

Biology Test Chapter 15 Wikispaces

Vaccinophobia and Vaccine Controversies of the 21st Century Archana Chatterjee, editor Once hailed as a medical miracle, vaccination has come under attack from multiple fronts, including occasionally from within medicine. And while the rates of adverse reactions remain low, suggestions that vaccines can cause serious illness (and even death) are inspiring parents to refuse routine immunizations for their children--ironically, exposing them and others to potentially serious illness. Vaccinophobia and Vaccine Controversies of the 21st Century explains clearly how this state of affairs came into being, why it persists, and how healthcare professionals can best respond. Current findings review answers to bedrock questions about known adverse events, what vaccine additives are used for, and real and perceived risks involved in immunization. Perspectives representing pediatricians, family practitioners, nurses, parents, pharmacy professionals, the CDC, and the public health community help the reader sort out legitimate from irrational concerns. In-depth analyses discuss the possibility of links with asthma, cancer, Guillain-Barre syndrome, SIDS, and, of course, autism. Included in the coverage: Communicating vaccine risks and benefits The vaccine misinformation landscape in family medicine Perceived risks from live viral vaccines The media's role in vaccine misinformation Autoimmunity, allergies, asthma, and a relationship to

vaccines Vaccines and autism: the controversy that won't go away The conundrums described here are pertinent to practitioners in pediatrics, family medicine, primary care, and nursing to help families with informed decision making. In addition, *Vaccinophobia and Vaccine Controversies of the 21st Century* should be read by trainees and researchers in child development and maternal and child health as the book's issues will have an impact on future generations of children and their families.

The Undersea and Hyperbaric Medical Society (UHMS) is an international, non-profit organization serving over 2,400 members from more than 50 countries. The UHMS is the primary source of scientific information for diving and hyperbaric medicine physiology worldwide, the breadth of which is illustrated in the triennial report, *Hyperbaric Oxygen Therapy Indications*. With leading experts authoring chapters in their respective fields, this publication continues to provide the most current and up to date guidance and support for scientists and practitioners of hyperbaric oxygen therapy. *Hyperbaric Oxygen Therapy Indications*, currently in its thirteenth edition, has grown in size and depth to reflect the evolution of the literature on the approved use of hyperbarics from both a clinical practice standpoint and insurance coverage perspective. To date, the committee recognizes fourteen indications, including the new indication, idiopathic sudden sensorineural hearing loss. Additionally, this book continues to be used by the Centers for Medicare and Medicaid Services and other third party insurance carriers in determining payment for

HBO2 services.

This book argues for the essential use of drawing as a tool for science teaching and learning. The authors are working in schools, universities, and continual science learning (CSL) settings around the world. They have written of their experiences using a variety of prompts to encourage people to take pen to paper and draw their thinking – sometimes direct observation and in other instances, their memories. The result is a collection of research and essays that offer theory, techniques, outcomes, and models for the reader. Young children have provided evidence of the perceptions that they have accumulated from families and the media before they reach classrooms. Secondary students describe their ideas of chemistry and physics. Teacher educators use drawings to consider the progress of their undergraduates' understanding of science teaching and even their moral/ethical responses to teaching about climate change. Museum visitors have drawn their understanding of the physics of how exhibit sounds are transmitted. A physician explains how the history of drawing has been a critical tool to medical education and doctor-patient communications. Each chapter contains samples, insights, and where applicable, analysis techniques. The chapters in this book should be helpful to researchers and teachers alike, across the teaching and learning continuum. The sections are divided by the kinds of activities for which drawing has historically been used in science education: An instance of observation (Audubon, Linnaeus); A process (how plants grow over time, what happens when chemicals combine);

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Conceptions of what science is and who does it; Images of identity development in science teaching and learning. Rapid advances in computer technology and the internet have created new opportunities for delivering instruction and revolutionizing the learning environment. This development has been accelerated by the significant reduction in cost of the Internet infrastructure and the easy accessibility of the World Wide Web. This book evaluates the usefulness of advanced learning systems in delivering instructions in a virtual academic environment for different engineering sectors. It aims at providing a deep probe into the most relevant issues in engineering education and digital learning and offers a survey of how digital engineering education has developed, where it stands now, how research in this area has progressed, and what the prospects are for the future.

