

a brief history of time summary

a brief history of time summary is a topic that continues to intrigue both science enthusiasts and curious readers around the world. This article offers a comprehensive overview of Stephen Hawking's groundbreaking book, "A Brief History of Time," including its main themes, scientific concepts, and the impact it has had on both science and popular culture. Readers will discover the accessible explanations Hawking provides for complex subjects such as black holes, the Big Bang, quantum mechanics, and the nature of time itself. The article also explores the author's goals, the structure and style of the book, and its lasting significance in scientific literature. Whether you're new to the subject or seeking a deeper understanding, this summary will guide you through the essential ideas and historical context of Hawking's work. The following sections break down the key points and chapters, making the concepts clear and engaging. Dive in to explore the legacy and insights of "A Brief History of Time."

- Introduction to "A Brief History of Time"
- Author Background: Stephen Hawking
- Main Themes and Scientific Concepts
- Exploring the Structure and Style
- Key Chapters and Summaries
- Impact and Legacy in Science and Culture
- Frequently Asked Questions

Introduction to “A Brief History of Time”

“A Brief History of Time” is a seminal science book written by British physicist Stephen Hawking, first published in 1988. The book aims to explain complex scientific concepts about the universe to a general audience, using clear language and engaging analogies. Hawking addresses fundamental questions: How did the universe begin? What is its fate? What role do black holes and quantum mechanics play in understanding reality? By bridging scientific theory and everyday experience, Hawking invites readers to contemplate the nature of space, time, and existence itself. The book’s accessibility, combined with Hawking’s expertise, has made it a bestseller and an influential work in popular science. The summary below provides a detailed look at its key topics, offering readers an informative and SEO-optimized overview.

Author Background: Stephen Hawking

Stephen Hawking’s Scientific Contributions

Stephen Hawking was a renowned theoretical physicist and cosmologist, famous for his work on black holes and the nature of the universe. His research contributed to the understanding of singularities, quantum gravity, and the behavior of black holes. Hawking’s theories about Hawking radiation revolutionized scientific thinking about how black holes emit particles and energy, challenging prior assumptions that nothing could escape their gravitational grip.

Motivation for Writing the Book

Hawking’s motivation in writing “A Brief History of Time” was to make advanced scientific ideas accessible to a broad audience. He sought to answer profound questions about the universe in a way that could be understood by readers without specialized training in physics or mathematics. His passion for education and science communication is evident throughout the book, as he balances

technical accuracy with clarity.

Main Themes and Scientific Concepts

The Origin and Fate of the Universe

One of the central themes in “A Brief History of Time” is the exploration of the universe’s beginning and its possible future. Hawking discusses the Big Bang theory, which suggests that the universe started as a singularity—a point of infinite density and temperature—before expanding into the cosmos we observe today. The book also considers possible endings, such as the Big Crunch, heat death, or eternal expansion.

Nature of Space and Time

Hawking examines the fabric of space-time, describing how time is intertwined with the three spatial dimensions. He introduces readers to the concept of relativity, where time can bend and stretch depending on gravity and velocity. The book discusses time’s arrow, causality, and the possibility of time travel, grounding these ideas in current scientific understanding.

Quantum Mechanics and Black Holes

Another major topic is quantum mechanics, the branch of physics that deals with the behavior of particles at the smallest scales. Hawking explains how quantum theory and general relativity sometimes conflict, particularly in extreme environments like black holes. He describes black holes as regions of space-time with intense gravity, where information and matter are compressed into a singularity. Hawking’s proposal of Hawking radiation suggests black holes can emit energy and eventually evaporate, challenging the notion that they are eternal.

- The Big Bang and cosmic expansion
- General relativity and space-time curvature
- Quantum theory and uncertainty principle
- Black holes and Hawking radiation
- Arrow of time and entropy

Exploring the Structure and Style

Accessible Language and Analogies

Hawking's writing style in "A Brief History of Time" is noted for its clarity and use of everyday analogies. He avoids technical jargon whenever possible, ensuring that readers without advanced training can follow the discussion. Illustrative examples, such as raisins in a rising loaf of bread to describe cosmic expansion, make abstract concepts more relatable.

Organization of the Book

The book is divided into concise chapters, each focusing on a specific scientific concept or theme. This structure allows readers to progress logically from basic principles to more advanced topics. The narrative builds on prior chapters, creating a coherent journey through modern cosmology and physics.

Key Chapters and Summaries

Our Picture of the Universe

Hawking begins with a historical overview of how humans have understood the universe, from ancient Greek astronomy to modern physics. He explains the shift from geocentric to heliocentric models and introduces the scientific method's role in refining our knowledge.

Space and Time

This chapter delves into Einstein's theory of relativity and the concept of space-time. Hawking explains how gravity warps space and affects the passage of time, offering insights into time dilation and the interconnectedness of spatial dimensions.

The Expanding Universe

Hawking discusses observational evidence for the expanding universe, such as redshift and cosmic background radiation. He outlines the Big Bang theory and competing ideas about the universe's origin and destiny.

Black Holes and the Arrow of Time

Readers learn about the properties of black holes, including event horizons and singularities. Hawking introduces the concept of Hawking radiation and connects it to the thermodynamic arrow of time, which describes why time appears to move forward.

Unification of Physics

The book's concluding chapters focus on the quest to unify quantum mechanics and general relativity into a single theory of everything. Hawking discusses the challenges and potential breakthroughs in theoretical physics, including string theory and the search for fundamental laws.

1. Historical perspective on cosmology

2. Understanding space-time

3. Origin and expansion of the universe

4. Nature and fate of black holes

5. The future of physics

Impact and Legacy in Science and Culture

Influence on Scientific Thought

"A Brief History of Time" has played a significant role in shaping public understanding of physics and cosmology. It has inspired countless students, researchers, and general readers to explore scientific careers and deepen their interest in the universe's mysteries. Hawking's accessible approach has made advanced topics approachable for non-scientists.

Popular Culture and Media

The book's success led to adaptations in film and television, helping to spread its ideas to an even wider audience. References to Hawking's work appear in documentaries, movies, and popular media, cementing its place in cultural discussions about science and philosophy.

