Origins Fourteen Billion Years Of Cosmic Evolution

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The Hunt for Life on Mars Donald Goldsmith 1998 An astronomer recounts the investigation by NASA scientists into a group of ancient asteroids that fell from Mars to Earth and that revealed signs of primitive life on Mars, and explores the implications of that discovery. Reprint.

The Runaway Universe P. C. W. Davies 1978 From the primeval fire and the first big bang that generated both space and time, the universe has been moving gradually toward disintegration. One day it will come to stardom - the ultimate catastrophe. The sun will burn out, the galaxies will turn into giant graveyards, and space-time will be overwhelmed as black holes swallow up whole stars and star systems and coalesce to form superholes. Without the use of complex formulas or symbols Paul Davies explains some of these mind-boggling concepts, telling as exciting a story as any that can ever be. He explores, too, the place of intelligent life in a universe moving inexorably to obliteration, suggesting the outlines of a new supertechnology that may allow survival.

Origins Neil deGrasse Tyson 2014-09-16 “Who can ask for better cosmic tour guides to the universe than Drs. Tyson and Goldsmith?” —Michio Kaku, author of Hyperspace and Parallel Worlds Our true origins are not just human, or even terrestrial, but in fact cosmic. Drawing on recent scientific breakthroughs and the current cross-pollination among geology, biology, astrophysics, and cosmology, ?Origins? explains the soul-stirring leaps in our understanding of the cosmos. From the first image of a galaxy birth to Spirit Rover's exploration of Mars, to the discovery of water on one of Jupiter's moons, coauthors Neil deGrasse Tyson and Donald Goldsmith conduct a galvanizing tour of the cosmos with clarity and exuberance.

Why Darwin Matters Michael Shermer 2007-04-01 A creationist-turned-scientist demonstrates the facts of evolution and exposes Intelligent Design's real agenda Science is on the defensive. Half of Americans reject the theory of evolution and "Intelligent Design" campaigns are gaining ground. Classroom by classroom, creationism is overthrowing biology. In Why Darwin Matters, bestselling author Michael Shermer explains how the newest brand of creationism appeals to our predisposition to look for a designer behind life's complexity. Shermer decodes the scientific evidence to show that evolution is not "just a

theory" and illustrates how it achieves the design of life through the bottom-up process of natural selection. Shermer, once an evangelical Christian and a creationist, argues that Intelligent Design proponents are invoking a combination of bad science, political antipathy, and flawed theology. He refutes their pseudoscientific arguments and then demonstrates why conservatives and people of faith can and should embrace evolution. He then appraises the evolutionary questions that truly need to be settled, building a powerful argument for science itself. Cutting the politics away from the facts, Why Darwin Matters is an incisive examination of what is at stake in the debate over evolution.

The Pluto Files: The Rise and Fall of America's Favorite Planet Neil deGrasse Tyson 2010-07-12 The New York Times bestseller: "You gotta read this. It is the most exciting book about Pluto you will ever read in your life." —Jon Stewart When the Rose Center for Earth and Space at the American Museum of Natural History reclassified Pluto as an icy comet, the New York Times proclaimed on page one, "Pluto Not a Planet? Only in New York." Immediately, the public, professionals, and press were choosing sides over Pluto's planethood. Pluto is entrenched in our cultural and emotional view of the cosmos, and Neil deGrasse Tyson, award-winning author and director of the Rose Center, is on a quest to discover why. He stood at the heart of the controversy over Pluto's demotion, and consequently Plutophiles have freely shared their opinions with him, including endless hate mail from third-graders. With his inimitable wit, Tyson delivers a minihistory of planets, describes the oversized characters of the people who study them, and recounts how America's favorite planet was ousted from the cosmic hub.