What is important for citizens to know and be able to do? The OECD Programme for International Student Assessment (PISA) seeks to answer that question through the most comprehensive and rigorous international assessment of student knowledge and skills.

Technology is ubiquitous, and its potential to transform learning is immense. The first edition of *Using Technology with Classroom Instruction That Works* answered some vital questions about 21st century teaching and learning: What are the best ways to incorporate technology into the curriculum? What kinds of technology will best support particular learning tasks and objectives? How does a teacher ensure that

technology use will enhance instruction rather than distract from it? This revised and updated second edition of that best-selling book provides fresh answers to these critical questions, taking into account the enormous technological advances that have occurred since the first edition was published, including the proliferation of social networks, mobile devices, and web-based multimedia tools. It also builds on the up-to-date research and instructional planning framework featured in the new edition of *Classroom Instruction That Works*, outlining the most appropriate technology applications and resources for all nine categories of effective instructional strategies:

- * Setting objectives and providing feedback
- * Reinforcing effort and providing recognition
- * Cooperative learning
- * Cues, questions, and advance organizers
- * Nonlinguistic representations
- * Summarizing and note taking
- * Assigning homework and providing practice
- * Identifying similarities and differences
- * Generating and testing hypotheses

Each strategy-focused chapter features examples--across grade levels and subject areas, and drawn from real-life lesson plans and projects--of teachers integrating relevant technology in the classroom in ways that are engaging and inspiring to students. The authors also recommend dozens of word processing applications, spreadsheet generators, educational games, data collection tools, and online resources that can help make lessons more fun, more challenging, and--most of all--more effective.

Long before the "germ theory" of disease was described, late in the nineteenth century, humans knew that climatic conditions influence the appearance and spread of

epidemic diseases. Ancient notions about the effects of weather and climate on disease remain embedded in our collective consciousness—through expressions such as "cold" for rhinovirus infections; "malaria," derived from the Latin for "bad air;" and the common complaint of feeling "under the weather." Today, evidence is mounting that earth's climate is changing at a faster rate than previously appreciated, leading researchers to view the longstanding relationships between climate and disease with new urgency and from a global perspective. On December 4 and 5, 2007, the Forum on Microbial Threats hosted a public workshop in Washington, DC to consider the possible infectious disease impacts of global climate change and extreme weather events on human, animal, and plant health, as well as their expected implications for global and national security. Volumes in *Writing Spaces: Readings on Writing* offer multiple perspectives on a wide-range of topics about writing, much like the model made famous by Wendy Bishop's "The Subject Is . . ." series. In each chapter, authors present their unique views, insights, and strategies for writing by addressing the undergraduate reader directly. Drawing on their own experiences, these teachers-as-writers invite students to join in the larger conversation about developing nearly every aspect of craft of writing. Consequently, each essay functions as a standalone text that can easily complement other selected readings in writing or writing-intensive courses across the disciplines at any level. Topics in Volume 1 of the series include academic writing, how to interpret writing assignments, motives for writing, rhetorical

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analysis, revision, invention, writing centers, argumentation, narrative, reflective writing, Wikipedia, patchwriting, collaboration, and genres.

"This book is designed to help students organize their thinking about psychology at a conceptual level. The focus on behaviour and empiricism has produced a text that is better organized, has fewer chapters, and is somewhat shorter than many of the leading books. The beginning of each section includes learning objectives; throughout the body of each section are key terms in bold followed by their definitions in italics; key takeaways, and exercises and critical thinking activities end each section"--BCcampus website.

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.

The informal, student-friendly tone of these rhetorically-organized rhetoric/reader/handbooks provides step-by-step instructions on writing a variety of 500-800-word essays.

Understanding and Evaluating Research: A Critical Guide aims to sensitize students to the necessity of learning how not to defer to the mysterious authority of the experts, but rather to learn how to be a critical consumer of others' research, and to gain confidence in their ability to be producers of research. Sue McGregor shows students how to be research literate, and how to find, critique and apply other people's scholarship. This textbook is grounded in a solid understanding of the prevailing research methodologies for creating new knowledge (philosophical underpinnings), which in turn dictate problem posing, theory selection, and research methods (tasks for sampling, collecting and analyzing data, and reporting results).

