

Science

Effective Science Communication: A practical guide to surviving as a scientist is devoted to the variety of ways that scientists are expected to communicate in their day-to-day professional lives. It includes practical advice on how to publish your work in scientific journals, apply for grants, and effectively communicate your research to both scientific and non-scientific audiences. There are chapters devoted to constructing a digital footprint, dealing with the media, and influencing science policy. Guiding you throughout are a number of useful exercises that will help you to become a more effective communicator, providing a helping hand in your scientific journey to not only survive, but to prosper in the process.

We are in the midst of an unprecedented era of rapid scientific and technological advances that are transforming the way our foods are produced and consumed. Food architecture is being used to construct healthier, tastier, and more sustainable foods. Functional foods are being created to combat chronic diseases such as obesity, cancer, diabetes, stroke, and heart disease. These foods are fortified with nutraceuticals or probiotics to improve our mood, performance, and health. The behavior of foods inside our guts is being controlled to increase their healthiness. Precision nutrition is being used to tailor diets to our unique genetic profiles, microbiomes, and metabolisms. Gene editing, nanotechnology, and artificial intelligence are being used to address modern food challenges such as feeding the growing global population, reducing greenhouse gas emissions, reducing waste, and improving sustainability. However, the application of these technologies is facing a backlash from consumers concerned about the potential risks posed to human and environmental health. Some of the questions addressed in this book are: What is food architecture? How does sound and color impact taste? Will we all have 3D food printers in all our homes? Should nanotechnology and gene editing be used to enhance our foods? Are these new technologies safe? Would you eat bug-foods if it led to a more sustainable food supply? Should vegetarians eat themselves? Can nutraceuticals and probiotics stop cancer? What is the molecular basis of a tasty sustainable burger? David Julian McClements is a Distinguished Professor in food science who has used physics, chemistry, and biology to improve the quality, safety, and healthiness of foods for over 30 years. He has published over 900 scientific articles and 10 books in this area and is currently the most highly cited food scientist in the world. He has won numerous scientific awards for his work. The aim of this book is to highlight the many exciting advances being made in the science of foods, and to show their application for solving important

problems related to the modern food supply, such as tackling chronic diseases, feeding a global population, reducing food waste, and creating healthier and tastier foods.

Many of the things discovered by accident are important in our everyday lives: Teflon, Velcro, nylon, x-rays, penicillin, safety glass, sugar substitutes, and polyethylene and other plastics. And we owe a debt to accident for some of our deepest scientific knowledge, including Newton's theory of gravitation, the Big Bang theory of Creation, and the discovery of DNA. Even the Rosetta Stone, the Dead Sea Scrolls, and the ruins of Pompeii came to light through chance. This book tells the fascinating stories of these and other discoveries and reveals how the inquisitive human mind turns accident into discovery.

Written for the layman, yet scientifically accurate, this illuminating collection of anecdotes portrays invention and discovery as quintessentially human acts, due in part to curiosity, perseverance, and luck.

Offering support to both trainee and practising teachers, the fourth edition of The Really Useful Science Book is the perfect tool for those who wish to extend their subject knowledge, enhance their teaching and create lessons which link directly to the National Curriculum. The easy-to-follow framework provides comprehensive science knowledge for Key Stages 1 and 2 and is fully updated with new material to inspire stimulating and engaging science lessons. The book is divided into three sections: Biology, Chemistry and Physics. Each section integrates key scientific ideas and facts with innovative teaching methods and activity suggestions, and user-friendly language and illustrations help to explain key scientific concepts. With links to global learning, discussion of common misconceptions, and ideas for cross-curricular opportunities, each chapter connects knowledge to practice and informs creative and inspiring teaching. The Really Useful Science Book is an invaluable reference resource for all classroom teachers who wish to develop the confidence to teach enquiry-based practical science with relevance to pupils and their global community.