The Sky Is Not the Limit Neil deGrasse Tyson 2010-03-19 From the author of Astrophysics for People in a Hurry and the host of Cosmos: A Spacetime Odyssey, a memoir about growing up and a young man's budding scientific curiosity. This is the absorbing story of Neil deGrasse Tyson’s lifelong fascination with the night sky, a restless wonder that began some thirty years ago on the roof of his Bronx apartment building and eventually led him to become the director of the Hayden Planetarium. A unique chronicle of a young man who at one time was both nerd and jock, Tyson’s memoir could well inspire other similarly curious youngsters to pursue their dreams. Like many athletic kids he played baseball, won medals in track and swimming, and was captain of his high school wrestling team. But at the same time he was setting up a telescope on winter nights, taking an advanced astronomy course at the Hayden Planetarium, and spending a summer vacation at an astronomy camp in the Mojave Desert. Eventually, his scientific curiosity prevailed, and he went on to graduate in physics from Harvard and to earn a Ph.D. in astrophysics from Columbia. There followed postdoctoral research at Princeton. In 1996, he became the director of the Hayden Planetarium, where some twenty-five years earlier he had been awed by the spectacular vista in the sky theater. Tyson pays tribute to the key teachers and mentors who recognized his precocious interests and abilities, and helped him succeed. He intersperses personal reminiscences with thoughts on scientific literacy, careful science vs. media hype, the possibility that a meteor could someday hit the Earth, dealing with society’s racial stereotypes, what science can and cannot say about the existence of God, and many other interesting insights about science, society, and the nature of the universe. Now available in paperback with a new preface and other additions, this engaging memoir will enlighten and inspire an appreciation of astronomy and the wonders of our universe.

The Planets Dava Sobel 2006-10-31 Dava Sobel's The Glass Universe will be available from Viking in December 2016 With her bestsellers Longitude and Galileo's Daughter, Dava Sobel introduced readers to her rare gift for weaving complex scientific concepts into a compelling narrative. Now Sobel brings her full talents to bear on what is perhaps her most ambitious topic to date-the planets of our solar system. Sobel explores the origins and oddities of the planets through the lens of popular culture, from astrology, mythology, and science fiction to art, music, poetry, biography, and history. Written in her characteristically graceful prose, The Planets is a stunningly original celebration of our solar system and offers a distinctive view of our place in the universe. * A New York Times extended bestseller * A Featured Alternate of the Book-of-the-Month Club, History Book Club, Scientific American Book Club, and Natural Science Book Club * Includes 11 full-color illustrations by artist Lynette R. Cook "[The Planets] lets us fall in love with the heavens all over again." -The New York Times Book Review "Playful . . . lyrical . . . a guided tour so imaginative that we forget we're being educated as we're being entertained." -Newsweek " [Sobel] has outdone her extraordinary talent for keeping readers enthralled. . . . Longitude and Galileo's Daughter were exciting enough, but The Planets has a charm of its own . . . . A splendid and enticing book." -San Francisco Chronicle "A sublime journey. [Sobel's] writing . . . is as bright as the sun and its thinking as star-studded as the cosmos." -The Atlanta Journal-Constitution "An incantatory serenade to the Solar System. Grade A-" -Entertainment Weekly "Like Sobel's [Longitude and Galileo's Daughter] . . . [The Planets] combines masterful storytelling with clear, engaging explanations of the essential scientific facts." -Physics World

Science, Evolution, and Creationism Institute of Medicine 2008-01-28 How did life evolve on Earth? The answer to this question can help us understand our past and prepare for our future. Although evolution provides credible and reliable answers, polls show that many people turn away from science, seeking other explanations with which they are more comfortable. In the book Science, Evolution, and Creationism, a group of experts assembled by the National Academy of Sciences and the Institute of Medicine explain the fundamental methods of science, document the overwhelming evidence in support of biological evolution, and evaluate the alternative perspectives offered by advocates of various kinds of creationism, including "intelligent design." The book explores the many fascinating inquiries being pursued that put the science of evolution to work in preventing and treating human disease, developing new agricultural products, and fostering industrial innovations. The book also presents the scientific and legal reasons for not teaching creationist ideas in public school science classes. Mindful of school board battles and recent court decisions, Science, Evolution, and Creationism shows that science and religion should be viewed as different ways of understanding the world rather than as frameworks that are in conflict with each other and that the evidence for evolution can be fully compatible with religious faith. For educators, students, teachers, community leaders, legislators, policy makers, and parents who seek to understand the basis of evolutionary science, this publication will be an essential resource.

Undeniable Bill Nye 2014-11-04 Revealing the mechanics of evolutionary theory, the scientist, engineer and inventor presents a compelling argument for the scientific unviability of creationism and insists that creationism's place in the science classroom is harmful not only to our children, but to the future of the greater world as well.

Wonders of the Universe Professor Brian Cox 2011-03-03 Recommended for viewing on a colour tablet. Professor Brian Cox is back with another insightful and mind-blowing exploration of space. This time he shows us our universe as we've never seen it before.