Curriculum compacting is a practical and

inexpensive way to challenge advanced learners. The method allows teachers to streamline the regular curriculum, ensure students' mastery of basic skills, and provide time for stimulating enrichment and acceleration activities. With information on the history and rationale of curriculum compacting as well as successful implementation strategies, this book covers everything teachers need to understand, justify, and practice curriculum compacting for gifted students.

REA's MAXnotes for Alex Haley's *The Autobiography of Malcolm X* MAXnotes offer a fresh look at masterpieces of literature, presented in a lively and interesting fashion. Written by literary experts who currently teach the subject, MAXnotes will enhance your understanding and enjoyment of the work. MAXnotes are designed to stimulate independent thought about the literary work by raising various issues and thought-provoking ideas and questions. MAXnotes cover the essentials of what one should know about each work, including an overall summary, character lists, an explanation and discussion of the plot, the work's historical context, illustrations to convey the mood of the work, and a biography of the author. Each chapter is individually summarized and analyzed, and has study questions and answers. Amazon.com Review Malcolm X's searing memoir belongs on the small shelf of great autobiographies. The reasons are many: the

blistering honesty with which he recounts his transformation from a bitter, self-destructive petty criminal into an articulate political activist, the continued relevance of his militant analysis of white racism, and his emphasis on self-respect and self-help for African Americans. And there's the vividness with which he depicts black popular culture--try as he might to criticize those lindy hops at Boston's Roseland dance hall from the perspective of his Muslim faith, he can't help but make them sound pretty wonderful. These are but a few examples. The Autobiography of Malcolm X limns an archetypal journey from ignorance and despair to knowledge and spiritual awakening. When Malcolm tells coauthor Alex Haley, "People don't realize how a man's whole life can be changed by one book," he voices the central belief underpinning every attempt to set down a personal story as an example for others. Although many believe his ethic was directly opposed to Martin Luther King Jr.'s during the civil rights struggle of the '60s, the two were not so different. Malcolm may have displayed a most un-Christian distaste for loving his enemies, but he understood with King that love of God and love of self are the necessary first steps on the road to freedom. --Wendy Smith Review Biography, published in 1965, of the American black militant religious leader and activist who was born Malcolm Little. Written by Alex Haley, who had conducted

extensive audiotaped interviews with Malcolm X just before his assassination in 1965, the book gained renown as a classic work on black American experience. The Autobiography recounts the life of Malcolm X from his traumatic childhood plagued by racism to his years as a drug dealer and pimp, his conversion to the Black Muslim sect (Nation of Islam) while in prison for burglary, his subsequent years of militant activism, and the turn late in his life to more orthodox Islam. --The Merriam-Webster Encyclopedia of Literature

This is the second edition of a highly successful textbook (over 50,000 copies sold) in which a highly illustrated, narrative text is combined with easy-to-use thoroughly reliable laboratory protocols. It contains a fully up-to-date collection of 12 rigorously tested and reliable lab experiments in molecular biology, developed at the internationally renowned Dolan DNA Learning Center of Cold Spring Harbor Laboratory, which culminate in the construction and cloning of a recombinant DNA molecule. Proven through more than 10 years of teaching at research and nonresearch colleges and universities, junior colleges, community colleges, and advanced biology programs in high school, this book has been successfully integrated into introductory biology, general biology, genetics, microbiology, cell biology, molecular genetics, and molecular biology courses. The first eight chapters

have been completely revised, extensively rewritten, and updated. The new coverage extends to the completion of the draft sequence of the human genome and the enormous impact these and other sequence data are having on medicine, research, and our view of human evolution. All sections on the concepts and techniques of molecular biology have been updated to reflect the current state of laboratory research. The laboratory experiments cover basic techniques of gene isolation and analysis, honed by over 10 years of classroom use to be thoroughly reliable, even in the hands of teachers and students with no prior experience. Extensive prelab notes at the beginning of each experiment explain how to schedule and prepare, while flow charts and icons make the protocols easy to follow. As in the first edition of this book, the laboratory course is completely supported by quality-assured products from the Carolina Biological Supply Company, from bulk reagents, to useable reagent systems, to single-use kits, thus satisfying a broad range of teaching applications. Ten Strategies of a World-Class Cyber Security Operations Center conveys MITRE's accumulated expertise on enterprise-grade computer network defense. It covers ten key qualities of leading Cyber Security Operations Centers (CSOCs), ranging from their structure and organization, to processes that best enable smooth operations, to approaches that

extract maximum value from key CSOC technology investments. This book offers perspective and context for key decision points in structuring a CSOC, such as what capabilities to offer, how to architect large-scale data collection and analysis, and how to prepare the CSOC team for agile, threat-based response. If you manage, work in, or are standing up a CSOC, this book is for you. It is also available on MITRE's website, www.mitre.org.