Enduring Relevance

Decades after its publication, “A Brief History of Time” remains a foundational text in popular science. Its influence is evident in ongoing debates about the origins, structure, and fate of the universe. Hawking’s legacy continues to inspire new generations to ask profound questions and seek scientific answers.

Frequently Asked Questions

Q: What is the main purpose of “A Brief History of Time”?

A: The main purpose of “A Brief History of Time” is to explain complex scientific concepts about the universe, such as cosmology, black holes, and the nature of time, in a way that is accessible to a general audience.

Q: Who is Stephen Hawking and why is he important?

A: Stephen Hawking was a renowned British theoretical physicist and cosmologist, known for his contributions to black hole theory, quantum gravity, and for popularizing science with books like “A Brief History of Time.”

Q: What are the key scientific ideas discussed in the book?

A: The book discusses the Big Bang, black holes, quantum mechanics, general relativity, the arrow of time, and the quest for a unified theory of physics.

Q: How does Hawking make complex topics understandable?

A: Hawking uses clear language, analogies, and illustrative examples to explain complicated topics, avoiding technical jargon and making science approachable for readers without a physics background.

Q: What is Hawking radiation and why is it significant?

A: Hawking radiation is a theoretical prediction that black holes emit energy and particles, which means they can lose mass and eventually evaporate. This concept challenges previous beliefs and has important implications for physics.

Q: Why is “A Brief History of Time” considered influential?

A: The book is influential because it made advanced scientific theories accessible to millions of readers, inspired interest in physics, and has become a classic in science literature.

Q: What is the arrow of time that Hawking discusses?

A: The arrow of time refers to the one-way direction in which time appears to move, associated with increasing entropy and the second law of thermodynamics.

Q: Does the book address the possibility of time travel?

A: Yes, Hawking explores the scientific theories behind time travel, examining relativity and the nature of space-time, though he remains cautious about its practical feasibility.

Q: How does “A Brief History of Time” impact modern science

communication?

A: The book set a standard for clear and engaging science writing, encouraging scientists and educators to make complex ideas more accessible to the public.

Q: What are some challenges in understanding the universe highlighted by Hawking?

A: Hawking discusses challenges such as reconciling quantum mechanics with general relativity, understanding singularities, and finding a theory that unifies all physical laws.

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A Brief History of Time Summary: Unraveling the Cosmos

Have you ever looked up at the night sky and wondered about the universe's origins, its vastness, and its ultimate fate? Stephen Hawking's "A Brief History of Time" attempts to answer these profound questions, making complex cosmological concepts accessible to a wider audience. This post provides a comprehensive summary of Hawking's groundbreaking work, exploring its key themes and providing a digestible overview of its intricate arguments. We'll delve into the origins of the universe, the nature of time and space, and the search for a unified theory, making this complex subject matter clear and engaging.

From the Big Bang to Black Holes: Understanding the Universe's Origins

Hawking begins by exploring the Big Bang theory, the prevailing cosmological model for the universe's origin. He explains the evidence supporting this theory, including the cosmic microwave background radiation and the expansion of the universe. This section simplifies the complex mathematical equations underpinning the theory, making it understandable for non-scientists. He also discusses the implications of the Big Bang, such as the finite age of the universe and the possibility of a singularity – a point of infinite density and temperature at the universe's beginning.

The Nature of Space and Time

A crucial element of Hawking's work is his exploration of the interconnectedness of space and time. He explains Einstein's theory of general relativity, which revolutionized our understanding of gravity as a curvature of spacetime. This concept, often considered difficult to grasp, is elucidated through clear analogies and explanations. Hawking further delves into the nature of black holes, regions of spacetime with such intense gravity that nothing, not even light, can escape. He explains how these enigmatic objects form and their implications for our understanding of the universe.

Quantum Mechanics and the Search for a Unified Theory

Hawking bridges the gap between general relativity (governing the large-scale structure of the universe) and quantum mechanics (governing the microscopic world). He emphasizes the incompatibility of these two fundamental theories and the urgent need for a unified theory that can explain everything from the smallest particles to the largest structures in the cosmos. He discusses various attempts to reconcile these theories, including string theory and supergravity, highlighting their strengths and limitations.

The Arrow of Time and the Universe's Fate

The concept of the arrow of time – the direction in which time flows – is another crucial theme in "A Brief History of Time." Hawking explores the asymmetry of time, noting that while the laws of physics are largely time-symmetric, our experience of time is unidirectional. He examines the relationship between entropy (disorder) and the arrow of time, suggesting that the universe's increasing entropy drives the forward flow of time. He concludes by exploring the various possibilities for the universe's ultimate fate – continued expansion, a Big Crunch (collapse), or a more complex scenario.

Hawking's Legacy: A Simplified Approach to Complex Ideas

"A Brief History of Time" is not merely a scientific treatise; it's a testament to Hawking's ability to communicate complex scientific ideas to a broad audience. He skillfully uses analogies, metaphors, and clear language to make even the most abstract concepts readily understandable. The book's enduring popularity stems from its ability to inspire wonder and curiosity about the universe, making profound scientific concepts accessible to anyone willing to engage with them.

Conclusion

"A Brief History of Time" remains a landmark achievement in science communication, successfully bridging the gap between complex scientific concepts and the general public. While some sections require careful reading and possibly multiple passes, the book ultimately provides a fascinating and thought-provoking journey into the heart of cosmology, leaving the reader with a deeper appreciation for the universe's mysteries and the ongoing quest to understand them.