EVOLUTION Michael Ruse 2009-01-01 Spanning evolutionary science from its inception to its latest findings, from discoveries and data to philosophy and history, this book is the most complete, authoritative, and inviting one-volume introduction to evolutionary biology available. Clear, informative, and comprehensive in scope, Evolution opens with a series of major essays dealing with the history and philosophy of evolutionary biology, with major empirical and theoretical questions in the science, from speciation to adaptation, from paleontology to evolutionary development (evo devo), and concluding with essays on the social and political significance of evolutionary biology today. A second encyclopedic section travels the spectrum of topics in evolution with concise, informative, and accessible entries on individuals from Aristotle and Linneaus to Louis Leakey and Jean Lamarck; from T. H. Huxley and E. O. Wilson to Joseph Felsenstein and Motoo Kimura; and on subjects from altruism and amphibians to evolutionary psychology and Piltdown Man to the Scopes trial and social Darwinism. Readers will find the latest word on the history and philosophy of evolution, the nuances of the science itself, and the intricate interplay among evolutionary study, religion, philosophy, and society. Appearing at the beginning of the Darwin Year of 2009Ñthe 200th anniversary of the birth of Charles Darwin and the 150th anniversary of the publication of the Origin of SpeciesÑthis volume is a fitting tribute to the science Darwin set in motion.

Cosmos & Culture Steven J. Dick 2009 From GPO Bookstore's Website: Authors with diverse backgrounds in science, history, anthropology, and more, consider culture in the context of the cosmos. How does our knowledge of cosmic evolution affect terrestrial culture? Conversely, how does our knowledge of cultural evolution affect our thinking about possible cultures in the cosmos? Are life, mind, and culture of fundamental significance to the grand story of the cosmos that has generated its own self-understanding through science, rational reasoning, and mathematics? Book includes bibliographical references and an index.

Accessory to War: The Unspoken Alliance Between Astrophysics and the Military Neil deGrasse Tyson 2018-09-11 “Extraordinary.… A feast of history, an expert tour through thousands of years of war and conquest.” —Jennifer Carson, New York Times Book Review In this far-reaching foray into the millennia-long relationship between science and military power, acclaimed astrophysicist Neil deGrasse Tyson and co-author Avis Lang examine how the methods and tools of astrophysics have been enlisted in the service of war. Spanning early celestial navigation to satellite-enabled warfare, Accessory to War is a richly researched and provocative examination of the intersection of science, technology, industry, and power that will introduce Tyson’s millions of fans to yet another dimension of how the universe has shaped our lives and our world.

Letters of Note: Outer Space 2021-09-07 An irresistible new volume of missives about outer space, from the author of the bestselling Letters of Note collections In Letters of Note: Outer Space, Shaun Usher brings together fascinating correspondence about the universe beyond our planet, containing hopeful thoughts about the future of space travel, awestruck messages penned about the world beyond our own and celebrations of the human ingenuity that has

facilitated our understanding of the cosmos. Includes letters by: Buzz Aldrin, Isaac Asimov, Marion Carpenter, Yuri Gagarin, Ann Druyan, Stanley Kubrick, Nikola Tesla, Neil DeGrasse Tyson & many more

Cosmic Queries Neil deGrasse Tyson 2021-03-02 In this thought-provoking follow-up to his acclaimed StarTalk book, uber astrophysicist Neil deGrasse Tyson tackles the world's most important philosophical questions about the universe with wit, wisdom, and cutting-edge science. For science geeks, space and physics nerds, and all who want to understand their place in the universe, this enlightening new book from Neil deGrasse Tyson offers a unique take on the mysteries and curiosities of the cosmos, building on rich material from his beloved StarTalk podcast. In these illuminating pages, illustrated with dazzling photos and revealing graphics, Tyson and co-author James Trefil, a renowned physicist and science popularizer, take on the big questions that humanity has been posing for millennia--How did life begin? What is our place in the universe? Are we alone?--and provide answers based on the most current data, observations, and theories. Populated with paradigm-shifting discoveries that help explain the building blocks of astrophysics, this relatable and entertaining book will engage and inspire readers of all ages, bring sophisticated concepts within reach, and offer a window into the complexities of the cosmos. or all who loved National Geographic's StarTalk with Neil deGrasse Tyson, Cosmos: Possible Worlds, and Space Atlas, this new book will take them on more journeys into the wonders of the universe and beyond.