Science as Inquiry was created to fill a vacuum. No other book serves as such a compact, easy-to-understand orientation to inquiry. It's ideal for guiding discussion, fostering reflection, and helping you enhance your own classroom practices.

From the #1 New York Times bestseller Mike Lupica comes the story of one unsuspecting boy poised to follow in his superhero father's footsteps. Fourteen-year-old Billy Harriman can feel the changes. The sharpening of his senses. The incredible strength. The speed, as though he can textmessage himself across miles. The confidence and the strange need to patrol Central Park at night. His dad had been a hero, a savior to America and a confidante of the president. Then he died, and the changes began in Billy. What Billy never knew was that his father was no ordinary man—he was a superhero, battling the world's evil. This is a battle that has been waged for generations and that knows no boundaries. And now it's Billy's turn to take on the fight. It's Billy's turn to

become a hero. “[N]othing Mike Lupica has written will thrill you like this.” –William Goldman, author of *The Princess Bride* “Sportswriter and novelist Lupica offers a change of pace from his previous sports stories for younger readers, deftly reworking the traditional superhero origin story into a moving tale of adolescent growth.” –*Publisher’s Weekly* “[T]he stage is set for a sequel to what looks like a surefire hit.” –*School Library Journal*

"Now a major motion picture! Includes full-color movie photos and exclusive content!"--Dust jacket.

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.

Almost one in four people in OECD countries is currently obese. This epidemic has far-reaching consequences for individuals, society and the economy. Using microsimulation modelling, this book analyses the burden of obesity and overweight in 52 countries (including OECD, European Union and G20 countries), showing how overweight reduces life expectancy, increases healthcare costs, decreases workers' productivity and lowers GDP. The report makes the urgent economic case to scale up investments in policies to promote healthy lifestyles and tackle this growing global public health problem. The book evaluates a number of policies which could significantly improve health outcomes while being an excellent investment for countries. Drawing from the author's own work as a lab developer, coordinator, and instructor, this one-of-a-kind text for college biology teachers uses the inquiry

method in presenting 40 different lab exercises that make complicated biology subjects accessible to major and nonmajors alike. The volume offers a review of various aspects of inquiry, including teaching techniques, and covers 16 biology topics, including DNA isolation and analysis, properties of enzymes, and metabolism and oxygen consumption. Student and teacher pages are provided for each of the 16 topics.

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. This comprehensive resource for STEM teachers and students, outlines the various stages of large-scale research projects, enabling teachers to coach their students through the research process. This handbook provides enough detail to embolden all teachers—OCoeven those who have never designed an experiment on their own—OCoto support student-researchers through the entire process of conducting experiments."

The past half-century has witnessed a dramatic

increase in the scale and complexity of scientific research. The growing scale of science has been accompanied by a shift toward collaborative research, referred to as "team science." Scientific research is increasingly conducted by small teams and larger groups rather than individual investigators, but the challenges of collaboration can slow these teams' progress in achieving their scientific goals. How does a team-based approach work, and how can universities and research institutions support teams? *Enhancing the Effectiveness of Team Science* synthesizes and integrates the available research to provide guidance on assembling the science team; leadership, education and professional development for science teams and groups. It also examines institutional and organizational structures and policies to support science teams and identifies areas where further research is needed to help science teams and groups achieve their scientific and translational goals. This report offers major public policy recommendations for science research agencies and policymakers, as well as recommendations for individual scientists, disciplinary associations, and research universities. *Enhancing the Effectiveness of Team Science* will be of interest to university research administrators, team science leaders, science faculty, and graduate and postdoctoral students.