FAQs:

1. Is "A Brief History of Time" suitable for beginners? While demanding in places, its clear explanations and analogies make it accessible to readers with limited scientific backgrounds. Be prepared for some challenging concepts, but the reward is a greater understanding of the universe.
2. What are the main criticisms of "A Brief History of Time"? Some critics argue that Hawking oversimplifies certain complex concepts and that some of his explanations are potentially misleading. However, it's crucial to remember that the book aims for accessibility, and a deeper understanding often requires further study.
3. What is the significance of the Big Bang theory in the book? The Big Bang theory is central to Hawking's narrative, serving as the foundation for understanding the universe's origin and evolution. He presents evidence supporting the theory and discusses its implications.
4. How does Hawking explain black holes? Hawking explains black holes as regions of spacetime with such immense gravity that nothing can escape. He describes their formation, properties, and their potential role in the universe's evolution.
5. What is the overall message of "A Brief History of Time"? The book's overarching message is a celebration of humanity's relentless quest to understand the universe, urging us to continue exploring the cosmos's mysteries and pushing the boundaries of scientific knowledge.

a brief history of time summary: *Summary of A Brief History of Time* Readtrepreneur Publishing, 2019-05-24 A Brief History of Time by Stephen Hawking - Book Summary - Readtrepreneur (Disclaimer: This is NOT the original book, but an unofficial summary.) Time is an extremely complex subject that has given birth to countless interesting questions and Stephen Hawking's answers a lot of them. A Brief History of Time is a book written by one of the most brilliant scientist in the world. Reviewing great theories of widely known scientist and following it with his own work which reveal many secrets about time and black holes. Stephen Hawking's A Brief History of Time is definitely a must for any person curious enough about the universe surrounding him. (Note: This summary is wholly written and published by readtrepreneur.com It is not affiliated with the original author in any way) If time travel is possible, where are the tourists from the future? - Stephen Hawking Time is one of the most discussed topics by person within and outside of the scientific community. Time travel, its beginning and if it should be considered like another dimension. Time has always been a phenom that sparks our curiosity and with this book, you will feel more satisfied with your knowledge of the universe. Stephen Hawking has such a wide domain of this topic that he manages to explain it so anyone could comprehend it without much effort. P.S. A Brief History of Time is an incredibly informative book that will make you extremely knowledgeable about one of the most mysterious and interesting topics of all time. The Time for Thinking is Over! Time for Action! Scroll Up Now and Click on the Buy now with 1-Click Button to Download your Copy Right Away! Why Choose Us, Readtrepreneur? ● Highest Quality Summaries ● Delivers Amazing Knowledge ● Awesome Refresher ● Clear And Concise Disclaimer Once Again: This book

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a brief history of time summary: A Briefer History of Time Stephen Hawking, Leonard Mlodinow, 2008-05-13 #1 NEW YORK TIMES BESTSELLING AUTHORS The science classic made more accessible • More concise • Illustrated FROM ONE OF THE MOST BRILLIANT MINDS OF OUR TIME COMES A BOOK THAT CLARIFIES HIS MOST IMPORTANT IDEAS Stephen Hawking's worldwide bestseller A Brief History of Time remains a landmark volume in scientific writing. But for years readers have asked for a more accessible formulation of its key concepts—the nature of space and time, the role of God in creation, and the history and future of the universe. A Briefer History of Time is Professor Hawking's response. Although “briefer,” this book is much more than a mere explanation of Hawking's earlier work. A Briefer History of Time both clarifies and expands on the great subjects of the original, and records the latest developments in the field—from string theory to the search for a unified theory of all the forces of physics. Thirty-seven full-color illustrations enhance the text and make A Briefer History of Time an exhilarating and must-have addition in its own right to the great literature of science and ideas.

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History of Time sets out the history of our understanding of time and the universe around us. In this bestselling and highly influential book, Stephen Hawking seeks to explain how the universe works and find out where we came from and where we are going, in an accessible style that can be understood even by readers with no prior knowledge of the subject. This clarity and accessibility made *A Brief History of Time* a publishing phenomenon: it spent over two years on the New York Times bestseller list and has been translated into over 30 languages, making it one of the most influential popular science books ever written. Stephen Hawking was one of the most respected scientists of the 20th century, and is remembered in particular for his work on general relativity and black holes. This book review and analysis is perfect for: •Students of physics at all levels •Anyone who wants to gain a better understanding of how the universe works •Anyone who wants to learn about the history of physics and cosmology About 50MINUTES.COM | BOOK REVIEW The Book Review series from the 50Minutes collection is aimed at anyone who is looking to learn from experts in their field without spending hours reading endless pages of information. Our reviews present a concise summary of the main points of each book, as well as providing context, different perspectives and concrete examples to illustrate the key concepts.

a brief history of time summary: *A Brief History of the Philosophy of Time, Second Edition* Adrian Bardon, 2024-04-12 This thoroughly revised and updated edition of Adrian Bardon's *A Brief History of the Philosophy of Time* is a short introduction to the history, philosophy, and science of the study of time—from the pre-Socratic philosophers through Einstein and beyond. Bardon covers subjects such as time and change, the experience of time, physical and metaphysical approaches to the nature of time, the direction of time, time travel, time and freedom of the will, and scientific and philosophical approaches to cosmology and the beginning of time. He employs helpful illustrations and keeps technical language to a minimum in bringing the resources of over 2500 years of philosophy and science to bear on some of humanity's most fundamental and enduring questions.

a brief history of time summary: *The Illustrated A Brief History of Time* Stephen W. Hawking, 2008-09

a brief history of time summary: *My Brief History* Stephen Hawking, 2013-09-10 NATIONAL BESTSELLER Stephen Hawking has dazzled readers worldwide with a string of bestsellers exploring the mysteries of the universe. Now, for the first time, perhaps the most brilliant cosmologist of our age turns his gaze inward for a revealing look at his own life and intellectual evolution. *My Brief History* recounts Stephen Hawking's improbable journey, from his postwar London boyhood to his years of international acclaim and celebrity. Lavishly illustrated with rarely seen photographs, this concise, witty, and candid account introduces readers to a Hawking rarely glimpsed in previous books: the inquisitive schoolboy whose classmates nicknamed him Einstein; the jokester who once placed a bet with a colleague over the existence of a particular black hole; and the young husband and father struggling to gain a foothold in the world of physics and cosmology. Writing with characteristic humility and humor, Hawking opens up about the challenges that confronted him following his diagnosis of ALS at age twenty-one. Tracing his development as a thinker, he explains how the prospect of an early death urged him onward through numerous intellectual breakthroughs, and talks about the genesis of his masterpiece *A Brief History of Time*—one of the iconic books of the twentieth century. Clear-eyed, intimate, and wise, *My Brief History* opens a window for the rest of us into Hawking's personal cosmos.