Welcome to this 'novice's guide'. At last a book that explains the real science behind the cosmetics we use. Taking a gentle approach and a guided journey through the different product types, we discover that they are not as superficial as often thought and learn that there is some amazing science behind them. We shall uncover some of the truths behind the myths and point out some interesting facts on our way. Did you know? Vitamin E is the world's most used cosmetic active ingredient. At just 1mm thick, your amazing skin keeps out just about everything it's exposed to - including your products! A 'chemical soup' of amino acids, urea, mineral salts and organic acids act as 'water magnets' in the skin keeping it naturally moisturised. Discovered centuries ago, iron oxides (yes, the same chemicals

as rust) are still commonly used inorganic pigments in foundations. A lipstick is a fine balance of waxes, oils and colourants to keep the stick stable and leave an even gloss on your lips.

This is the first comprehensive overview of the exciting field of the 'science of science'. With anecdotes and detailed, easy-to-follow explanations of the research, this book is accessible to all scientists, policy makers, and administrators with an interest in the wider scientific enterprise.

NOW IN PAPERBACK"€"Starting from a collection of simple computer experiments"€"illustrated in the book by striking computer graphics"€"Stephen Wolfram shows how their unexpected results force a whole new way of looking at the operation of our universe.

Endorsed by Cambridge Assessment International Education. Consolidate and reinforce knowledge and understanding of the concepts covered in the Learner's Book through practice activities, supporting the mastery approach. - Practise using the key skills covered in the Learner's Book with activities designed to recap, reinforce, support and extend knowledge and understanding - Encourage students to assess their mastery of the objectives with a self-assessment chart at the end of every unit

This entertaining, eye-opening account of how the laws of thermodynamics are essential to understanding the world today—from refrigeration and jet engines to calorie counting and global warming—is “a lesson in how to do popular science right” (Kirkus Reviews). Einstein’s Fridge tells the incredible epic story of the scientists who, over two centuries, harnessed the power of heat and ice and formulated a theory essential to comprehending our universe. “Although thermodynamics has been studied for hundreds of years...few nonscientists appreciate how its principles have shaped the modern world” (Scientific American). Thermodynamics—the branch of physics that deals with energy and entropy—governs everything from the behavior of living cells to the black hole at the center of our galaxy. Not only that, but thermodynamics explains why we must eat and breathe, how lights turn on, the limits of computing, and how the universe will end. The brilliant people who decoded its laws came from every branch of the sciences; they were engineers, physicists, chemists, biologists, cosmologists, and mathematicians. From French military engineer and physicist Sadi Carnot to Lord Kelvin, James Joule, Albert Einstein, Emmy Noether, Alan Turing, and Stephen Hawking, author Paul Sen introduces us to all of the players who passed the baton of scientific progress through time and across nations. Incredibly driven and idealistic, these brave pioneers performed groundbreaking work often in the face of torment and tragedy. Their discoveries helped create the modern world and transformed every branch of science, from biology to cosmology. “Elegantly written and engaging” (Financial Times), Einstein’s Fridge brings to life one of the most important scientific revolutions of

all time and captures the thrill of discovery and the power of scientific progress to shape the course of history.

[*Discovering Cosmetic Science*](#)

[*Systematicity*](#)

[*From Atoms to AI and from Gravity to Genes... How Science Shapes Our World*](#)

[*Materials Science with Ion Beams*](#)

[*Global Climate Change and Human Health*](#)

[*100+ Creative Hands-On Activities for Ages 4-8*](#)

[*Import, Tidy, Transform, Visualize, and Model Data*](#)

[*The Curious Kid's Science Book*](#)

[*Science Fictions*](#)

[*Citizen Science*](#)

[*The Really Useful Science Book*](#)

[*Knowledge and action for a sustainable future*](#)

