

Neil Degrasse Tyson Origins

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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.

Just Visiting This Planet Neil deGrasse Tyson 2011-04-06 From the #1 New York Times bestselling author of *Astrophysics for People in a Hurry* comes a follow-up guide to more of the most popular questions about the universe. In this companion volume to *Merlin's Tour of the Universe*, Neil deGrasse Tyson presents a completely new collection of questions and answers about the cosmos for stargazers of all ages. Whether waxing about Earth and its environs, the Sun and its stellar siblings, the world of light, physical laws, or galaxies near and far, Merlin--a fictional visitor from Planet Omniscia and our guide to the universe--is easy to understand, often humorous, and always entertaining. Merlin fields a wide range of questions from many curious mortals, and in so doing draws on his own vast knowledge as well as the expertise of many close friends, including Archimedes, Galileo, Einstein, and Santa. Merlin hasn't been stumped yet, responding to questions including: If aliens exploded our moon, what effect would it have on us? What are your thoughts on the theory that a star named Nemesis is circling our solar system and was responsible for killing off the dinosaurs? Is it true that if I leave a container on my roof for a period of time, I can actually collect space particles from

outer space? Delightfully illustrated throughout, *Just Visiting This Planet* is a timeless book for lovers of the universe by one of its brightest lights.

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.

[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.

Not on My Watch Alexandra Morton 2021-03-23 NATIONAL BESTSELLER Alexandra Morton has been called "the Jane Goodall of Canada" because of her passionate thirty-year fight to save British Columbia's wild salmon. Her account of that fight is both inspiring in its own right and a roadmap of resistance. Alexandra Morton came north from California in the early 1980s, following her first love--the northern resident orca. In remote Echo Bay, in the Broughton Archipelago, she found the perfect place to settle into all she had ever dreamed of: a lifetime of observing and learning what these big-brained mammals are saying to each other. She was lucky enough to get there just in time to witness a place of true natural abundance, and learned how to thrive in the wilderness as a scientist and a single mother. Then, in 1989, industrial aquaculture moved into the region, chasing the whales away. Her fisherman neighbours asked her if she would write letters on their behalf to government explaining the damage the farms were doing to the fisheries, and one thing led to another. Soon Alex had shifted her scientific focus to documenting the infectious diseases and parasites that pour from the ocean farm pens of Atlantic salmon into the migration routes of wild Pacific salmon,

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and then to proving their disastrous impact on wild salmon and the entire ecosystem of the coast. Alex stood against the farms, first representing her community, then alone, and at last as part of an uprising that built around her as ancient Indigenous governance resisted a province and a country that wouldn't obey their own court rulings. She has used her science, many acts of protest and the legal system in her unrelenting efforts to save wild salmon and ultimately the whales--a story that reveals her own doggedness and bravery but also shines a bright light on the ways other humans doggedly resist the truth. Here, she brilliantly calls those humans to account for the sake of us all.

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.

Flashes of Creation Paul Halpern 2021-08-17 The great debate over the Big Bang and the quest to understand the fate of the universe Today, the Big Bang is so entrenched in our understanding of the cosmos that to doubt it would seem crazy. But as Paul Halpern shows in *Flashes of Creation*, just decades ago its mere mention caused sparks to fly. At the center of the debate were Russian American physicist George Gamow and British astrophysicist Fred Hoyle. Gamow insisted that a fiery explosion explained how the elements of the universe were created. Attacking the idea as half-baked, Hoyle countered that the universe was engaged in a never-ending process of creation. The battle was fierce. In the end, Gamow turned out to be right -- mostly -- and Hoyle, along with his many achievements, is remembered for giving the theory the silliest possible name: "The Big Bang." Halpern captures the brilliance of both thinkers and reminds us that even those proved wrong have much to teach us about boldness, imagination, and the universe itself.

A Stubbornly Persistent Illusion Albert Einstein 2009-09-29 The celebrated physicist and author of *A Brief History of Time* brings together a single-volume compilation of the most important works by Albert Einstein, presenting his papers on the Theory of Relativity, quantum theory, statistical mechanics, the photoelectric effect, and other ground-breaking studies that transformed modern physics. 75,000 first printing.

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

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travels the spectrum of topics in evolution with concise, informative, and accessible entries on individuals from Aristotle and Linnaeus 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 2009—the 200th anniversary of the birth of Charles Darwin and the 150th anniversary of the publication of the *Origin of Species*—this volume is a fitting tribute to the science Darwin set in motion.

Our Cosmic Origins Armand H. Delsemme 1998 *Our Cosmic Origins*, first published in 1998, traces the remarkable story of the emergence of life and intelligence right through the complex evolutionary history of the Universe. Armand Delsemme weaves together a rich tapestry of science, bringing together cosmology, astronomy, geology, biochemistry and biology in this wide-ranging book. In following the complex, chronological story, we discover how the first elements formed in the early Universe, how stars and planets were born, how the first bacteria evolved towards a plethora of plants and animals, and how the coupling of the eye and brain led to the development of self-awareness and, ultimately, intelligence. Professor Delsemme concludes with the tantalising suggestion that the existence of alien life and intelligence is likely, and examines our chances of contacting it. This provocative book provides the general reader with an accessible and wide-ranging account of how life evolved on Earth and how likely it is to exist elsewhere in the Universe.