Science and technology are embedded in virtually every aspect of modern life. As a result, people face an increasing need to integrate information from science with their personal values and other considerations as they make important life decisions about medical care, the safety of foods, what to do about climate change, and many other issues. Communicating science effectively, however, is a complex task and an acquired skill. Moreover, the approaches to communicating science that will be most effective for specific audiences and circumstances are not obvious. Fortunately, there is an expanding science base from diverse disciplines that can support science communicators in making these determinations. *Communicating Science Effectively* offers a research agenda for science communicators and researchers seeking to apply this research and fill gaps in knowledge about how to communicate effectively about science, focusing in particular on issues that are contentious in the public sphere. To inform this research agenda, this publication identifies important influences — psychological, economic, political, social, cultural, and media-related — on how science related to such issues is understood, perceived, and used. Voted America's Best-Loved Novel in PBS's The Great American Read Harper Lee's Pulitzer Prize-winning masterwork of honor and injustice in the deep South—and the heroism of one man in the face

of blind and violent hatred One of the most cherished stories of all time, *To Kill a Mockingbird* has been translated into more than forty languages, sold more than forty million copies worldwide, served as the basis for an enormously popular motion picture, and was voted one of the best novels of the twentieth century by librarians across the country. A gripping, heart-wrenching, and wholly remarkable tale of coming-of-age in a South poisoned by virulent prejudice, it views a world of great beauty and savage inequities through the eyes of a young girl, as her father—a crusading local lawyer—risks everything to defend a black man unjustly accused of a terrible crime.

The nature of engineering and its societal impact are covered, as well as the educational and legal requirements needed to become an engineer.

Engineers contribute to the development of many innovations that improve life. We investigate how engineers work to meet human needs; great engineering accomplishments of the past; and consider needs that engineering must meet in the future. Engineering design process, how it differs design processes, and how the implementation of the design process effects the quality of the resulting design. The application of the principles of mathematics and science to the creation or modification of components, systems, and processes for the benefit of society are covered with a focus on

the balance between quality, performance, and cost. How engineers use creativity and judgment to solve societal how problems; complex engineering problems are usually solved by teams are covered; as well as the intended desirable consequences and unintended undesirable consequences of engineering.

First published in 2002. Routledge is an imprint of Taylor & Francis, an informa company.

Industrial Environmental Performance Metrics is a corporate-focused analysis that brings clarity and practicality to the complex issues of environmental metrics in industry. The book examines the metrics implications to businesses as their responsibilities expand beyond the factory gate--upstream to suppliers and downstream to products and services. It examines implications that arise from greater demand for comparability of metrics among businesses by the investment community and environmental interest groups. The controversy over what sustainable development means for businesses is also addressed. Industrial Environmental Performance Metrics identifies the most useful metrics based on case studies from four industries--automotive, chemical, electronics, and pulp and paper--and includes specific corporate examples. It contains goals and recommendations for public and private sector players interested in encouraging the broader use of metrics to improve

industrial environmental performance and those interested in addressing the tough issues of prioritization, weighting of metrics for meaningful comparability, and the longer term metrics needs presented by sustainable development.

Laboratory experiences as a part of most U.S. high school science curricula have been taken for granted for decades, but they have rarely been carefully examined. What do they contribute to science learning? What can they contribute to science learning? What is the current status of labs in our nation's high schools as a context for learning science? This book looks at a range of questions about how laboratory experiences fit into U.S. high schools: What is effective laboratory teaching? What does research tell us about learning in high school science labs? How should student learning in laboratory experiences be assessed? Do all students have access to laboratory experiences? What changes need to be made to improve laboratory experiences for high school students? How can school organization contribute to effective laboratory teaching? With increased attention to the U.S. education system and student outcomes, no part of the high school curriculum should escape scrutiny. This timely book investigates factors that influence a high school laboratory experience, looking closely at what currently takes place and what the goals of those experiences are and should

be. Science educators, school administrators, policy makers, and parents will all benefit from a better understanding of the need for laboratory experiences to be an integral part of the science curriculum and how that can be accomplished.

Molecular Biology of the Cell Concepts of Biology

The Online Teaching Survival Guide offers faculty a wide array of theory-based techniques designed for online teaching and technology-enhanced courses. Written by two pioneers in distance education, this guidebook presents practical instructional strategies spread out over a four-phase timeline that covers the lifespan of a course. The book includes information on a range of topics such as course management, social presence, community building, and assessment. Based on traditional pedagogical theory, The Online Teaching Survival Guide integrates the latest research in cognitive processing and learning outcomes. Faculty with little knowledge of educational theory and those well versed in pedagogy will find this resource essential for developing their online teaching skills. Praise for The Online Teaching Survival Guide "At a time when resources for training faculty to teach online are scarce, Judith Boettcher and Rita-Marie Conrad have presented a must-read for all instructors new to online teaching. By tying best practices to the natural rhythms of a course as it unfolds, instructors will know what to do when and what to expect. The book is a life raft in what can be perceived as turbulent and uncharted waters." —Rena M.