a brief history of time summary: *A Brief History of Timekeeping* Chad Orzel, 2022-01-25 2022 NATIONAL INDIE EXCELLENCE AWARDS WINNER — HISTORY: GENERAL . . . inherently interesting, unique, and highly recommended addition to personal, professional, community, college, and academic library Physics of Time & Scientific Measurement history collections, and supplemental curriculum studies lists." —Midwest Book Review A wonderful look into understanding and recording time, Orzel's latest is appropriate for all readers who are curious about those ticks and tocks that mark nearly every aspect of our lives. —Booklist "A thorough, enjoyable exploration of the history and science behind measuring time." —Foreword Reviews It's all a matter of time—literally. From the movements of the spheres to the slipperiness of relativity, the story of

science unfolds through the fascinating history of humanity's efforts to keep time. Our modern lives are ruled by clocks and watches, smartphone apps and calendar programs. While our gadgets may be new, however, the drive to measure and master time is anything but—and in *A Brief History of Timekeeping*, Chad Orzel traces the path from Stonehenge to your smartphone. Predating written language and marching on through human history, the desire for ever-better timekeeping has spurred technological innovation and sparked theories that radically reshaped our understanding of the universe and our place in it. Orzel, a physicist and the bestselling author of *Breakfast with Einstein* and *How to Teach Quantum Physics to Your Dog* continues his tradition of demystifying thorny scientific concepts by using the clocks and calendars central to our everyday activities as a jumping-off point to explore the science underlying the ways we keep track of our time. Ancient solstice markers (which still work perfectly 5,000 years later) depend on the basic astrophysics of our solar system; mechanical clocks owe their development to Newtonian physics; and the ultra-precise atomic timekeeping that enables GPS hinges on the predictable oddities of quantum mechanics. Along the way, Orzel visits the delicate negotiations involved in Gregorian calendar reform, the intricate and entirely unique system employed by the Maya, and how the problem of synchronizing clocks at different locations ultimately required us to abandon the idea of time as an absolute and universal quantity. Sharp and engaging, *A Brief History of Timekeeping* is a story not just about the science of sundials, sandglasses, and mechanical clocks, but also the politics of calendars and time zones, the philosophy of measurement, and the nature of space and time itself. For those interested in science, technology, or history, or anyone who's ever wondered about the instruments that divide our days into moments: the time you spend reading this book may fly, and it is certain to be well spent.

a brief history of time summary: Hawking Hawking Charles Seife, 2021-04-06 Stephen Hawking was widely recognized as the world's best physicist and even the most brilliant man alive—but what if his true talent was self-promotion? When Stephen Hawking died, he was widely recognized as the world's best physicist, and even its smartest person. He was neither. In *Hawking Hawking*, science journalist Charles Seife explores how Stephen Hawking came to be thought of as humanity's greatest genius. Hawking spent his career grappling with deep questions in physics, but his renown didn't rest on his science. He was a master of self-promotion, hosting parties for time travelers, declaring victory over problems he had not solved, and wooing billionaires. In a wheelchair and physically dependent on a cadre of devotees, Hawking still managed to captivate the people around him—and use them for his own purposes. A brilliant exposé and powerful biography, *Hawking Hawking* uncovers the authentic Hawking buried underneath the fake. It is the story of a man whose brilliance in physics was matched by his genius for building his own myth.

a brief history of time summary: Sapiens Yuval Noah Harari, 2014-10-28 NATIONAL BESTSELLER NEW YORK TIMES BESTSELLER Destined to become a modern classic in the vein of *Guns, Germs, and Steel*, *Sapiens* is a lively, groundbreaking history of humankind told from a unique perspective. 100,000 years ago, at least six species of human inhabited the earth. Today there is just one. Us. *Homo Sapiens*. How did our species succeed in the battle for dominance? Why did our foraging ancestors come together to create cities and kingdoms? How did we come to believe in gods, nations, and human rights; to trust money, books, and laws; and to be enslaved by bureaucracy, timetables, and consumerism? And what will our world be like in the millennia to come? In *Sapiens*, Dr. Yuval Noah Harari spans the whole of human history, from the very first humans to walk the earth to the radical — and sometimes devastating — breakthroughs of the Cognitive, Agricultural, and Scientific Revolutions. Drawing on insights from biology, anthropology, palaeontology, and economics, he explores how the currents of history have shaped our human societies, the animals and plants around us, and even our personalities. Have we become happier as history has unfolded? Can we ever free our behaviour from the heritage of our ancestors? And what, if anything, can we do to influence the course of the centuries to come? Bold, wide-ranging and provocative, *Sapiens* challenges everything we thought we knew about being human: our thoughts, our actions, our power...and our future.

a brief history of time summary: About Time David Rooney, 2022-08-09 One of Smithsonian Magazine's Ten Best History Books of 2021 A captivating, surprising history of timekeeping and how it has shaped our world. For thousands of years, people of all cultures have made and used clocks, from the city sundials of ancient Rome to the medieval water clocks of imperial China, hourglasses fomenting revolution in the Middle Ages, the Stock Exchange clock of Amsterdam in 1611, Enlightenment observatories in India, and the high-precision clocks circling the Earth on a fleet of GPS satellites that have been launched since 1978. Clocks have helped us navigate the world and build empires, and have even taken us to the brink of destruction. Elites have used them to wield power, make money, govern citizens, and control lives—and sometimes the people have used them to fight back. Through the stories of twelve clocks, *About Time* brings pivotal moments from the past vividly to life. Historian and lifelong clock enthusiast David Rooney takes us from the unveiling of al-Jazari's castle clock in 1206, in present-day Turkey; to the Cape of Good Hope observatory at the southern tip of Africa, where nineteenth-century British government astronomers moved the gears of empire with a time ball and a gun; to the burial of a plutonium clock now sealed beneath a public park in Osaka, where it will keep time for 5,000 years. Rooney shows, through these artifacts, how time has been imagined, politicized, and weaponized over the centuries—and how it might bring peace. Ultimately, he writes, the technical history of horology is only the start of the story. A history of clocks is a history of civilization.