One Universe: Charles Tsun-Chu Liu 1999-12-20 A new window opens onto the cosmos... Almost every day we are challenged by new information from the outermost reaches of space. Using straightforward language, One Universe explores the physical principles that govern the workings of our own world so that we can appreciate how they operate in the cosmos around us. Bands of color in a sunlit crystal and the spectrum of starlight in giant telescopes, the arc of a hard-hit baseball and the orbit of the moon, traffic patterns on a freeway and the spiral arms in a galaxy full of stars--they're all tied together in grand and simple ways. We can understand the vast cosmos in which we live by exploring three basic concepts: motion, matter, and energy. With these as a starting point, One Universe shows how the physical principles that operate in our kitchens and backyards are actually down-to-Earth versions of cosmic processes. The book then takes us to the limits of our knowledge, asking the ultimate questions about the origins and existence of life as we know it and where the universe came from--and where it is going. Glorious photographs--many seen for the first time in these pages--and original illustrations expand and enrich our understanding. Evocative and clearly written, One Universe explains complex ideas in ways that every reader can grasp and enjoy. This book captures the grandeur of the heavens while making us feel at home in the cosmos. Above all, it helps us realize that galaxies, stars, planets, and we ourselves all belong to One Universe.

Life on a Young Planet Andrew H. Knoll 2015-03-22 Australopithecines, dinosaurs, trilobites--such fossils conjure up images of lost worlds filled with vanished organisms. But in the full history of life, ancient animals, even the trilobites, form only the half-billion-year tip of a nearly four-billion-year iceberg. Andrew Knoll explores the deep history of life from its origins on a young planet to the incredible Cambrian explosion, presenting a compelling new explanation for the emergence of biological novelty. The very latest discoveries in paleontology--many of them made by the author and his students--are integrated with emerging insights from molecular biology and earth system

science to forge a broad understanding of how the biological diversity that surrounds us came to be. Moving from Siberia to Namibia to the Bahamas, Knoll shows how life and environment have evolved together through Earth's history. Innovations in biology have helped shape our air and oceans, and, just as surely, environmental change has influenced the course of evolution, repeatedly closing off opportunities for some species while opening avenues for others. Readers go into the field to confront fossils, enter the lab to discern the inner workings of cells, and alight on Mars to ask how our terrestrial experience can guide exploration for life beyond our planet. Along the way, Knoll brings us up-to-date on some of science's hottest questions, from the oldest fossils and claims of life beyond the Earth to the hypothesis of global glaciation and Knoll's own unifying concept of ''permissive ecology.'' In laying bare Earth's deepest biological roots, Life on a Young Planet helps us understand our own place in the universe--and our responsibility as stewards of a world four billion years in the making. In a new preface, Knoll describes how the field has broadened and deepened in the decade since the book's original publication.

Death by Black Hole: And Other Cosmic Quandaries Neil deGrasse Tyson 2007-11-17 "[Tyson] tackles a great range of subjects…with great humor, humility, and—most important—humanity." —Entertainment Weekly Loyal readers of the monthly "Universe" essays in Natural History magazine have long recognized Neil deGrasse Tyson's talent for guiding them through the mysteries of the cosmos with clarity and enthusiasm. Bringing together more than forty of Tyson's favorite essays, Death by Black Hole explores a myriad of cosmic topics, from what it would be like to be inside a black hole to the movie industry's feeble efforts to get its night skies right. One of America's best-known astrophysicists, Tyson is a natural teacher who simplifies the complexities of astrophysics while sharing his infectious fascination for our universe.

The Lightness of Being Frank Wilczek 2008-08-26 The 2004 Nobel Prize winner in physics offers this readable and authoritative work for the general public. It explores basic questions about space, mass, energy, and the longed-for possibility of a fully unified theory of nature.

Starry Messenger Neil deGrasse Tyson 2022-09-20 Bringing his cosmic perspective to civilization on Earth, Neil deGrasse Tyson shines new light on the crucial fault lines of our time—war, politics, religion, truth, beauty, gender, and race—in a way that stimulates a deeper sense of unity for us all. In a time when our political and cultural views feel more polarized than ever, Tyson provides a much-needed antidote to so much of what divides us, while making a passionate case for the twin chariots of enlightenment—a cosmic perspective and the rationality of science. After thinking deeply about how science sees the world and about Earth as a planet, the human brain has the capacity to reset and recalibrates life’s priorities, shaping the actions we might take in response. No outlook on culture, society, or civilization remains untouched. With crystalline prose, Starry Messenger walks us through the scientific palette that sees and paints the world differently. From insights on resolving global conflict to reminders of how precious it is to be alive, Tyson reveals, with warmth and eloquence, an array of brilliant and beautiful truths that apply to us all, informed and enlightened by knowledge of our place in the universe.

