

# Evan P Silberstein Types Of Matter

**Chemistry 2e** *Many Kinds of Matter* **States of Matter** **States of Matter** The Solid Truth about States of Matter with Max Axiom, Super Scientist **Different States of Matter** **Chemistry 2e** **The Physics Book** **Composition of Matter** **The Very Hungry Caterpillar** Introduction to Physical Chemistry Matter **Extreme States of Matter** **The Solid Truth about States of Matter with Max Axiom, Super Scientist** **Electronic Structure of Materials** **Quantifying Matter** States Of Matter *Basic Structures of Reality* **Understanding the Properties of Matter** **Physics for Kids | Atoms, Electricity and States of Matter** **Quiz Book for Kids | Children's Questions & Answer Game Books** The Second Kind of Impossible **Gases, Liquids and Solids** *Extreme States of Matter in Strong Interaction* *Physics* States of Matter States of Matter **What's the Matter in Mr. Whiskers' Room?** *Changing Matter* **States of Matter, States of Mind** *A Framework for K-12 Science Education* **Properties of Matter: Three States of Matter** **Gr. 5-8** *Matter Is Everywhere* **Introduction to**

**Superconductivity** *Beyond the Galaxy* *CK-12 Calculus Beyond the Molecular Frontier* **Properties of Matter Gr. 5-8** **The Solid Truth about States of Matter with Max Axiom, Super Scientist** **Condensed-Matter and Materials Physics** Chemistry: A Very Short Introduction **What Is the World Made Of?**

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**Understanding the Properties of Matter** Apr 16 2021 **Understanding the Properties of Matter: 2nd Edition** takes a unique phenomenological approach to the presentation

of matter, materials, and solid-state physics. After an overview of basic ideas and a reminder of the importance of measurement, the author considers in turn gases, solids, liquids, and phase changes. For each topic, the focus is on "what happens." After a preliminary examination of data on the properties of matter, the author raises, then addresses a series of questions concerning the data. It is only in answering these questions that he adopts the theoretical approach to the properties of matter. This approach can reawaken in readers the fascination for the subject that inspired some of the greatest physicists of our age. Examples and extensive exercises reinforce the concepts. A supporting Web site furnishes for free download a plethora of additional materials, including: " Supplementary chapters on the band theory of solids and the magnetic properties of solids " Copies of all the data tables used in the book, in PDF and spreadsheet formats " Enlarged copies of all figures " A simple molecular dynamics simulation " Animations illustrating important features of key equations " Answers to the end-of-chapter exercises Understanding the Properties of Matter is an entertaining and innovative text accessible at the undergraduate level.

**The Solid Truth about States of Matter with Max Axiom, Super Scientist** Sep 29 2019 "In graphic novel format, follows the adventures of Max Axiom as he explains the science behind states of matter"--Provided by publisher.

*Many Kinds of Matter* Oct 03 2022 Explains the basic properties of matter through looking at everyday experiences and direct observation.

The Solid Truth about States of Matter with Max Axiom, Super Scientist Jun 30 2022 Join Max Axiom as he explores the science behind states of matter. Max helps young readers understand the characteristics of matter in its many forms. These newly revised editions feature Capstone 4D augmented reading experience, with videos, writing prompts, discussion questions, and a hands-on activity. Fans of augmented reality will love learning beyond the book!

**Extreme States of Matter** Oct 23 2021 With its many beautiful colour pictures, this book gives fascinating insights into the unusual forms and behaviour of matter under extremely high pressures and temperatures. These extreme states are generated, among other things, by strong shock, detonation and electric explosion waves, dense laser beams, electron and ion beams, hypersonic entry of spacecraft into dense atmospheres of planets, and in many other situations characterized by extremely high pressures and temperatures. Written by one of the world's foremost experts on the topic, this book will inform and fascinate all scientists dealing with materials properties and physics, and also serve as an excellent introduction to plasma-, shock-wave and high-energy-density physics for students and newcomers seeking an overview.