a brief history of time summary: Black Holes and the Universe Igor' Dmitrievich Novikov, 1995-09-28 A popular account of the properties and significance of black holes.

a brief history of time summary: A Brief History of Everything Ken Wilber, 2007 Told in an accessible and entertaining question-and-answer format, this account examines the course of evolution as the unfolding manifestation of Spirit, from matter to life to mind, including the higher stages of spiritual development where Spirit becomes conscious of itself.

a brief history of time summary: The Illustrated Theory of Everything Stephen W. Hawking, 2011-05-03 Stephen W. Hawking, widely believed to have been one of the world's greatest minds, presents a series of seven lectures covering everything from big bang to black holes to string theory. These lectures not only capture the brilliance of Hawking's mind, but his characteristic wit as well. In *The Illustrated Theory of Everything*, Hawking begins with a history of ideas about the universe, from Aristotle's determination that the Earth is round to Hubble's discovery, more than 2,000 years later, that the universe is expanding. Using that as a launching pad, he explores the reaches of modern physics, including theories on the origin of the universe (e.g., the Big Bang), the nature of black holes, and space-time. Finally, he poses the questions left unanswered by modern physics, especially how to combine all the partial theories into a unified theory of everything. "If we find the answer to that," he claims, "it would be the ultimate triumph of human reason." A great popularizer of science as well as a brilliant scientist, Hawking believes that advances in theoretical science should be understandable in broad principle by everyone, not just a few scientists. In this book, he offers a fascinating voyage of discovery about the cosmos and our place in it. It is a book for anyone who has ever gazed at the night sky and wondered what was up there and how it came to be.

a brief history of time summary: Time Travel James Gleick, 2017-09-05 Best Books of 2016 BOSTON GLOBE * THE ATLANTIC From the acclaimed bestselling author of *The Information* and *Chaos* comes this enthralling history of time travel—a concept that has preoccupied physicists and storytellers over the course of the last century. James Gleick delivers a mind-bending exploration of time travel—from its origins in literature and science to its influence on our understanding of time itself. Gleick vividly explores physics, technology, philosophy, and art as each relates to time travel and tells the story of the concept's cultural evolutions—from H.G. Wells to *Doctor Who*, from Proust to Woody Allen. He takes a close look at the porous boundary between science fiction and modern physics, and, finally, delves into what it all means in our own moment in time—the world of the instantaneous, with its all-consuming present and vanishing future.

a brief history of time summary: On the Origin of Time Thomas Hertog, 2023-04-06 'A

wonderful book about Stephen Hawking's biggest legacy' Spectator 'Truly mind-stretching... Immensely rewarding' The Times 'This superbly written book offers insight into an extraordinary individual, the creative process, and the scope and limits of our current understanding of the cosmos' Sir Martin Rees Stephen Hawking's closest collaborator offers the intellectual superstar's final thoughts on the universe. Perhaps the biggest question Stephen Hawking tried to answer in his extraordinary life was how the universe could have created conditions so perfectly hospitable to life. In order to solve this mystery, Hawking studied the big bang origin of the universe, but his early work ran into a crisis when the math predicted many big bangs producing a multiverse - countless different universes, most of which would be far too bizarre to harbour life. Holed up in the theoretical physics department at Cambridge, Stephen Hawking and his friend and collaborator Thomas Hertog worked on this problem for twenty years, developing a new theory of the cosmos that could account for the emergence of life. Peering into the extreme quantum physics of cosmic holograms and venturing far back in time, they were startled to find a deeper level of evolution in which the physical laws themselves transform and simplify until particles, forces, and even time itself fades away. This discovery led them to a revolutionary idea: The laws of physics are not set in stone but are born and co-evolve as the universe they govern takes shape. As Hawking's final days drew near, the two collaborators published their theory, which proposed a radical new Darwinian perspective on the origins of our universe. On the Origin of Time offers a striking new vision of the universe's birth that will profoundly transform the way we think about our place in the order of the cosmos and may ultimately prove to be Hawking's greatest legacy.

a brief history of time summary: *Cartographies of Time* Daniel Rosenberg, Anthony Grafton, 2013-07-02 Our critically acclaimed smash hit *Cartographies of Time* is now available in paperback. In this first comprehensive history of graphic representations of time, authors Daniel Rosenberg and Anthony Grafton have crafted a lively history featuring fanciful characters and unexpected twists and turns. From medieval manuscripts to websites, *Cartographies of Time* features a wide variety of timelines that in their own unique ways, curving, crossing, branching, defy conventional thinking about the form. A fifty-four-foot-long timeline from 1753 is mounted on a scroll and encased in a protective box. Another timeline uses the different parts of the human body to show the genealogies of Jesus Christ and the rulers of Saxony. Ladders created by missionaries in eighteenth-century Oregon illustrate Bible stories in a vertical format to convert Native Americans. Also included is the April 1912 Marconi North Atlantic Communication chart, which tracked ships, including the Titanic, at points in time rather than by their geographic location, alongside little-known works by famous figures, including a historical chronology by the mapmaker Gerardus Mercator and a chronological board game patented by Mark Twain. Presented in a lavishly illustrated edition, *Cartographies of Time* is a revelation to anyone interested in the role visual forms have played in our evolving conception of history

a brief history of time summary: Fire Stephen J. Pyne, 2019-08-12 Over vast expanses of time, fire and humanity have interacted to expand the domain of each, transforming the earth and what it means to be human. In this concise yet wide-ranging book, Stephen J. Pyne—named by Science magazine as “the world’s leading authority on the history of fire”—explores the surprising dynamics of fire before humans, fire and human origins, aboriginal economies of hunting and foraging, agricultural and pastoral uses of fire, fire ceremonies, fire as an idea and a technology, and industrial fire. In this revised and expanded edition, Pyne looks to the future of fire as a constant, defining presence on Earth. A new chapter explores the importance of fire in the twenty-first century, with special attention to its role in the Anthropocene, or what he posits might equally be called the Pyrocene.

a brief history of time summary: The Brief History of the Dead Kevin Brockmeier, 2006-02-14 From Kevin Brockmeier, one of this generation's most inventive young writers, comes a striking new novel about death, life, and the mysterious place in between. The City is inhabited by those who have departed Earth but are still remembered by the living. They will reside in this afterlife until they are completely forgotten. But the City is shrinking, and the residents clearing out.