Einstein's Monsters: The Life and Times of Black Holes Chris Impey 2018-11-13 The astonishing science of black holes and their role in understanding the

history and future of our universe. Black holes are the most extreme objects in the universe, and yet they are ubiquitous. Every massive star leaves behind a black hole when it dies, and every galaxy harbors a supermassive black hole at its center. Frighteningly enigmatic, these dark giants continue to astound even the scientists who spend their careers studying them. Which came first, the galaxy or its central black hole? What happens if you travel into one—instant death or something weirder? And, perhaps most important, how can we ever know anything for sure about black holes when they destroy information by their very nature? In Einstein's Monsters, distinguished astronomer Chris Impey takes readers on an exploration of these and other questions at the cutting edge of astrophysics, as well as the history of black holes' role in theoretical physics—from confirming Einstein's equations for general relativity to testing string theory. He blends this history with a poignant account of the phenomena scientists have witnessed while observing black holes: stars swarming like bees around the center of our galaxy; black holes performing gravitational waltzes with visible stars; the cymbal clash of two black holes colliding, releasing ripples in space-time. Clear, compelling, and profound, Einstein's Monsters reveals how our comprehension of black holes is intrinsically linked to how we make sense of the universe and our place within it. From the small questions to the big ones—from the tiniest particles to the nature of space-time itself—black holes might be the key to a deeper understanding of the cosmos.

Universe Down to Earth Neil deGrasse Tyson 1994 Bringing demonstrations of the principles of nature into the living room, Tyson writes in a lucid, easygoing style that finally makes scientific literacy possible for enthusiasts and those with math and science phobias alike.

Welcome to the Universe Neil deGrasse Tyson 2017-09-12 An essential companion to the New York Times bestseller Welcome to the Universe Here is the essential companion to Welcome to the Universe, a New York Times bestseller that was inspired by the enormously popular introductory astronomy course for non science majors that Neil deGrasse Tyson, Michael A. Strauss, and J. Richard Gott taught together at Princeton. This problem book features more than one hundred problems and exercises used in the original course—ideal for anyone who wants to deepen their understanding of the original material and to learn to think like an astrophysicist. Whether you're a student or teacher, citizen scientist or science enthusiast, your guided tour of the cosmos just got even more hands-on with Welcome to the Universe: The Problem Book. The essential companion book to the acclaimed bestseller Features the problems used in the original introductory astronomy course for non science majors at Princeton University Organized according to the structure of Welcome to the Universe, empowering readers to explore real astrophysical problems that are conceptually introduced in each chapter Problems are designed to stimulate physical insight into the frontier of astrophysics Problems develop quantitative skills, yet use math no more advanced than high school algebra Problems are often multipart, building critical thinking and quantitative skills and developing readers' insight into what astrophysicists do Ideal for course use—either in tandem with Welcome to the Universe or as a supplement to courses using standard astronomy textbooks—or self-study Tested in the classroom over numerous semesters for more than a decade Prefaced with a review of relevant concepts and equations Full solutions and explanations are provided, allowing students and other readers to check their own understanding

Space Chronicles: Facing the Ultimate Frontier Neil deGrasse Tyson 2012-02-27 "A compelling appeal, at just the right time, for continuing to look up."—Air &

Space America's space program is at a turning point. After decades of global primacy, NASA has ended the space-shuttle program, cutting off its access to space. No astronauts will be launched in an American craft, from American soil, until the 2020s, and NASA may soon find itself eclipsed by other countries' space programs. With his signature wit and thought-provoking insights, Neil deGrasse Tyson—one of our foremost thinkers on all things space—illuminates the past, present, and future of space exploration and brilliantly reminds us why NASA matters now as much as ever. As Tyson reveals, exploring the space frontier can profoundly enrich many aspects of our daily lives, from education systems and the economy to national security and morale. For America to maintain its status as a global leader and a technological innovator, he explains, we must regain our enthusiasm and curiosity about what lies beyond our world. Provocative, humorous, and wonderfully readable, Space Chronicles represents the best of Tyson's recent commentary, including a must-read prologue on NASA and partisan politics. Reflecting on topics that range from scientific literacy to space-travel missteps, Tyson gives us an urgent, clear-eyed, and ultimately inspiring vision for the future.