Each world faith tradition has its own distinctive relationship with science, and the science-religion dialogue benefits from a greater awareness of what this relationship is. In this book, members of the International Society for Science and Religion (ISSR) offer international and multi-faith perspectives on how new discoveries in science are met with insights regarding spiritual realities. The essays reflect the conviction that “ religion and science each proceed best when they ’ re pursued in dialogue with each other, and also that our fragmented and divided world would benefit more from a stronger dialogue between science and religion. ” In Part One, George F. R. Ellis, John C. Polkinghorne, and Holmes Rolston III, each a Templeton Prize winner, discuss their views on why the science and religion dialogue matters. They are joined in Part Two by distinguished theologians Fraser Watts and Philip Clayton, who place the dialogue in an international context; John Polkinghorne ’ s inaugural address to the ISSR in 2002 is also included. In Part Three, five members of the ISSR look at the distinctive relationships of their faiths to science: •Carl Feit on Judaism •Munawar Anees on Islam •B.V. Subbarayappa on Hinduism •Trinh Xuan Thuan on Buddhism •Heup Young Kim on Asian Christianity George Ellis, the recently elected second president of ISSR, summarizes the contributions of his colleagues. Ronald Cole-Turner then concludes the book with a discussion of the future of the science and religion dialogue. Harold D. Lasswell is arguably the quintessential face of political science to the larger public of the past century. However, there is a side to Lasswell less well known, but of special importance in this day and age: the place of the profession of politics as an academic activity. This book, written at the start of the culture wars thirty years ago, outlines the basic core position of political science practitioners. It helps to explain why the field kept its collective cool, when other social science professionals veered to

more extreme activist positions. The Future of Political Science grew out of the phenomenally rapid expansion of the study of government in the United States and elsewhere. The study of professionalism among physical scientists, lawyers, engineers, etc. was not matched by such internal examination within the social sciences until much later. Lasswell's overview centered on developments in the United States. There unfettered study of government reached unprecedented heights in the final stage of the twentieth century. The key concept of this volume, one that continues to inform discourse, is the relationship of political science as a mechanism for the study and teaching of the political system to the field as a tool of the Establishment. This concern grew in the wake of a variety of scandals and secret support sponsored by both government and non-government organizations alike. The Future of Political Science covers areas ranging from membership size and disparities, intervention scenarios in world events, the nature of creativity in political research collaboration in projects with the other social sciences, and the location of scientific centers of gravity in the study of politics. Because of Lasswell's works we have a field of the political science of knowledge as well as the sociology of knowledge. Harold D. Lasswell served as Ford Foundation Professor of the Social Sciences at Yale University, Distinguished Professor of Policy Sciences at Joh

Learn the foundations of climate science and human health Global Climate Change and Human Health examines the environmental crisis from a public health and clinical health perspective, giving students and clinicians the information they need to prepare for the future of health care. Edited by George Luber, associate director for climate change at the Centers for Disease Control and Prevention, and Jay Lemery, associate professor at the University of Colorado School of Medicine and section chief of Wilderness and Environmental Medicine in the Department of Emergency Medicine, and including chapters written by luminaries in the field, this landmark book provides a comprehensive introduction to climate change and health. Students will learn about climate changes direct effect on health, including extreme weather events, altered and degraded ecosystems, and threats to human security and welfare. Discussions on mitigation and adaptation strategies, including disease surveillance, communications, and greening health care, as well as a primer on the core concepts of climate change science are presented. Each chapter has a specific section on the clinical correlations of the impact of climate change on health. Informative illustrations depict increasing aeroallergens, shifting vector habitats, emergent risks, and more. Visual teaching materials broken down by chapter (including PowerPoint lecture slides) are available for instructors. This book shows how human health will be —and already has been — affected and how health care practitioners need to start preparing. Understand the science behind climate change and climate variability Learn how the availability of food and clean water will affect public health Consider the diseases that will surge as vector populations swell Discover mitigation strategies targeted toward the health care community Understanding how climate change affects human rights and how international institutions are responding Increased temperatures bring algal blooms that threaten clean water. Degraded air quality brings allergies, asthma, and respiratory diseases. Ground pollutants lower the nutritional value of food crops. It's clear that climate change is very much a public health concern, and Global Climate Change and Human Health helps those preparing to be on the front lines of health care.