Some of the holdouts, like Luka Sims, who produces the City's only newspaper, are wondering what exactly is going on. Others, like Coleman Kinzler, believe it is the beginning of the end. Meanwhile, Laura Byrd is trapped in an Antarctic research station, her supplies are running low, her radio finds only static, and the power is failing. With little choice, Laura sets out across the ice to look for help, but time is running out. Kevin Brockmeier alternates these two storylines to create a lyrical and haunting story about love, loss and the power of memory.

a brief history of time summary: A Brief History of Thought Luc Ferry, 2011-12-27
"Succinct and accessible" this international bestselling survey is "perfect for anyone who wants to dip their toe into the waters of philosophy" (Matt Haig, Washington Post). From the timeless wisdom of the ancient Greeks to Christianity, the Enlightenment, existentialism, and postmodernism, Luc Ferry's instant classic brilliantly and accessibly explains the enduring teachings of philosophy—including its profound relevance to modern daily life and its essential role in achieving happiness and living a meaningful life. This lively journey through the great thinkers will enlighten every reader, young and old. "This superb primer is proof that philosophy belongs at the center of life." —Publishers Weekly, starred review "Ferry's openness, energy, and charm as a teacher burst through on every page. However difficult the questions he poses, his eagerness to find answers, to justify philosophy as a way of life, is infectious." —Wall Street Journal "For everyone from the man in the street to the man in the Acropolis—a fine introduction to philosophy and its fundamental relevance to living a meaningful life." —Thomas Cathcart and Daniel Klein, New York Times—bestselling authors of *Plato and a Platypus Walk into a Bar* "This is a vital book. Luc Ferry rehabilitates the ancient question, 'What is the best way of life?' as though our lives depended on it." —Matthew B. Crawford, New York Times—bestselling author of *Shop Class as Soulcraft* "No dry academic, Ferry restores to philosophy a compelling urgency." —Booklist, starred review

a brief history of time summary: The Grand Design Stephen W. Hawking, Stephen Hawking, Leonard Mlodinow, 2011 Relativity physics.

a brief history of time summary: The Lessons of History Will Durant, Ariel Durant, 2012-08-21 A concise survey of the culture and civilization of mankind, *The Lessons of History* is the result of a lifetime of research from Pulitzer Prize-winning historians Will and Ariel Durant. With their accessible compendium of philosophy and social progress, the Durants take us on a journey through history, exploring the possibilities and limitations of humanity over time. Juxtaposing the great lives, ideas, and accomplishments with cycles of war and conquest, the Durants reveal the towering themes of history and give meaning to our own.

a brief history of time summary: A Brief History of Everything (20th Anniversary Edition) Ken Wilber, 2017-05-02 "A clarion call for seeing the world as a whole," this philosophical bestseller takes readers through history, from the Big Bang through the 21st century—now featuring an afterword with the writer-director of the Matrix franchise (San Francisco Chronicle) Join one of the greatest contemporary philosophers on a breathtaking tour of time and the Cosmos—from the Big Bang right up to the eve of the twenty-first century. This accessible and entertaining summary of Ken Wilber's great ideas has been expanding minds now for two decades, providing a unified field theory of the universe. Along the way, Wilber talks on a host of issues related to that universe, from gender roles, to multiculturalism, environmentalism, and even the meaning of the Internet. This special anniversary edition contains an afterword, a dialogue between the author and Lana Wachowski—the award-winning writer-director of the Matrix film trilogy—in which we're offered an intimate glimpse into the evolution of Ken's thinking and where he stands today. *A Brief History of Everything* may well be the best introduction to the thought of this man who has been called the "Einstein of Consciousness" (John White).

a brief history of time summary: The Universe in a Nutshell Stephen W. Hawking, 2005-01 Stephen Hawking's *A Brief History of Time* was a publishing phenomenon. Translated into thirty languages, it has sold over nine million copies worldwide. It continues to captivate and inspire new readers every year. When it was first published in 1988 the ideas discussed in it were at the cutting edge of what was then known about the universe. In the intervening years there have been

extraordinary advances in our understanding of the space and time. The technology for observing the micro- and macro-cosmic world has developed in leaps and bounds. During the same period cosmology and the theoretical sciences have entered a new golden age. Professor Stephen Hawking has been at the heart of this new scientific renaissance. Now, in *The Universe in a Nutshell*, Stephen Hawking brings us fully up-to-date with the advances in scientific thinking. We are now nearer than we have ever been to a full understanding of the universe. In a fascinating and accessible discussion that ranges from quantum mechanics, to time travel, black holes to uncertainty theory, to the search for science's Holy Grail the unified field theory (or in layman's terms the theory of absolutely everything) Professor Hawking once more takes us to the cutting edge of modern thinking. Beautifully illustrated throughout, with original artwork commissioned for this project, *The Universe in a Nutshell* is guaranteed to be the biggest science book of 2001.

a brief history of time summary: *History: A Very Short Introduction* John Arnold, 2000-02-24 Starting with an examination of how historians work, this Very Short Introduction aims to explore history in a general, pithy, and accessible manner, rather than to delve into specific periods.