Origin Story David Christian 2018-05-22 This New York Times bestseller "elegantly weaves evidence and insights . . . into a single, accessible historical narrative" (Bill Gates) and presents a captivating history of the universe -- from the Big Bang to dinosaurs to mass globalization and beyond. Most historians study the smallest slivers of time, emphasizing specific dates, individuals, and documents. But what would it look like to study the whole of history, from the big bang through the present day -- and even into the remote future? How would looking at the full span of time change the way we perceive the universe, the earth, and our very existence? These were the questions David Christian set out to answer when he created the field of "Big History," the most exciting new approach to understanding where we have been, where we are, and where we are going. In *Origin Story*, Christian takes readers on a wild ride through the entire 13.8 billion years we've come to know as "history." By focusing on defining events (thresholds), major trends, and profound questions about our origins, Christian exposes the hidden threads that tie everything together -- from the creation of the planet to the advent of agriculture, nuclear war, and beyond. With stunning insights into the origin of the universe, the beginning of life, the emergence of humans, and what the future might bring, *Origin Story* boldly reframes our place in the cosmos.

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 deGrasse 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.

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.

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.

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.

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.

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.

It Started with a Big Bang Floor Bal 2019-10-01 An accessible and engaging primer on the history of the universe and life on Earth. In this delightful book, kids can follow the fascinating story of how we got from the beginning of the universe to life today on the "bright blue ball floating in space" called Earth. They'll learn about the big bang theory, how our solar system and planet were formed, how life on Earth began in the oceans and moved to land, what happened to the dinosaurs and how humans evolved from apes to build communities all over the planet ... and even travel to space! Kids will be enthralled by this out-of-this-world look at how the universe began!

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.

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.

Why Evolution is True Jerry A. Coyne 2010-01-14 For all the discussion in the media about creationism and 'Intelligent Design', virtually nothing has been said about the evidence in question - the evidence for evolution by natural selection. Yet, as this succinct and important book shows, that evidence is vast, varied, and magnificent, and drawn from many disparate fields of science. The very latest research is uncovering a stream of evidence revealing evolution in action - from the actual observation of a species splitting into two, to new fossil discoveries, to the deciphering of the evidence stored in our genome. *Why Evolution is True* weaves together the many threads of modern work in genetics, palaeontology, geology, molecular biology, anatomy, and development to demonstrate the 'indelible stamp' of the processes first proposed by Darwin. It is a crisp, lucid, and accessible statement that will leave no one with an open mind in any doubt about the truth of evolution.

The Astronomers Donald Goldsmith 1993 Examines this century's most important astronomical discoveries, profiles the people who made them, and explores advances expected in the future

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.

The Encyclopaedia Britannica 2020-12-15 This book has been considered by academicians and scholars of great significance and value to literature. This forms a part of the knowledge base for future generations. So that the book is never forgotten we have represented this book in a print format as the same form as it was originally first published. Hence any marks or annotations seen are left intentionally to preserve its true nature.

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.

Who Is Neil deGrasse Tyson? Pam Pollack 2021-06-01 Discover how Neil deGrasse Tyson became one of the world’s most successful and well-known scientists in this new addition to the #1 New York Times bestselling series. When he was nine years old, Neil deGrasse Tyson went on a trip that would change his life. While visiting the Hayden Planetarium at the Museum of Natural History in New York City, he discovered the world of astronomy and felt like the universe was calling to him. He answered that call by diving deep into astronomy courses. After graduating from the Bronx High School of Science, he went on to earn a doctorate in astrophysics and eventually found his way back to the Hayden Planetarium as a staff scientist and, later, as its director. Neil has not only found an exciting way to share his love and knowledge of space through his documentaries and podcasts, he’s also broken barriers for Black scientists and become one of the most famous astrophysicists ever. He is a published author, television host, and winner of the prestigious Public Welfare Medal for the role he has played in exciting the public about the wonders of science.

Rare Earth Peter D. Ward 2007-05-08 What determines whether complex life will arise on a planet, or even any life at all? Questions such as these are investigated in this groundbreaking book. In doing so, the authors synthesize information from astronomy, biology, and paleontology, and apply it to what we know about the rise of life on Earth and to what could possibly happen elsewhere in the universe. Everyone who has been thrilled by the recent discoveries of extrasolar planets and the indications of life on Mars and the Jovian moon Europa will be fascinated by *Rare Earth*, and its implications for those who look to the heavens for companionship.