The first half of the nineteenth century witnessed an extraordinary transformation in British political, literary, and intellectual life. There was widespread social unrest, and debates raged regarding education, the lives of the working class, and the new industrial, machine-governed world. At the same time, modern science emerged in Europe in more or less its current form, as new disciplines and revolutionary concepts, including evolution and the vastness of geologic time, began to take shape. In *Visions of Science*, James A. Secord offers a new way to capture this unique moment of change. He explores seven key books—among them Charles Babbage's *Reflections on the Decline of Science*, Charles Lyell's *Principles of Geology*, Mary Somerville's *Connexion of the Physical Sciences*, and Thomas Carlyle's *Sartor Resartus*—and shows how literature that reflects on the wider meaning of science can be revelatory when granted the kind of close reading usually reserved for fiction and poetry. These books considered the meanings of science and its place in modern life, looking to the future, coordinating and connecting the sciences, and forging knowledge that would be appropriate for the new age. Their aim was often philosophical, but Secord shows it was just as often imaginative, projective, and practical: to suggest not only how to think about the natural world but also to indicate modes of action and potential consequences in an era of unparalleled change. *Visions of Science* opens our eyes to how genteel ladies, working men, and the literary elite responded to these remarkable works. It reveals the importance of understanding the physical qualities of books and the key role of printers and publishers, from factories pouring out cheap compendia to fashionable publishing houses in London's West End. Secord's vivid account takes us to the heart of an information revolution that was to have profound consequences for the making of the modern world.

This thought-provoking book expands on the notion that Big Science is not the only term to describe and investigate particularly large research projects, scientific collaborations and facilities. It investigates the significant overlap between Big Science and Research Infrastructures (RIs) in a European context since the early twenty-first century. Contributions to this innovative book not only augment the study of Big Science with new perspectives, but also launch the study of RIs as a promising new line of inquiry.

The Science of Science Cambridge University Press

Citizen science, the active participation of the public in scientific research projects, is a rapidly expanding field in open science and open innovation. It provides an integrated model of public knowledge production and engagement with science. As a growing worldwide phenomenon, it is invigorated by evolving new technologies that connect people easily and effectively with the scientific community. Catalysed by citizens' wishes to be actively involved in scientific processes, as a result of recent societal trends, it also offers contributions to the rise in tertiary education. In addition, citizen science provides a valuable tool for citizens to play a more active role in sustainable development. This book identifies and explains the role of citizen science within innovation in science and society, and as a vibrant and productive science-policy interface. The scope of this volume is global, geared towards identifying solutions and lessons to be applied across science, practice and policy. The chapters consider the role of citizen science in the context of the wider agenda of open science and open innovation, and discuss progress towards

responsible research and innovation, two of the most critical aspects of science today.

The world around us is continually being shaped by science, and by society ' s relationship to it. In recent years sociologists have been increasingly preoccupied with the latter, and now in this fascinating book, Massimiano Bucchi provides a brief introduction to this topical issue. Bucchi provides clear and unassuming summaries of all the major theoretical positions within the sociology of science, illustrated with many fascinating examples. Theories covered include Thomas Kuhn's theory of scientific change, the sociology of scientific knowledge, actor-network theory, and the social construction of technology. The second half of the book looks at recent public controversies over the role of science in the modern world including: * the Sokal affair, otherwise known as the science wars * debates over public understanding of science, such as global warming and genetically modified food * the implications of the human genome project. This much needed introduction to a rapidly growing area brings theory alive and will be essential reading for all students of the sociology of science.

"Writing Successfully in Science" pays particular attention to the needs of scientists whose first language is not English, explaining how to avoid the main pitfalls of English grammar and how to present work in a clear and logical fashion. It combines practical tips for the first-time writer with useful instructions for experienced contributors wishing to improve their technique

[Earth System Science](#)

[Serendipity](#)

[The Oxford Book of Modern Science Writing](#)

[Voices from the International Society for Science and Religion](#)

[Adventures in the Anthropocene](#)

[The Future of Political Science](#)

[Science In Society](#)

[Science as It Could Have Been](#)

[The Science Book](#)

[A Practical Guide to Engaging As a Scientist](#)

[How the Difference Between Hot and Cold Explains the Universe](#)

[An Introduction to Social Studies of Science](#)

[The Collaborative Era in Science](#)

*What happens if you water plants with juice? Where can you find bacteria in your house? Is slug slime as strong as a glue stick? How would your child find the answers to these questions? In *The Curious Kid's Science Book*, your child will learn to design his or her own science investigations to determine the answers! Children will learn to ask their own scientific questions, discover value in failed experiments, and — most importantly — have a blast with science. The 100+ hands-on activities in the book use household items to playfully teach important science, technology, engineering, and math skills. Each creative activity includes age-appropriate*

explanations and (when possible) real life applications of the concepts covered. Adding science to your at-home schedule will make a positive impact on your child's learning. Just one experiment a week will help build children's confidence and excitement about the sciences, boost success in the classroom, and give them the tools to design and execute their own science fair projects.