a brief history of time summary: *The Order of Time* Carlo Rovelli, 2019-12-10 One of TIME's Ten Best Nonfiction Books of the Decade Meet the new Stephen Hawking . . . *The Order of Time* is a dazzling book. --The Sunday Times From the bestselling author of *Seven Brief Lessons on Physics*, *Reality Is Not What It Seems*, *Helgoland*, and *Anaximander* comes a concise, elegant exploration of time. Why do we remember the past and not the future? What does it mean for time to flow? Do we exist in time or does time exist in us? In lyric, accessible prose, Carlo Rovelli invites us to consider questions about the nature of time that continue to puzzle physicists and philosophers alike. For most readers this is unfamiliar terrain. We all experience time, but the more scientists learn about it, the more mysterious it remains. We think of it as uniform and universal, moving steadily from past to future, measured by clocks. Rovelli tears down these assumptions one by one, revealing a strange universe where at the most fundamental level time disappears. He explains how the theory of quantum gravity attempts to understand and give meaning to the resulting extreme landscape of this timeless world. Weaving together ideas from philosophy, science and literature, he suggests that our perception of the flow of time depends on our perspective, better understood starting from the structure of our brain and emotions than from the physical universe. Already a bestseller in Italy, and written with the poetic vitality that made *Seven Brief Lessons on Physics* so appealing, *The Order of Time* offers a profoundly intelligent, culturally rich, novel appreciation of the mysteries of time.

a brief history of time summary: *A Brief History of Life on Earth* Clémence Dupont, 2018-11 The story of life on earth unfolds in dramatic fashion in this amazing concertina picture book that takes readers from 4.6 billion years ago to the present day. Fully expanded to 8 meters (26 feet), this spectacular visual timeline is a very impressive panorama that reveals evolution in all its glory. Full color.

a brief history of time summary: *A Brief History of the Future* Jacques Attali, 2011-07-01 What will planet Earth be like in twenty years? At mid-century? In the year 2100? Prescient and convincing, this book is a must-read for anyone concerned about the future. Never has the world offered more promise for the future and been more fraught with dangers. Attali anticipates an unraveling of American hegemony as transnational corporations sever the ties linking free enterprise to democracy. World tensions will be primed for horrific warfare for resources and dominance. The ultimate question is: Will we leave our children and grandchildren a world that is not only viable but better, or in this nuclear world bequeath to them a planet that will be a living hell? Either way, he warns, the time to act is now.

a brief history of time summary: *The History Manifesto* Jo Guldi, David Armitage, 2014-10-02 How should historians speak truth to power – and why does it matter? Why is five hundred years better than five months or five years as a planning horizon? And why is history – especially long-term history – so essential to understanding the multiple pasts which gave rise to our conflicted present? *The History Manifesto* is a call to arms to historians and everyone interested in

the role of history in contemporary society. Leading historians Jo Guldi and David Armitage identify a recent shift back to longer-term narratives, following many decades of increasing specialisation, which they argue is vital for the future of historical scholarship and how it is communicated. This provocative and thoughtful book makes an important intervention in the debate about the role of history and the humanities in a digital age. It will provoke discussion among policymakers, activists and entrepreneurs as well as ordinary listeners, viewers, readers, students and teachers. This title is also available as Open Access.

a brief history of time summary: *A Little History of the World* E. H. Gombrich, 2014-10-01 E. H. Gombrich's *Little History of the World*, though written in 1935, has become one of the treasures of historical writing since its first publication in English in 2005. The Yale edition alone has now sold over half a million copies, and the book is available worldwide in almost thirty languages. Gombrich was of course the best-known art historian of his time, and his text suggests illustrations on every page. This illustrated edition of the *Little History* brings together the pellucid humanity of his narrative with the images that may well have been in his mind's eye as he wrote the book. The two hundred illustrations—most of them in full color—are not simple embellishments, though they are beautiful. They emerge from the text, enrich the author's intention, and deepen the pleasure of reading this remarkable work. For this edition the text is reset in a spacious format, flowing around illustrations that range from paintings to line drawings, emblems, motifs, and symbols. The book incorporates freshly drawn maps, a revised preface, and a new index. Blending high-grade design, fine paper, and classic binding, this is both a sumptuous gift book and an enhanced edition of a timeless account of human history.

a brief history of time summary: *Feynman's Rainbow* Leonard Mlodinow, 2011-11-29 Some of the brightest minds in science have passed through the halls of the California Institute of Technology. In the early 1980s, Leonard Mlodinow joined their ranks to begin a postdoctoral fellowship. Afraid he was not smart enough to be there, despite his groundbreaking Ph.D. thesis, he took his insecurities to Richard Feynman, Caltech's intimidating resident genius and iconoclast. So began a pivotal year in a young man's life. Though a series of fascinating exchanges, Mlodinow and Feynman delve into the nature of science, creativity, love mathematics, happiness, God, art, pleasures and ambition, producing a moving portrait of a friendship and an affecting account of Feynman's final creative years.

a brief history of time summary: *Holes* Louis Sachar, 2011-06-01 This groundbreaking classic is now available in a special anniversary edition with bonus content. Winner of the Newbery Medal as well as the National Book Award, *HOLES* is a New York Times bestseller and one of the strongest-selling middle-grade books to ever hit shelves! Stanley Yelnats is under a curse. A curse that began with his no-good-dirty-rotten-pig-stealing-great-great-grandfather and has since followed generations of Yelnatses. Now Stanley has been unjustly sent to a boys' detention center, Camp Green Lake, where the boys build character by spending all day, every day digging holes exactly five feet wide and five feet deep. There is no lake at Camp Green Lake. But there are an awful lot of holes. It doesn't take long for Stanley to realize there's more than character improvement going on at Camp Green Lake. The boys are digging holes because the warden is looking for something. But what could be buried under a dried-up lake? Stanley tries to dig up the truth in this inventive and darkly humorous tale of crime and punishment—and redemption. Special anniversary edition bonus content includes: A New Note From the Author!; Ten Things You May Not Know About *HOLES* by Louis Sachar; and more!