States of Matter Nov 11 2020 Even reluctant readers will be attracted to this colorful, fun series on the properties and uses of materials. The information is delivered in a simple and manageable style that helps readers find answers quickly. Examples that relate directly to readers' lives are especially appealing, while features like fact boxes, new words, and Internet search tips help students fully explore each topic.

**States of Matter** Aug 01 2022 Explores the physical properties of matter, introducing solids, liquids, and gases and showing how their atoms are arranged and how changing this arrangement causes matter to change phase.

**States of Matter** Sep 02 2022 This unique overview by a prominent CalTech physicist provides a modern, rigorous, and integrated treatment of the key physical principles and techniques related to gases, liquids, solids, and their phase transitions. No other single volume offers such comprehensive coverage of the subject, and the treatment consistently emphasizes areas in which research results are likely to be applicable to other disciplines. Starting with a chapter on thermodynamics and statistical mechanics, the text proceeds to in-depth discussions of perfect gases, electrons in metals, Bose condensation, fluid structure, potential energy, Weiss molecular field theory, van der Waals equation, and other pertinent aspects of phase transitions. Many helpful illustrative problems appear at the end of each chapter, and annotated bibliographies

offer further guidance.

**Different States of Matter** May 30 2022 If liquids, solids, and gases are all matter, why are these states of matter so different from one another? Set forth in simple language, this volume explains how matter is formed, how it can change states, and how its states are unique. It will leave students with a better understanding of the physical science involved in their own daily lives.

**Electronic Structure of Materials** Aug 21 2021 This book describes the modern real-space approach to electronic structures and properties of crystalline and non-crystalline materials in a form readily accessible to undergraduates in materials science, physics, and chemistry. - ;This book describes the modern real-space approach to electronic structures and properties of crystalline and non-crystalline materials in a form readily accessible to undergraduates in materials science, physics, and chemistry. -

**Gases, Liquids and Solids** Jan 14 2021 This is now the third edition of a well established and highly successful undergraduate text. The content of the second edition has been reworked and added to where necessary, and completely new material has also been included. There are new sections on amorphous solids and liquid crystals, and completely new chapters on colloids and polymers. Using unsophisticated mathematics and simple models, Professor Tabor leads the reader skilfully and

systematically from the basic physics of interatomic and intermolecular forces, temperature, heat and thermodynamics, to a coherent understanding of the bulk properties of gases, liquids and solids. The introductory material on intermolecular forces and on heat and thermodynamics is followed by several chapters dealing with the properties of ideal and real gases, both at an elementary and at a more sophisticated level. The mechanical, thermal and electrical properties of solids are considered next, before an examination of the liquid state. The author continues with chapters on colloids and polymers, and ends with a discussion of the dielectric and magnetic properties of matter in terms of simple atomic models. The abiding theme is that all these macroscopic material properties can be understood as resulting from the competition between thermal energy and intermolecular or interatomic forces. This is a lucid textbook which will continue to provide students of physics and chemistry with a comprehensive and integrated view of the properties of matter in all its many fascinating forms.

**What Is the World Made Of?** Jun 26 2019 Read and find out about the three states of matter—solid, liquid, and gas—in this colorfully illustrated nonfiction picture book. Can you make an ice cube disappear? Put it on a hot sidewalk. It melts into water and then vanishes! The ice cube changes from solid to liquid to gas. This Level 2 Let's-

Read-and-Find-Out picture book is a fascinating exploration of the three states of matter. This clear and appealing science book for early elementary age kids, both at home and in the classroom, uses simple, fun diagrams to explain the difference between solids, liquids, and gases. This book also includes a find out more section with experiments designed to encourage further exploration and introduce record keeping. This is a Level 2 Let's-Read-and-Find-Out, which means the book explores more challenging concepts for children in the primary grades. The 100+ titles in this leading nonfiction series are: hands-on and visual acclaimed and trusted great for classrooms