Mathematics and Art Lynn Gamwell 2016 This is a cultural history of mathematics and art, from antiquity to the present. Mathematicians and artists have long been on a quest to understand the physical world they see before them and the abstract objects they know by thought alone. Taking readers on a tour of the practice of mathematics and the philosophical

ideas that drive the discipline, Lynn Gamwell points out the important ways mathematical concepts have been expressed by artists. Sumptuous illustrations of artworks and cogent math diagrams are featured in Gamwell's comprehensive exploration. Gamwell begins by describing mathematics from antiquity to the Enlightenment, including Greek, Islamic, and Asian mathematics. Then focusing on modern culture, Gamwell traces mathematicians' search for the foundations of their science, such as David Hilbert's conception of mathematics as an arrangement of meaning-free signs, as well as artists' search for the essence of their craft, such as Aleksandr Rodchenko's monochrome paintings. She shows that self-reflection is inherent to the practice of both modern mathematics and art, and that this introspection points to a deep resonance between the two fields: Kurt Gödel posed questions about the nature of mathematics in the language of mathematics and Jasper Johns asked "What is art?" in the vocabulary of art. Throughout, Gamwell describes the personalities and cultural environments of a multitude of mathematicians and artists, from Gottlob Frege and Benoît Mandelbrot to Max Bill and Xu Bing. *Mathematics and Art* demonstrates how mathematical ideas are embodied in the visual arts and will enlighten all who are interested in the complex intellectual pursuits, personalities, and cultural settings that connect these vast disciplines.

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

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 *Philosophiæ Naturalis Principia Mathematica*.

Welcome to the Universe Neil deGrasse Tyson 2017 A "companion to *Welcome to the Universe*, a ... bestseller that was inspired by the ... introductory astronomy course for non-science majors that Neil deGrasse Tyson, Michael A. Strauss, and J. Richard Gott taught together at Princeton. [It] features more than one hundred problems and exercises used in the original course"--Amazon.com.

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.

The Big Picture Sean Carroll 2016-05-10 The instant New York Times bestseller about humanity's place in the universe—and how we understand it. "Vivid...impressive....Splendidly informative."—The New York Times "Succeeds spectacularly."—Science "A tour de

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force.”—Salon Already internationally acclaimed for his elegant, lucid writing on the most challenging notions in modern physics, Sean Carroll is emerging as one of the greatest humanist thinkers of his generation as he brings his extraordinary intellect to bear not only on Higgs bosons and extra dimensions but now also on our deepest personal questions: Where are we? Who are we? Are our emotions, our beliefs, and our hopes and dreams ultimately meaningless out there in the void? Do human purpose and meaning fit into a scientific worldview? In short chapters filled with intriguing historical anecdotes, personal asides, and rigorous exposition, readers learn the difference between how the world works at the quantum level, the cosmic level, and the human level—and then how each connects to the other. Carroll's presentation of the principles that have guided the scientific revolution from Darwin and Einstein to the origins of life, consciousness, and the universe is dazzlingly unique. Carroll shows how an avalanche of discoveries in the past few hundred years has changed our world and what really matters to us. Our lives are dwarfed like never before by the immensity of space and time, but they are redeemed by our capacity to comprehend it and give it meaning. The Big Picture is an unprecedented scientific worldview, a tour de force that will sit on shelves alongside the works of Stephen Hawking, Carl Sagan, Daniel Dennett, and E. O. Wilson for years to come.

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.

Origin And Evolution Of The Universe: From Big Bang To Exobiology (Second Edition) Matthew A Malkan 2020-08-12 The book provides a broad overview of what we currently know about the Origin and Evolution of the Universe. The goal is to be scientifically comprehensive but concise. We trace the origins from the Big Bang and cosmic expansion, to the formation of galaxies, heavy elements, stars and planets as abodes for life. This field has made stunning progress since the first edition of this book. At that time, there were no known planets outside of our own Solar System (compared with the many thousands currently being studied). The origin of massive black holes was pure speculation (compared with the very recent detection of the first gravitational waves from space, produced by the cataclysmic merger of two surprisingly large black holes). And the most important energy in the Universe, now known as the Dark Energy which is accelerating the expansion, had not been discovered. We aim to bring lay readers with an interest in science 'up to speed' on all of these key discoveries that are part of the panorama of cosmic evolution, which has ultimately lead to our existence on Earth.

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

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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.

Cosmic Horizons Steven Soter 2001 Leading scientists offer a collection of essays that furnish illuminating explanations of recent discoveries in modern astrophysics--from the Big Bang to black holes--the possibility of life on other worlds, and the emerging technologies that make such research possible, accompanied by incisive profiles of such key figures as Carl Sagan and Georges Lemaetre. Original.

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.

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

The Future of Spacetime Stephen Hawking 2003 Presents essays that explore the deepest mysteries of the universe, including black holes, gravity holes, and time travel, by physicists Stephen Hawking, Kip S. Thorne, Igor Novikov, Timothy Ferris, and Alan Lightman.

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