Life in the Universe Jeffrey O. Bennett 2017-07-26 Life in the UniverseBy Jeffrey O. Bennett

Our Universe Jo Dunkley 2019-05-13 Jo Dunkley combines her expertise as an astrophysicist with her talents as a writer and teacher to present an elegant introduction to the structure, history, and enduring mysteries of the universe. Among the cutting-edge phenomena discussed are the accelerating expansion of the universe and the possibility that our universe is only one of many.

A Brief Welcome to the Universe Neil deGrasse Tyson 2021-09-07 A pocket-style edition based on the New York Times bestseller A Brief Welcome to the Universe offers a breathtaking tour of the cosmos, from planets, stars, and galaxies to black holes and time loops. Bestselling authors and acclaimed astrophysicists Neil deGrasse Tyson, Michael A. Strauss, and J. Richard Gott take readers on an unforgettable journey of exploration to reveal how our universe actually works. Propelling you from our home solar system to the outermost frontiers of space, this book builds your cosmic insight and perspective through a marvelously entertaining narrative. How do stars live and die? What are the prospects of intelligent life elsewhere in the universe? How did the universe begin? Why is it expanding and accelerating? Is our universe alone or part of an infinite multiverse? Exploring these and many other questions, this pocket-friendly book is your passport into the wonders of our evolving cosmos.

Astrophysics for Young People in a Hurry Neil deGrasse Tyson 2019-02-05 Neil deGrasse Tyson's #1 New York Times best-selling guide to the cosmos, adapted for young readers. From the basics of physics to big questions about the nature of space and time, celebrated astrophysicist and science communicator Neil deGrasse Tyson breaks down the mysteries of the cosmos into bite-sized pieces. Astrophysics for Young People in a Hurry describes the fundamental rules and unknowns of our universe clearly—and with Tyson's characteristic wit, there's a lot of fun thrown in, too. This adaptation by Gregory Mone includes full-color photos, infographics, and extra explanations to make even the trickiest concepts accessible. Building on the wonder inspired by outer space, Astrophysics for Young People in a Hurry introduces an exciting field and the principles of scientific inquiry to young readers.

Our Cosmic Story Mathew Anderson 2017-01-06 Our cosmic story explores the

potential our universe has for fostering life and civilization. The book starts by looking back at the story of Earth and our civilization, and then evaluates the idea that other sentient creatures in the cosmos may be doing the same.

StarTalk Neil deGrasse Tyson 2019-02-19 This illustrated companion to the popular podcast and National Geographic Channel show is an eye-opening journey for anyone curious about our universe, space, astronomy and the complexities of the cosmos. For decades, beloved astrophysicist Neil deGrasse Tyson has interpreted science with a combination of brainpower and charm that resonates with fans everywhere. This pioneering, provocative book brings together the best of StarTalk, his beloved podcast and television show devoted to solving the most confounding mysteries of Earth, space, and what it means to be human. Filled with brilliant sidebars, vivid photography, and unforgettable quotes from Tyson and his brilliant cohort of science and entertainment luminaries, StarTalk will help answer all of your most pressing questions about our world—from how the brain works to the physics of comic book superheroes. Fun, smart, and laugh-out-loud funny, this book is the perfect guide to everything you ever wanted to know about the universe—and beyond.

Merlin's Tour of the Universe Neil deGrasse Tyson 2011-03-23 From the #1 New York Times bestselling author of Astrophysics for People in a Hurry comes a fascinating guide to the most popular questions about the universe. In Neil de Grasse Tyson's delightful tour of the galaxies, his fictional character Merlin responds to popular astronomy questions asked by adults and children alike. Merlin, a visitor from Planet Omniscia in the Andromeda Galaxy, has been friends with many of the most important scientific figures of the past, including da Vinci, Magellan, Doppler, Einstein, and Hubble—and he often recounts his conversations with these historical figures in his explanations. Merlin's illuminating answers feature a unique combination of wit and poetry along with serious science explained in refreshingly clear, reader-friendly language. Dear Merlin: Can a person cross our galaxy in a spaceship during one human lifespan? Merlin: In 1905, Merlin's good friend Albert Einstein introduced the "Special Theory of Relativity," which predicts that time will tick slower and slower the faster you travel. Were you to embark on such an adventure you could conceivably age as little as you wish, depending of course, on your exact speed. The problem arises when you return to Earth, which will have moved several hundred thousand years into the future and everyone will have forgotten about you. A timeless book for lovers of the universe by one of its greatest lights.