Top 10 reasons to love LRFOs: Entertain and educate at the same time Have appealing, child-centered topics Developmentally appropriate for emerging readers Focused; answering questions instead of using survey approach Employ engaging picture book quality illustrations Use simple charts and graphics to improve visual literacy skills Feature hands-on activities to engage young scientists Meet national science education standards Written/illustrated by award-winning authors/illustrators & vetted by an expert in the field Over 130 titles in print, meeting a wide range of kids' scientific interests Books in this series support the Common Core Learning Standards, Next Generation Science Standards, and the Science, Technology, Engineering, and Math (STEM) standards. Let's-Read-and-Find-Out is the winner of the American Association

for the Advancement of Science/Subaru Science Books & Films Prize for Outstanding Science Series.

**Condensed-Matter and Materials Physics** Aug 28 2019 This book identifies opportunities, priorities, and challenges for the field of condensed-matter and materials physics. It highlights exciting recent scientific and technological developments and their societal impact and identifies outstanding questions for future research. Topics range from the science of modern technology to new materials and structures, novel quantum phenomena, nonequilibrium physics, soft condensed matter, and new experimental and computational tools. The book also addresses structural challenges for the field, including nurturing its intellectual vitality, maintaining a healthy mixture of large and small research facilities, improving the field's integration with other disciplines, and developing new ways for scientists in academia, government laboratories, and industry to work together. It will be of interest to scientists, educators, students, and policymakers.

**The Very Hungry Caterpillar** Jan 26 2022 The all-time classic picture book, from generation to generation, sold somewhere in the world every 30 seconds! Have you shared it with a child or grandchild in your life? For the first time, Eric Carle's The Very Hungry Caterpillar is now available in e-book format, perfect for storytime

anywhere. As an added bonus, it includes read-aloud audio of Eric Carle reading his classic story. This fine audio production pairs perfectly with the classic story, and it makes for a fantastic new way to encounter this famous, famished caterpillar.

**Chemistry 2e** Apr 28 2022

**The Solid Truth about States of Matter with Max Axiom, Super Scientist** Sep 21 2021 Originally published: Mankato, MN: Capstone Press, [2009]

*Basic Structures of Reality* May 18 2021 In *Basic Structures of Reality*, Colin McGinn deals with questions of metaphysics, epistemology, and philosophy of mind from the vantage point of physics. Combining general philosophy with physics, he covers such topics as the definition of matter, the nature of space, motion, gravity, electromagnetic fields, the character of physical knowledge, and consciousness and meaning.

Throughout, McGinn maintains an historical perspective and seeks to determine how much we really know of the world described by physics. He defends a version of "structuralism": the thesis that our knowledge is partial and merely abstract, leaving a large epistemological gap at the center of physics. McGinn then connects this element of mystery to parallel mysteries in relation to the mind. Consciousness emerges as just one more mystery of physics. A theory of matter and space is developed, according to which the impenetrability of matter is explained as the deletion of volumes of space.

McGinn proposes a philosophy of science that distinguishes physics from both psychology and biology, explores the ontology of energy, and considers the relevance of physics to seemingly remote fields such as the theory of meaning. In the form of a series of aphorisms, the author presents a metaphysical system that takes laws of nature as fundamental. With its broad scope and deep study of the fundamental questions at the heart of philosophy of physics, this book is not intended primarily for specialists, but for the general philosophical reader interested in how physics and philosophy intersect.

**Introduction to Superconductivity** Mar 04 2020 Accessible to graduate students and experimental physicists, this volume emphasizes physical arguments and minimizes theoretical formalism. Topics include the Bardeen-Cooper-Schrieffer and Ginzburg-Landau theories, magnetic properties of classic type II superconductors, the Josephson effect, fluctuation effects in classic superconductors, high-temperature superconductors, and nonequilibrium superconductivity. 109 figures. 1996 edition.