A brilliant and sparkling exploration of the extraordinary nature of romantic love - from the frontline of cutting-edge scientific research. The easy way to score high in Environmental Science Environmental science is a fascinating subject, but some students have a hard time grasping the interrelationships of the natural world and the role that humans play within the environment. Presented in a straightforward format, Environmental Science For Dummies gives you plain-English, easy-to-understand explanations of the concepts and material you'll encounter in your introductory-level course. Here, you get discussions of the earth's natural resources and the problems that arise when resources like air, water, and soil are contaminated by manmade pollutants. Sustainability is also examined, including the latest advancements in recycling and energy production technology. Environmental Science For Dummies is the most accessible book on the market for anyone who needs to get a handle on the topic, whether you're looking to supplement classroom learning or simply interested in learning more about our environment and the problems we face. Presents straightforward information on complex concepts Tracks to a typical introductory level Environmental Science course Serves as an excellent supplement to classroom learning If you're enrolled in an introductory Environmental Science course or studying for the AP Environmental Science exam, this hands-on, friendly guide has you covered.

Endorsed by Cambridge Assessment International Education. Support students in mastering the ideas and skills needed to proceed successfully through the Cambridge Primary Science curriculum framework with a wide range of activities and investigations to help you deliver the science mastery approach. - Establish previous knowledge, skills and understanding of concepts through engaging activities at the start of each unit - Determine whether students have properly mastered the objectives for each unit with investigations and recap activities at the end - Expand vocabulary and understanding with key scientific words to learn and practice - Encourage peer assessment with talk partner activities throughout - Inspire students to predict and question outcomes and concepts with investigations that demonstrate and test key scientific points - Evaluate learning with a self-assessment checklist at the end of each unit and a practice test at the end of each chapter for summative assessment purposes

Science.

The Handbook on Implementation Science provides an overview of the field's multidisciplinary history, theoretical approaches, key concepts, perspectives, and methods. By drawing on knowledge concerning learning, habits, organizational theory, improvement science, and policy research, the Handbook offers novel perspectives from a broad group of international experts in the field representing diverse disciplines. The editors seek to advance implementation science through careful consideration of current thinking and recommendations for future directions.

Could all or part of our taken-as-established scientific conclusions, theories, experimental data, ontological commitments, and so forth have been significantly different? Science as It Could Have Been focuses on a crucial issue that contemporary science studies have often neglected: the issue of contingency within science. It considers a number of case studies, past and present, from a wide range of scientific disciplines—physics, biology, geology, mathematics, and psychology—to explore whether components of human science are inevitable, or if we could have developed an alternative successful science based on essentially different notions, conceptions, and

results. Bringing together a group of distinguished contributors in philosophy, sociology, and history of science, this edited volume offers a comprehensive analysis of the contingency/inevitability problem and a lively and up-to-date portrait of current debates in science studies.

In recent years a global network of science has emerged as a result of thousands of individual scientists seeking to collaborate with colleagues around the world, creating a network which rises above national systems. The globalization of science is part of the underlying shift in knowledge creation generally: the collaborative era in science. Over the past decade, the growth in the amount of knowledge and the speed at which it is available has created a fundamental shift—where data, information, and knowledge were once scarce resources, they are now abundantly available. Collaboration, openness, customer- or problem-focused research and development, altruism, and reciprocity are notable features of abundance, and they create challenges that economists have not yet studied. This book defines the collaborative era, describes how it came to be, reveals its internal dynamics, and demonstrates how real-world practitioners are changing to take advantage of it. Most importantly, the book lays out a guide for policymakers and entrepreneurs as they shift perspectives to take advantage of the collaborative era in order to create social and economic welfare. 'You will understand your children better for reading it.' The Times 'Beautifully written with clarity, expertise and honesty about the most important subject for all of us. I couldn't put it down.' Professor Robert Winston An insightful and inspiring read from award-winning neuroscientist, Sarah-Jayne Blakemore Sarah-Jayne Blakemore explains: · What makes the adolescent brain different? · Why does an easy child become a challenging teenager? · What drives the excessive risk-taking and the need for intense friendships common to teenagers? · Why it is that many mental illnesses – depression, addiction, schizophrenia – begin during these formative years. And she shows that while adolescence is a period of vulnerability, it is also a time of enormous creativity and opportunity. What readers are saying: *****'An accessible, optimistic and illuminating book.' *****'Essential reading for parents and teachers of adolescents.' *****'Relevant, fascinating and captivating.'