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Palloff and Keith Pratt, program directors and faculty, Teaching in the Virtual Classroom Program, Fielding Graduate University "Developed from years of experience supporting online faculty, Judith Boettcher and Rita-Marie Conrad's book provides practical tips and checklists that should especially help those new to online teaching hit the ground running." —Karen Swan, Stukel Distinguished Professor of Educational Leadership, University of Illinois Springfield "This book blends a fine synthesis of research findings with plenty of practical advice. This book should be especially valuable for faculty teaching their first or second course online. But any instructor, no matter how experienced, is likely to find valuable insights and techniques." —Stephen C. Ehrmann, director, Flashlight Program for the Study and Improvement of Educational Uses of Technology; vice president, The Teaching, Learning, and Technology Group

The United States and China: two nations drastically different in demographics, history, political structures, and education systems. Despite these differences, educators in each country have discovered they have much to learn from one another. The United States looks east and is captivated by the high assessment scores that many Chinese students achieve. China looks west and is enamored with how the United States fosters innovation and creativity in students. Teachers are increasingly looking across borders to expand, adapt, and offer their students a more balanced education. West Meets East is based on the fundamental premise that strong teaching is at the heart of educational quality

and that we all benefit from understanding the practices and professional thinking of exemplary teachers. With this in mind, Grant and her colleagues set out to discover which beliefs and strategies of effective teachers can cross the cultural divide and help students in each nation make breakthrough advances. As educators, it's important to understand that even though we're setting new goals and improving outcomes, excellence is a moving target. In the globally connected 21st century, educational innovations in one country can reset the bar for students around the world. Only by learning from one another can we be sure all our students remain competitive and successful.

Sensors are everywhere. Small, flexible, economical, and computationally powerful, they operate ubiquitously in environments. They compile massive amounts of data, including information about air, water, and climate. Never before has such a volume of environmental data been so broadly collected or so widely available. Grappling with the consequences of wiring our world, Program Earth examines how sensor technologies are programming our environments. As Jennifer Gabrys points out, sensors do not merely record information about an environment. Rather, they generate new environments and environmental relations. At the same time, they give a voice to the entities they monitor: to animals, plants, people, and inanimate objects. This book looks at the ways in which sensors converge with environments to map ecological processes, to track the migration of animals, to check pollutants, to facilitate citizen participation, and to program infrastructure. Through

discussing particular instances where sensors are deployed for environmental study and citizen engagement across three areas of environmental sensing, from wild sensing to pollution sensing and urban sensing, Program Earth asks how sensor technologies specifically contribute to new environmental conditions. What are the implications for wiring up environments? How do sensor applications not only program environments, but also program the sorts of citizens and collectives we might become? Program Earth suggests that the sensor-based monitoring of Earth offers the prospect of making new environments not simply as an extension of the human but rather as new “technogeographies” that connect technology, nature, and people.

Summarizes the science of climate change and impacts on the United States, for the public and policymakers.

In an era of globalization and urbanization, various social, economic, and environmental challenges surround advances in modern biological sciences.

Considering how biological knowledge and practice are intrinsically related to building a sustainable relationship between nature and human society, the roles of biology education need to be rethought to respond to issues and changes to life in this biocentury. This book is a compilation of selected papers from the Twenty Third Biennial Conference of the Asian Association for Biology Education 2010. The title, *Biology Education for Social and Sustainable Development*, demonstrates how rethinking and reconstruction of biology education in the Asia-Pacific region are increasingly grounded in deep

understandings of what counts as valuable local knowledge, practices, culture, and ideologies for national and global issues, and education for sustainable development. The 42 papers by eminent science educators from Australia, China, Philippines, Singapore, Taiwan, and the U.S., represent a diversity of views, understandings, and practices in biology education for sustainable development from school to university in diverse education systems and social-cultural settings in the Asia-Pacific region and beyond. The book is an invaluable resource and essential reference for researchers and educators on Asian perspectives and practices on biology education for social and sustainable development.

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