*Matter Is Everywhere* Apr 04 2020 Read about the types of matter that can be seen and felt.

**Chemistry 2e** Nov 04 2022

**Properties of Matter: Three States of Matter Gr. 5-8** May 06 2020 \*\*This is the

chapter slice "Three States of Matter" from the full lesson plan "Properties of Matter"\*\*. Discover what matter is, and is not. Learn about and the difference between a mixture and a solution. Chocked full with hands – on activities to understand the various physical and chemical changes to matter. Our resource provides ready-to-use information and activities for remedial students using simplified language and vocabulary. Written to grade these science concepts are presented in a way that makes them more accessible to students and easier to understand. Our resource is jam-packed with experiments, reading passages, and activities all for students in grades 5 to 8. Color mini posters and answer key included and can be used effectively for test prep and your whole-class. All of our content is aligned to your State Standards and are written to Bloom's Taxonomy and STEM initiatives.

The Second Kind of Impossible Feb 12 2021 \*Shortlisted for the 2019 Royal Society Insight Investment Science Book Prize\* One of the most fascinating scientific detective stories of the last fifty years, an exciting quest for a new form of matter. “A riveting tale of derring-do” (Nature), this book reads like James Gleick’s Chaos combined with an Indiana Jones adventure. When leading Princeton physicist Paul Steinhardt began working in the 1980s, scientists thought they knew all the conceivable forms of matter. The Second Kind of Impossible is the story of Steinhardt’s thirty-five-year-long quest

to challenge conventional wisdom. It begins with a curious geometric pattern that inspires two theoretical physicists to propose a radically new type of matter—one that raises the possibility of new materials with never before seen properties, but that violates laws set in stone for centuries. Steinhardt dubs this new form of matter “quasicrystal.” The rest of the scientific community calls it simply impossible. *The Second Kind of Impossible* captures Steinhardt’s scientific odyssey as it unfolds over decades, first to prove viability, and then to pursue his wildest conjecture—that nature made quasicrystals long before humans discovered them. Along the way, his team encounters clandestine collectors, corrupt scientists, secret diaries, international smugglers, and KGB agents. Their quest culminates in a daring expedition to a distant corner of the Earth, in pursuit of tiny fragments of a meteorite forged at the birth of the solar system. Steinhardt’s discoveries chart a new direction in science. They not only change our ideas about patterns and matter, but also reveal new truths about the processes that shaped our solar system. The underlying science is important, simple, and beautiful—and Steinhardt’s firsthand account is “packed with discovery, disappointment, exhilaration, and persistence...This book is a front-row seat to history as it is made” (Nature).

**Properties of Matter Gr. 5-8** Oct 30 2019 Discover what matter is and what it isn't.

Our resource breaks down the physical and chemical properties of matter to make it more accessible to students. Start off by identifying matter as atoms, particles and molecules. Then, explore the three states of matter: solid, liquid and gas. Determine whether something is transparent, opaque or translucent. List three physical changes and three chemical changes that could happen in the kitchen. Conduct an experiment to see chemical change in action. Describe the steps necessary when separating a mixture. Experiment with photosynthesis, an important chemical change. Aligned to the Next Generation Science Standards and written to Bloom's Taxonomy and STEAM initiatives, additional hands-on experiments, crossword, word search, comprehension quiz and answer key are also included.

**The Physics Book** Mar 28 2022 Containing 250 short, entertaining, and thought-provoking entries, this book explores such engaging topics as dark energy, parallel universes, the Doppler effect, the God particle, and Maxwell's demon. The timeline extends back billions of years to the hypothetical Big Bang and forward trillions of years to a time of quantum resurrection.