[R for Data Science](#)

[Big Ideas Simply Explained](#)

[How the New Science of Memory Illuminates the Stories We Tell About Our Pasts](#)

[A Contemporary Introduction](#)

[Inventing Ourselves](#)

[Pieces of Light](#)

[A Very Short Introduction](#)

[The Secret Life of the Teenage Brain](#)

[Why the Science and Religion Dialogue Matters](#)

[Governing the Network](#)

[Reconstructing Sustainability Science](#)

[Exposing Fraud, Bias, Negligence and Hype in Science](#)

[The Faber Book of Science](#)

A beautifully illustrated celebration of science from the clever people who bring you AQUILA magazine. Ideas are important. They change things. A single idea can start a war, save billions of lives, even rearrange whole planetary systems, or simply make a person giggle until they pee a little bit. They can be totally wrong but widely believed, or undoubtedly right and completely ignored. What's more, they're free, and anyone can have one-including you! The Book of Big Science Ideas looks at 15 brilliant science ideas and more than 50 ingenious thinkers who have helped shape our understanding of the world - whether they were right or wrong! Thinkers include, Wang Zhenyi, Louis Pasteur, Marie Curie, James Joule, Rosalind Franklin, Charles Darwin, Aristotle, Edith Clarke, Isaac Newton, Grace Hopper, Alan Turing, Ada Lovelace and many, many more! From established ideas like atoms, electricity and the solar system, and ideas that are still evolving such as gravity, energy and classification, right up to recent discoveries like AI and genetics - this jam-packed book takes a fresh approach to science.

What does political science tell us about important real-world problems and issues? And to what extent does and can political analysis contribute to solutions? This is the challenge addressed by leading political scientists in this original text which will be essential reading for students and scholars alike.

*'Required reading for everyone' Adam Rutherford Medicine, education, psychology, economics - wherever it really matters, we look to science for guidance. But what if science itself can't always be relied on? In this vital investigation, Stuart Ritchie reveals the disturbing flaws in today's science that undermine our understanding of the world and threaten human lives. With bias, careless mistakes and even outright forgery influencing everything from austerity economics to the anti-vaccination movement, he proposes vital remedies to save and protect science - this most valuable of human endeavours - from itself. * With a new afterword by the author * 'Thrilling... Reminds us that another world is possible' The Times, Books of the Year 'Excellent... We need better science. That's why books like this are so important' Evening Standard*

In Systematicity, Paul Hoyningen-Huene answers the question "What is science?" by proposing that scientific knowledge is primarily distinguished from other forms of knowledge, especially everyday knowledge, by being more systematic. "Science" is here understood in the broadest possible sense, encompassing not only the natural sciences but also mathematics, the social sciences, and the humanities. The author develops his thesis in nine dimensions in which it is claimed that science is more systematic than other forms of knowledge: regarding descriptions, explanations, predictions, the defense of knowledge claims, critical discourse, epistemic connectedness, an ideal of completeness, knowledge generation, and the representation of knowledge. He compares his view with positions on the question held by philosophers from Aristotle to Nicholas Rescher. The book concludes with an exploration of some consequences of Hoyningen-Huene's view concerning the genesis and dynamics of science, the relationship of science and common sense, normative implications of the thesis, and the demarcation criterion between science and pseudo-science.

The Philosophy of Social Science: A Contemporary Introduction examines the perennial questions of philosophy by engaging with the empirical study of society. The book offers a comprehensive overview of debates in the field, with special attention to questions

arising from new research programs in the social sciences. The text uses detailed examples of social scientific research to motivate and illustrate the philosophical discussion. Topics include the relationship of social policy to social science, interpretive research, action explanation, game theory, social scientific accounts of norms, joint intentionality, reductionism, causal modeling, case study research, and experimentation.