Three Hundred Years of Gravitation S. W. Hawking 1987 A collection of reviews by prominent researchers in cosmology, relativity and particle physics commemorates the 300th anniversary of Newton's Philosophiae Naturalis Principia Mathematica.

Letters from an Astrophysicist Neil deGrasse Tyson 2019-10-08 New York Times Bestseller A luminous companion to the phenomenal bestseller Astrophysics for People in a Hurry. Astrophysicist Neil deGrasse Tyson has attracted one of the world’s largest online followings with his fascinating, widely accessible insights into science and our universe. Now, Tyson invites us to go behind the scenes of his public fame by revealing his correspondence with people across the globe who have sought him out in search of answers. In this hand-picked collection of 101 letters, Tyson draws upon cosmic perspectives to address a vast array of questions about science, faith, philosophy, life, and of course, Pluto. His succinct, opinionated, passionate, and often funny responses reflect

his popularity and standing as a leading educator. Tyson's 2017 bestseller Astrophysics for People in a Hurry offered more than one million readers an insightful and accessible understanding of the universe. Tyson's most candid and heartfelt writing yet, Letters from an Astrophysicist introduces us to a newly personal dimension of Tyson's quest to explore our place in the cosmos.

Time Travel in Einstein's Universe J. Richard Gott 2015-08-25 A Princeton astrophysicist explores whether journeying to the past or future is scientifically possible in this "intriguing" volume (Neil deGrasse Tyson). It was H. G. Wells who coined the term "time machine"—but the concept of time travel, both forward and backward, has always provoked fascination and yearning. It has mostly been dismissed as an impossibility in the world of physics; yet theories posited by Einstein, and advanced by scientists including Stephen Hawking and Kip Thorne, suggest that the phenomenon could actually occur. Building on these ideas, J. Richard Gott, a professor who has written on the subject for Scientific American, Time, and other publications, describes how travel to the future is not only possible but has already happened—and contemplates whether travel to the past is also conceivable. This look at the surprising facts behind the science fiction of time travel "deserves the attention of anyone wanting wider intellectual horizons" (Booklist). "Impressively clear language. Practical tips for chrononauts on their options for travel and the contingencies to prepare for make everything sound bizarrely plausible. Gott clearly enjoys his subject and his excitement and humor are contagious; this book is a delight to read." —Publishers Weekly

Welcome to the Universe Neil deGrasse Tyson 2016-09-12 The New York Times bestselling tour of the cosmos from three of today's leading astrophysicists Welcome to the Universe is a personal guided tour of the cosmos by three of today's leading astrophysicists. Inspired by the enormously popular introductory astronomy course that Neil deGrasse Tyson, Michael A. Strauss, and J. Richard Gott taught together at Princeton, this book covers it all—from planets, stars, and galaxies to black holes, wormholes, and time travel. Describing the latest discoveries in astrophysics, the informative and entertaining narrative propels you from our home solar system to the outermost frontiers of space. How do stars live and die? Why did Pluto lose its planetary status? What are the prospects of intelligent life elsewhere in the universe? How did the universe begin? Why is it expanding and why is its expansion accelerating? Is our universe alone or part of an infinite multiverse? Answering these and many other questions, the authors open your eyes to the wonders of the cosmos, sharing their knowledge of how the universe works. Breathtaking in scope and stunningly illustrated throughout, Welcome to the Universe is for those who hunger for insights into our evolving universe that only world-class astrophysicists can provide.

The Seven Pillars of Creation William P. Brown 2010-02-26 In their highly selective and literal reading of Scripture, creationists champion a rigidly reductionistic view of creation in their fight against "soulless scientism." Conversely, many scientists find faith in God to be a dangerous impediment in the empirical quest for knowledge. As a result of this ongoing debate, many people of faith feel forced to choose between evolution and the Bible's story of creation. But, as William Brown asks, which biblical creation story are we talking about? Brown shows that, through a close reading of biblical texts, no fewer than seven different biblical perspectives on creation can be identified. By examining these perspectives, Brown illuminates both connections and conflicts between the ancient creation traditions and the natural sciences,

arguing for a new way of reading the Bible in light of current scientific knowledge and with consideration of the needs of the environment. In Brown's argument, both scientific inquiry and theological reflection are driven by a sense of wonder, which, in his words, "unites the scientist and the psalmist." Brown's own wonder at the beauty and complexity of the created world is evident throughout this intelligent, well-written, and inspirational book.

