PRINCIPLE OF TRADING ECONOMICS**

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Springer Nature This book is devoted to establishing a completely new concept within economics referred to as "trading economics" which is a reconstructed economic system in theory that seeks perfect harmony between micro and macro elements in a structured way, hence making the economic theory a rigorous system supported by internal logical continuity. Representing a revolution of the existing theoretical framework, trading economics has changed the logic of mainstream economics. Specifically, it deduces the "macro whole" from the "micro individuals", and it introduces a systematic and comprehensive analysis approach. It stresses that within an interconnected world, the interaction between trading agents is the fundamental driving force behind the operation, development and evolution of the economic system.

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## **REACHING STUDENTS**

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## **WHAT RESEARCH SAYS ABOUT EFFECTIVE INSTRUCTION IN UNDERGRADUATE SCIENCE AND ENGINEERING**

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National Academy Press The undergraduate years are a turning point in producing scientifically literate citizens and future scientists and engineers. Evidence from research about how students learn science and engineering shows that teaching strategies that

*motivate and engage students will improve their learning. So how do students best learn science and engineering? Are there ways of thinking that hinder or help their learning process? Which teaching strategies are most effective in developing their knowledge and skills? And how can practitioners apply these strategies to their own courses or suggest new approaches within their departments or institutions? "Reaching Students" strives to answer these questions. "Reaching Students" presents the best thinking to date on teaching and learning undergraduate science and engineering. Focusing on the disciplines of astronomy, biology, chemistry, engineering, geosciences, and physics, this book is an introduction to strategies to try in your classroom or institution. Concrete examples and case studies illustrate how experienced instructors and leaders have applied evidence-based approaches to address student needs, encouraged the use of effective techniques within a department or an institution, and addressed the challenges that arose along the way. The research-based strategies in "Reaching Students" can be adopted or adapted by instructors and leaders in all types of public or private higher education institutions. They are designed to work in introductory and upper-level courses, small and large classes, lectures and labs, and courses for majors and non-majors. And these approaches are feasible for practitioners of all experience levels who are open to incorporating ideas from research and reflecting on their teaching practices. This book is an essential resource for enriching instruction and better educating students.*

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### **AP® STATISTICS CRASH COURSE, FOR THE 2020 EXAM, BOOK + ONLINE**

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*Research & Education Assoc. For the 2020 Exam! AP® Statistics Crash Course® A Higher Score in Less Time! Crash Course is perfect for the time-crunched student, the last-minute studier, or anyone who wants a refresher on the subject. Are you crunched for time? Have you started studying for your Advanced Placement® Statistics exam yet? How will you memorize everything you need to know before the test? Do you wish there was a fast and easy way to study for the exam AND boost your score? If this sounds like you, don't panic. REA's Crash Course for AP® Statistics is just what you need. Our Crash Course gives you: Targeted, Focused Review - Study Only What You Need to Know The Crash Course is based on an in-depth analysis of the AP® Statistics course description outline and actual AP® test questions. It covers only the information tested on the exam, so you can make the most of your valuable study time. Written by an experienced AP® Statistics teacher, our easy-to-read format gives you a crash course in exploring data, planning a study, anticipating patterns, and statistical inferences. Expert Test-taking Strategies Our AP® author shares detailed question-level strategies and explains the best way to answer the questions you'll find on the AP® exam. By following his expert advice, you can boost your overall point score! Practice questions - a mini-test in the book, a full-length exam online. Are you ready for your exam? Try our focused practice set inside the book. Then go online to take our full-length practice exam. You'll get the benefits of timed testing, detailed answers, and automatic scoring that pinpoints your performance based on the official AP® exam topics - so you'll be confident on test day. Whether you're cramming for the exam or looking to recap and reinforce your teacher's lessons, Crash*

*Course® is the study guide every AP® student needs. About the Author Michael D'Alessio earned his B.S. in Biology from Seton Hall University and his M.S. in Biomedical Sciences from the University of Medicine and Dentistry of New Jersey. In 2004, he earned his Executive Masters of Arts in Educational Leadership from Seton Hall University. Mr. D'Alessio has had an extensive career teaching all levels of mathematics and science, including AP® statistics, chemistry, biology, physics, algebra, calculus and geometry. In 2003, Mr. D'Alessio received the Governor's Teacher of the Year recognition for Watchung Hills Regional High School. In 2004, Mr. D'Alessio received a Certificate of Recognition of Excellence in Science Teaching from Sigma Xi, the Scientific Research Society of Rutgers University and in 2005, he was voted National Honor Society Teacher of the Year by the students of Watchung Hills. Currently, Mr. D'Alessio serves as the Supervisor of the Mathematics and Business Department at Watchung Hills Regional High School in Warren, New Jersey, overseeing 30 teachers.*