a brief history of time summary: *A Brief History of Everyone who Ever Lived* Adam Rutherford, 2017 'A brilliant, authoritative, surprising, captivating introduction to human genetics. You'll be spellbound' Brian Cox This is a story about you. It is the history of who you are and how you came to be. It is unique to you, as it is to each of the 100 billion modern humans who have ever drawn breath. But it is also our collective story, because in every one of our genomes we each carry the history of our species - births, deaths, disease, war, famine, migration and a lot of sex. In this captivating journey through the expanding landscape of genetics, Adam Rutherford reveals what our

genes now tell us about human history, and what history can now tell us about our genes. From Neanderthals to murder, from redheads to race, dead kings to plague, evolution to epigenetics, this is a demystifying and illuminating new portrait of who we are and how we came to be. *** 'A thoroughly entertaining history of Homo sapiens and its DNA in a manner that displays popular science writing at its best' Observer 'Magisterial, informative and delightful' Peter Frankopan 'An extraordinary adventure...From the Neanderthals to the Vikings, from the Queen of Sheba to Richard III, Rutherford goes in search of our ancestors, tracing the genetic clues deep into the past' Alice Roberts

a brief history of time summary: Outliers Malcolm Gladwell, 2008-11-18 From the bestselling author of *Blink* and *The Tipping Point*, Malcolm Gladwell's *Outliers: The Story of Success* overturns conventional wisdom about genius to show us what makes an ordinary person an extreme overachiever. Why do some people achieve so much more than others? Can they lie so far out of the ordinary? In this provocative and inspiring book, Malcolm Gladwell looks at everyone from rock stars to professional athletes, software billionaires to scientific geniuses, to show that the story of success is far more surprising, and far more fascinating, than we could ever have imagined. He reveals that it's as much about where we're from and what we do, as who we are - and that no one, not even a genius, ever makes it alone. *Outliers* will change the way you think about your own life story, and about what makes us all unique. 'Gladwell is not only a brilliant storyteller; he can see what those stories tell us, the lessons they contain' Guardian 'Malcolm Gladwell is a global phenomenon ... he has a genius for making everything he writes seem like an impossible adventure' Observer 'He is the best kind of writer - the kind who makes you feel like you're a genius, rather than he's a genius' The Times

a brief history of time summary: The Catcher in the Rye J. D. Salinger, 2024-06-28 *The Catcher in the Rye*, written by J.D. Salinger and published in 1951, is a classic American novel that explores the themes of adolescence, alienation, and identity through the eyes of its protagonist, Holden Caulfield. The novel is set in the 1950s and follows Holden, a 16-year-old who has just been expelled from his prep school, Pencey Prep. Disillusioned with the world around him, Holden decides to leave Pencey early and spend a few days alone in New York City before returning home. Over the course of these days, Holden interacts with various people, including old friends, a former teacher, and strangers, all the while grappling with his feelings of loneliness and dissatisfaction. Holden is deeply troubled by the 'phoniness' of the adult world and is haunted by the death of his younger brother, Allie, which has left a lasting impact on him. He fantasizes about being 'the catcher in the rye,' a guardian who saves children from losing their innocence by catching them before they fall off a cliff into adulthood. The novel ends with Holden in a mental institution, where he is being treated for a nervous breakdown. He expresses some hope for the future, indicating a possible path to recovery..

a brief history of time summary: Summary of Stephen Hawking's A Brief History of Time Milkyway Media, 2022-04-22 Please note: This is a companion version & not the original book. Book Preview: #1 The ancient Greek philosopher Aristotle believed that the earth was a round sphere rather than a flat plate. He knew that eclipses of the moon were caused by the earth coming between the sun and the moon, and that the North Star appeared lower in the sky when viewed in the south than it did in more northerly regions. #2 Aristotle believed the earth was the center of the universe, and that circular motion was the most perfect. This idea was elaborated by Ptolemy in the second century AD into a complete cosmological model. #3 The Ptolemaic model was a reasonably accurate system for predicting the positions of heavenly bodies in the sky. However, it made an assumption that the moon followed a path that sometimes brought it twice as close to the earth as at other times. #4 The Copernican model got rid of Ptolemy's celestial spheres, and with them, the idea that the universe had a natural boundary. Since fixed stars did not appear to change their positions apart from a rotation across the sky caused by the earth spinning on its axis, it became natural to suppose that the fixed stars were objects like our sun but much farther away.

a brief history of time summary: Doctor Who: A Brief History of Time Lords Steve Tribe,

2017-05-18 The Time Lords are an immensely civilised, and immensely powerful, race. Yet we know very little about them, save that they can live forever (barring accidents) and possess the secrets of space and time travel. Their history has been shrouded in myth and mystery. Until now. A Brief History of Time Lords unlocks the secrets of this ancient, legendary alien race - a civilisation that inflicted some of its most notorious renegades and criminals on the universe, but was also the benevolent power that rid the cosmos of its most fearsome enemies. Drawn from the ancient records of Gallifrey, and handed down from generation to generation, this remarkable book reveals the Time Lords in all of their guises: pioneers and power-mad conspirators, time-travellers and tyrants, creators and destroyers. Be careful who you share it with.

a brief history of time summary: Origin Story David Christian, 2018-05-22 David Christian, creator of Big History ('My favourite course of all time' Bill Gates), brings us the epic story of the universe and our place in it, from 13.8 billion years ago to the remote future 'Nails home the point: Life is a miracle ... A compelling history of everything' Washington Post 'Spectacular' Carlo Rovelli How did we get from the Big Bang to today's staggering complexity, in which seven billion humans are connected into networks powerful enough to transform the planet? And why, in comparison, are our closest primate relatives reduced to near-extinction? Big History creator David Christian gives the answers in a mind-expanding cosmological detective story told on the grandest possible scale. He traces how, during eight key thresholds, the right conditions have allowed new forms of complexity to arise, from stars to galaxies, Earth to homo sapiens, agriculture to fossil fuels. This last mega-innovation gave us an energy bonanza that brought huge benefits to mankind, yet also threatens to shake apart everything we have created. 'Rather like the Big Bang, the book is awe-inspiring ... Superb' The Times 'With fascinating ideas on every page and the page-turning energy of a good thriller, this is a landmark work' Sir Ken Robinson, author of The Element

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