Cosmos Carl Sagan 2013-12-10 RETURNING TO TELEVISION AS AN ALL-NEW MINISERIES ON FOX Cosmos is one of the bestselling science books of all time. In clear-eyed prose, Sagan reveals a jewel-like blue world inhabited by a life form that is just beginning to discover its own identity and to venture into the vast ocean of space. Featuring a new Introduction by Sagan's collaborator, Ann Druyan, full color illustrations, and a new Foreword by astrophysicist Neil deGrasse Tyson, Cosmos retraces the fourteen billion years of cosmic evolution that have transformed matter into consciousness, exploring such topics as the origin of life, the human brain, Egyptian hieroglyphics, spacecraft missions, the death of the Sun, the evolution of galaxies, and the forces and individuals who helped to shape modern science. Praise for Cosmos "Magnificent . . . With a lyrical literary style, and a range that touches almost all aspects of human knowledge, Cosmos often seems too good to be true."—The Plain Dealer "Sagan is an astronomer with one eye on the stars, another on history, and a third—his mind's—on the human condition."—Newsday "Brilliant in its scope and provocative in its suggestions . . . shimmers with a sense of wonder."—The Miami Herald "Sagan dazzles the mind with the miracle of our survival, framed by the stately galaxies of space."—Cosmopolitan "Enticing . . . iridescent . . . imaginatively illustrated."—The New York Times Book Review

Origins: Fourteen Billion Years of Cosmic Evolution Neil deGrasse Tyson 2022-09-20 "Who can ask for better cosmic tour guides?" —Michio Kaku Our true origins are not only human, or even terrestrial, but in fact cosmic. Drawing on recent scientific breakthroughs and cross-pollination among geology, biology, astrophysics, and cosmology, Origins illuminates the soul-stirring leaps in our understanding of the cosmos. This revised and updated edition features such startling discoveries as the now more than 5,000 detected exoplanets that promise to reveal exciting possibilities for life in the cosmos, and data from a new generation of ground-based and spaceborne observatories that have fundamentally changed what we know about the expanding universe?and maybe even the laws of physics themselves. From the first image of a galaxy's birth to tantalizing evidence of water not only on Mars but also on the asteroid Ceres, as well as on moons of Jupiter and Saturn, coauthors Neil deGrasse Tyson and Donald Goldsmith conduct an exhilarating tour of the cosmos with clarity and exuberance.

The Theory of Almost Everything Robert Oerter 2006-09-26 There are two scientific theories that, taken together, explain the entire universe. The first, which describes the force of gravity, is widely known: Einstein's General Theory of Relativity. But the theory that explains everything else—the Standard Model of Elementary Particles—is virtually unknown among the general public. In The Theory of Almost Everything, Robert Oerter shows how what were once thought to be separate forces of nature were combined into a single theory by some of the most brilliant minds of the twentieth century. Rich with accessible analogies and lucid prose, The Theory of Almost Everything celebrates a heretofore unsung achievement in human knowledge—and reveals the sublime structure that underlies the world as we know it.

Welcome to the Universe in 3D Neil deGrasse Tyson 2022-04-19 Presenting a rich array of stereoscopic color images, which can be viewed in 3D using a special stereo viewer that folds easily out of the cover of the book, this book reveals your cosmic environment as you have never seen it before. Journey into the vast depths of the observable universe by visualising the most spectacular images in astronomy in stereoscopic 3D. Welcome to the Universe in 3D takes you on a grand tour of the observable universe, guiding you through the most spectacular sights in the cosmos a in breathtaking 3D. Astronomy is the story of how humankind's perception of the two-dimensional dome of the sky evolved into a far deeper comprehension of an expanding three-dimensional cosmos. This book invites you to take part in this story by exploring the universe in depth, as revealed by cutting-edge astronomical research and observations. You will journey from the Moon through the solar system, out to exoplanets, distant nebulas, and galaxy clusters, until you finally reach the cosmic microwave background radiation (or CMB), the most distant light we can observe. The distances to these celestial wonders range from 1.3 light-seconds to 13.8 billion light-years. Along the way, the authors explain the fascinating features of what you are seeing, including how the 3D images were made using the same technique that early astronomers devised to measure distances to objects in space. The dramatic 3D images in this one-of-a-kind book will astonish you, extending your vision out to the farthest reaches of the universe. You will never look up into the night sky the same way again.