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## **ACTIVE LEARNING IN COLLEGE SCIENCE**

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### **THE CASE FOR EVIDENCE-BASED PRACTICE**

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*Springer Nature This book explores evidence-based practice in college science teaching. It is grounded in disciplinary education research by practicing scientists who have chosen to take Wieman's (2014) challenge seriously, and to investigate claims about the efficacy of alternative strategies in college science teaching. In editing this book, we have chosen to showcase outstanding cases of exemplary practice supported by solid evidence, and to include practitioners who offer models of teaching and learning that meet the high standards of the scientific disciplines. Our intention is to let these distinguished scientists speak for themselves and to offer authentic guidance to those who seek models of excellence. Our primary audience consists of the thousands of dedicated faculty and graduate students who teach undergraduate science at community and technical colleges, 4-year liberal arts institutions, comprehensive regional campuses, and flagship research universities. In keeping with Wieman's challenge, our primary focus has been on identifying classroom practices that encourage and support meaningful learning and conceptual understanding in the natural sciences. The content is structured as follows: after an Introduction based on Constructivist Learning Theory (Section I), the practices we explore are Eliciting Ideas and Encouraging Reflection (Section II); Using Clickers to Engage Students (Section III); Supporting Peer Interaction through Small Group Activities (Section IV); Restructuring Curriculum and Instruction (Section V); Rethinking the Physical Environment (Section VI); Enhancing Understanding with Technology (Section VII), and Assessing Understanding (Section VIII). The book's final section (IX) is devoted to Professional Issues facing college and university faculty who choose to adopt active learning in their courses. The common feature underlying all of the strategies described in this book is their emphasis on actively engaging students who seek to make sense of natural objects and events. Many of the strategies we highlight emerge from a constructivist view*

*of learning that has gained widespread acceptance in recent years. In this view, learners make sense of the world by forging connections between new ideas and those that are part of their existing knowledge base. For most students, that knowledge base is riddled with a host of naïve notions, misconceptions and alternative conceptions they have acquired throughout their lives. To a considerable extent, the job of the teacher is to coax out these ideas; to help students understand how their ideas differ from the scientifically accepted view; to assist as students restructure and reconcile their newly acquired knowledge; and to provide opportunities for students to evaluate what they have learned and apply it in novel circumstances. Clearly, this prescription demands far more than most college and university scientists have been prepared for.*

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## **ANATOMY & PHYSIOLOGY**

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*A version of the OpenStax text*

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## **UNDERSTANDING BY DESIGN**

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*ASCD Presents a multifaceted model of understanding, which is based on the premise that people can demonstrate understanding in a variety of ways.*

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## **A BIOLOGIST'S GUIDE TO MATHEMATICAL MODELING IN ECOLOGY AND EVOLUTION**

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*Princeton University Press Thirty years ago, biologists could get by with a rudimentary grasp of mathematics and modeling. Not so today. In seeking to answer fundamental questions about how biological systems function and change over time, the modern biologist is as likely to rely on sophisticated mathematical and computer-based models as traditional fieldwork. In this book, Sarah Otto and Troy Day provide biology students with the tools necessary to both interpret models and to build their own. The book starts at an elementary level of mathematical modeling, assuming that the reader has had high school mathematics and first-year calculus. Otto and Day then gradually build in depth and complexity, from classic models in ecology and evolution to more intricate class-structured and probabilistic models. The authors provide primers with instructive exercises to introduce readers to the more advanced subjects of linear algebra and probability theory. Through examples, they describe how models have been used to understand such topics as the spread of HIV, chaos, the age structure of a country, speciation, and extinction. Ecologists and evolutionary biologists today need enough mathematical training to be able to assess the power and limits of biological models and to develop theories and models themselves. This innovative book will be an indispensable guide to the world of mathematical models for the next generation of biologists. A how-to guide for developing new mathematical models in biology Provides step-by-step recipes for constructing and*

analyzing models Interesting biological applications Explores classical models in ecology and evolution Questions at the end of every chapter Primers cover important mathematical topics Exercises with answers Appendixes summarize useful rules Labs and advanced material available

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## **MAIZE BREEDING AND GENETICS**

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John Wiley & Sons History; Evolution; Breeding; Diseases and insects; Endosperm; Tissue; Gene action; Cytogenetics.