"This book introduces you to R, RStudio, and the tidyverse, a collection of R packages designed to work together to make data science fast, fluent, and fun. Suitable for readers with no previous programming experience"--

All the big ideas in science, simply explained Part of the popular Big Ideas series, *The Science Book* explores the history of science, how scientists have sought to explain our incredible universe and how amazing scientific discoveries have been made. Discover how Galileo worked out his scientific theories of motion and inertia, why Copernicus's ideas were contentious and what the discovery of DNA meant. All the big scientific ideas and discoveries are brought to life with quirky graphics, pithy quotes and step-by-step 'mind maps', plus every area of science is covered, including astronomy, biology, chemistry, geology, maths and physics. You'll be brought up-to-date on scientific ideas from black holes to genetic engineering with eye-catching artworks showing how the ideas of key scientists have impacted our understanding of the world. Whether you are a science student or just have an interest in scientific ideas, *The Science Book* is a perfect way to explore this fascinating subject.

Short-listed for the Royal Society Winton Prize for Science Books, the Best Book of Ideas Prize, and the Society of Biology Book Awards • Book of the Year: Sunday Times, Sunday Express, and New Scientist A new consensus is emerging among cognitive scientists: rather than possessing fixed, unchanging memories, we create new recollections each time we are called upon to remember. As psychologist Charles Fernyhough explains, remembering is an act of narrative imagination as much as it is the product of a neurological process. In *Pieces of Light*, he illuminates this compelling scientific breakthrough in a series of personal stories, each illustrating memory's complex synergy of cognitive and neurological functions. Combining science and literature, the ordinary and the extraordinary, this fascinating tour through the new science of autobiographical memory helps us better understand the ways we remember—and the ways we forget.

The Faber Book of Science introduces hunting spiders and black holes, gorillas and stardust, protons, photons and neutrinos. In his acclaimed anthology, John Carey plots the development of modern science from Leonardo da Vinci to Chaos Theory. The emphasis is on the scientists themselves and their own accounts of their breakthroughs and achievements. The classic science-writers are included - Darwin, T.H. Huxley and Jean Henri Fabre tracking insects through the Provencal countryside. So too are today's experts - Steve Jones on the Human Genome Project, Richard Dawkins on DNA and many other representatives of the contemporary genre of popular science-writing which, John Carey argues, challenges modern poetry and fiction in its imaginative power.

[A New Kind of Science](#)
[Einstein's Fridge](#)

[Visions of Science](#)

[Future Foods: How Modern Science Is Transforming the Way We Eat](#)

[Making Sense of Secondary Science](#)

[The Nature of Science](#)

[A Framework of Knowledge for Primary Teachers](#)

[Environmental Science For Dummies](#)

[Discussing the Contingency/Inevitability Problem](#)

[Research into children's ideas](#)

[Accidental Discoveries in Science](#)

[Writing Successfully in Science](#)

[Hodder Cambridge Primary Science Learner's Book 1](#)

When humanity first glimpsed planet Earth from space, the unity of the system that supports humankind entered the popular consciousness. The concept of the Earth's atmosphere, biosphere, oceans, soil, and rocks operating as a closely interacting system has rapidly gained ground in science. This new field, involving geographers, geologists, biologists, oceanographers, and atmospheric physicists, is known as Earth System Science. In this Very Short Introduction, Tim Lenton considers how a world in which humans could evolve was created; how, as a species, we are now reshaping that world; and what a sustainable future for humanity within the Earth System might look like. Drawing on elements of geology, biology, chemistry, physics, and mathematics, Lenton asks whether Earth System Science can help guide us onto a sustainable course before we alter the Earth system to the point where we destroy ourselves and our current civilisation. ABOUT THE SERIES: The Very Short Introductions series from Oxford University Press contains hundreds of titles in almost every subject area. These pocket-sized books are the perfect way to get ahead in a new subject quickly. Our expert authors combine facts, analysis, perspective, new ideas, and enthusiasm to make interesting and challenging topics highly readable.