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## **I AM MALALA**

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### **THE GIRL WHO STOOD UP FOR EDUCATION AND WAS SHOT BY THE TALIBAN**

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Little, Brown A MEMOIR BY THE YOUNGEST RECIPIENT OF THE NOBEL PEACE PRIZE As seen on Netflix with David Letterman "I come from a country that was created at midnight. When I almost died it was just after midday." When the Taliban took control of the Swat Valley in Pakistan, one girl spoke out. Malala Yousafzai refused to be silenced and fought for her right to an education. On Tuesday, October 9, 2012, when she was fifteen, she almost paid the ultimate price. She was shot in the head at point-blank range while riding the bus home from school, and few expected her to survive. Instead, Malala's miraculous recovery has taken her on an extraordinary journey from a remote valley in northern Pakistan to the halls of the United Nations in New York. At sixteen, she became a global symbol of peaceful protest and the youngest nominee ever for the Nobel Peace Prize. I AM MALALA is the remarkable tale of a family uprooted by global terrorism, of the fight for girls' education, of a father who, himself a school owner, championed and encouraged his daughter to write and attend school, and of brave parents who have a fierce love for their daughter in a society that prizes sons. I AM MALALA will make you believe in the power of one person's voice to inspire change in the world.

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## **7TH INTERNATIONAL CONFERENCE ON UNIVERSITY LEARNING AND TEACHING (INCULT 2014) PROCEEDINGS**

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### **EDUCATE TO INNOVATE**

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Springer The book comprises papers presented at the 7th International Conference on University Learning and Teaching (InCULT) 2014, which was hosted by the Asian Centre for Research on University Learning and Teaching (ACRULeT) located at the Faculty of Education, Universiti Teknologi MARA, Shah Alam, Malaysia. It was co-hosted by the University of Hertfordshire, UK; the University of South Australia; the University of Ohio, USA; Taylor's University, Malaysia and the Training Academy for Higher Education (AKEPT), Ministry of Education, Malaysia. A total of 165 papers were presented by speakers from around the world based on the theme

*“Educate to Innovate in the 21st Century.” The papers in this timely book cover the latest developments, issues and concerns in the field of teaching and learning and provide a valuable reference resource on university teaching and learning for lecturers, educators, researchers and policy makers.*

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## **ENCYCLOPEDIA OF EDUCATION AND INFORMATION TECHNOLOGIES**

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*Springer This encyclopedia aims to offer researchers an indication of the breadth and importance of information systems in education, including the way IT is being used, and could be used to enable learning and teaching. The encyclopedia covers all aspects of the interaction between education and information technologies, including IT in kindergartens, primary and secondary schools, universities, training colleges, industry training, distance education and further education. It also covers teaching and computing, the use of IT in many different subject areas, the use of IT in educational administration, and national policies of IT and education.*

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## **ISE THE LIVING WORLD**

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## **CURRENT AND EMERGING TRENDS IN HUMAN IDENTIFICATION AND MOLECULAR ANTHROPOLOGY**

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*Frontiers Media SA*

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## **PEDIATRIC AND ADOLESCENT OSTEOSARCOMA**

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*Springer Pediatric and Adolescent Osteosarcoma provides a historical review of the nature of osteosarcoma and the conflict that accompanied the introduction of adjuvant therapy for osteosarcoma culminating in accepted and prevailing methods of current therapy. It outlines concepts in Epidemiology and Etiology, and provides chapters on pathology and radiologic characteristics of osteosarcoma, surgical therapy tailored specifically for treatment of primary tumors in pediatric/adolescent age group, treatment of pulmonary and extra pulmonary metastases and complications, as well as the role of radiation therapy. The volume concludes with a review of differences and similarities in the management of osteosarcoma in adults as compared to pediatrics / adolescents and new laboratory and animal investigations currently in progress to develop effective diagnostic and therapeutic approaches to improve the outcome. In essence the scope and intensive coverage of the book provides a historical perspective of the advances made over the past 30 years and emerging concepts and prospects for new diagnostic and therapeutic approaches. This is based upon past experiences and new discoveries. It also provides a unique opportunity for pediatric and adult medical oncologists, physicians in training, orthopedic surgeons, pathologists, radiologists, radiotherapists, oncology nurses and allied professionals involved in the care*

*of pediatric/adolescent patients with osteosarcoma to become acquainted with prevailing methods of treatment and new and evolving concepts and developments.*

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## **THE BRASSICA RAPA GENOME**

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*Springer This book provides insights into the latest achievements in genomics research on Brassica rapa. It describes the findings on this Brassica species, the first of the U's triangle that has been sequenced and a close relative to the model plant Arabidopsis, which provide a basis for investigations of major Brassica crop species. Further, the book focuses on the development of tools to facilitate the transfer of our rich knowledge on Arabidopsis to a cultivated Brassica crop. Key topics covered include genomic resources, assembly tools, annotation of the genome, transposable elements, comparative genomics, evolution of Brassica genomes, and advances in the application of genomics in the breeding of Brassica rapa crops.*

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## **THE GALAPAGOS ISLANDS**

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Penguin Group USA