Materials science is the prime example of an interdisciplinary science. It - compasses the ?elds of physics, chemistry, material science, electrical en- neering, chemical engineering and other disciplines. Success has been o- standing. World-class accomplishments in materials have been recognized by NobelprizesinPhysicsandChemistryandgivenrisetoentirelynewtechno- gies. Materials science advances have underpinned the technology revolution that has driven societal changes for the last ?fty years. Obviouslytheendisnotinsight!Futuretechnology-basedproblemsd- inatethecurrentscene.Highonthehistarecontrolandconservationofenergy and environment, water purity and availability, and propagating the inf- mation revolution. All fall in the technology domain. In every case proposed solutions begin with new forms of materials, materials processing or new arti?cial material structures. Scientists seek new forms of photovoltaics with greater e?ciency and lower cost. Water purity may be solved through surface control, which promises new desalination processes at lower energy and lower cost.

Revolutionary concepts to extend the information revolution reside in controlling the “spin” of electrons or enabling quantum states as in quantum computing. Ion-beam experts make substantial contributions to all of these burgeoning sciences.

What ideas do children hold about the natural world? How do these ideas affect their learning of science? Young learners bring to the classroom knowledge and ideas about many aspects of the natural world constructed from their experiences of education and from outside school. These ideas contribute to subsequent learning, and research has shown that teaching of science is unlikely to be effective unless it takes learners’ perspectives into account. Making Sense of Secondary Science provides a concise, accessible summary of international research into learners’ ideas about science, presenting evidence-based insight into the conceptions that learners hold, before and even despite teaching. With expert summaries from across the science domains, it covers research findings from life and living processes, materials and their properties and physical processes. This classic text is essential reading for all trainee secondary, elementary and primary school science teachers, as well as those researching the science curriculum and science methods, who want to deepen their understanding of how learners think and to use these insights to inform teaching strategies. It also provides a baseline for researchers wishing to investigate contemporary influences on children’s ideas and to study the persistence of these conceptions. Both components of Making Sense of Secondary Science – this book and the accompanying teacher’s resource file, Making Sense of Secondary Science: Support materials for teachers - were developed as a result of a collaborative project between Leeds City Council Department of Education and the Children’s Learning in Science Research Group at the University of Leeds, UK.

The growing urgency, complexity and "wickedness" of sustainability problems—from climate change and biodiversity loss to ecosystem degradation and persistent poverty and inequality—present fundamental challenges to scientific knowledge production and its use. While there is little doubt that science has a crucial role to play in our ability to pursue sustainability goals, critical questions remain as to how to most effectively organize research and connect it to actions that advance social and natural wellbeing. Drawing on interviews with leading sustainability scientists, this book examines how researchers in the emerging, interdisciplinary field of sustainability science are attempting to define sustainability, establish research agendas, and link the knowledge they produce to societal action. Pairing these insights with case studies of innovative sustainability research centres, the book reformulates the sustainability science research agenda and its relationship to decision-making and social action. It repositions the field as a "science of design" that aims to enrich public reasoning and deliberation while also working to generate social and technological innovations for a more sustainable future. This timely book gives students, researchers and practitioners a valuable and unique analysis of the emergence of sustainability science, and both the opportunities and barriers faced by scientific efforts to contribute to social action.

**** Winner of Royal Society Winton Prize for Science Books 2015 **** We live in epoch-making times. The changes we humans have made in recent decades have altered our world beyond anything it has experienced in its 4.6 billion-year history. As a result, our planet is said to be crossing into the Anthropocene – the Age of Humans. Gaia Vince decided to travel the world at the start of this new age to see what life is really like for the people on the frontline of the planet we’ve made. From artificial glaciers in the Himalayas to painted

mountains in Peru, electrified reefs in the Maldives to garbage islands in the Caribbean, Gaia found people doing the most extraordinary things to solve the problems that we ourselves have created. These stories show what the Anthropocene means for all of us – and they illuminate how we might engineer Earth for our future.

[The Book of Big Science Ideas](#)

[The Science of Science](#)

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[Big Science and Research Infrastructures in Europe](#)

[Innovation in Open Science, Society and Policy](#)

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