**States of Matter, States of Mind** Jul 08 2020 States of Matter, States of Mind is an easy-to-read introduction to the way the physical world is put together and stays together. The book presents the fundamental ideas and particles of the makeup of the

universe to enable understanding of matter and why it behaves in the way it does. Written in an engaging manner, the book explains some of the intricate details and grand schemes of life and the universe, by making analogies with common everyday examples. For example, the recipe for a cake tells us nothing of how good the cake tastes, but is a model of the food, and a scientific model is no closer to the reality of the materials than a recipe is to the mouth-watering flavor of the cake. Illustrated with helpful cartoons, this book provides a vast knowledge of atoms and atmospheres. The first several chapters introduce terms and fundamental ideas while later chapters deal successively with particles and systems, from the electron to the universe as a system. Each new idea introduced builds upon the last. A user-friendly bibliography provides references for further reading.

*CK-12 Calculus* Jan 02 2020 CK-12 Foundation's Single Variable Calculus FlexBook introduces high school students to the topics covered in the Calculus AB course. Topics include: Limits, Derivatives, and Integration.

**Physics for Kids | Atoms, Electricity and States of Matter Quiz Book for Kids | Children's Questions & Answer Game Books** Mar 16 2021 Let's test your child's knowledge on physics, particularly on atoms, electricity and the states of matter. Question and answer game books are ideal for older kids who have already

accumulated knowledge on the subject. The Q&A format works by stripping knowledge down to its rawest form while encouraging active learning. Grab a copy today!

*States of Matter* Oct 11 2020 How matter behaves depends on its state. Whether something is a solid, liquid, or gas can change how it may respond to outside forces, including temperature. This topic might seem complicated to some, but in this book, the states of matter are explained through fun, relatable examples and diagrams to reinforce science curriculum content. Hands-on experiments featuring equipment readers can find around the house allow them to apply their knowledge to the topic right away. Straightforward explanations of key concepts and terms will serve them well as they answer quiz questions and riddles throughout the book and in the classroom.

*Beyond the Galaxy* Feb 01 2020 "A look up at the night sky reveals a treasury of wonders. Even to the naked eye, the Moon, stars, planets, the Milky Way and even a few star clusters and nebulae illuminate the heavens. For millennia, humans struggled to make sense of what's out there in the Universe, from all we can see to that which lies beyond the limits of even our most powerful telescopes. *Beyond the Galaxy* traces our journey from an ancient, Earth-centered Universe all the way to our modern, 21st

century understanding of the cosmos. Touching on not only what we know but also how we know it, Ethan Siegel takes us to the very frontiers of modern astrophysics and cosmology, from the birth of our Universe to its ultimate fate, and everything in between."--

States Of Matter Jun 18 2021 This book has been written for the students of undergraduate and post-graduate level of the various universities in India. A special feature of the book is that the text has been illustrated with a large number of line diagrams and the data presented in the form of numerous tables for reference and comparison. In the preparation of text standard works and review by renowned author have been freely consulted and the reference given chapter wise. At the end of the book will be found useful by those who wish to make a more detailed study of the topics discussed.

Contents: Liquid State, Solids State, Gaseous State.

Introduction to Physical Chemistry Dec 25 2021 This textbook presents a straightforward introduction to physical chemistry. Whilst stressing the fundamentals of the subject, it avoids the mathematical details of specialised techniques such as quantum theory, nuclear magnetic resonance, and spectroscopy. In order to promote an appreciation of 3-dimensional structure in the study of stereo-chemistry and solids, many of the illustrations are presented as stereoscopic views, and directions for

observing them are given in an appendix. Each chapter ends with a set of problems of varying degrees of difficulty, which will assist the student in gaining familiarity with the themes of the book, and in testing their ability to apply these themes to new situations; full solutions are provided. The SI system of units is used throughout and appendices serve as a useful reference source of numerical data. Some mathematical arguments are also developed in appendices, because their inclusion in the text might distract readers from the development of the subject. The book has been developed from an earlier publication by the authors entitled *Modern Physical Chemistry*, published by Penguin Books Ltd.

*Beyond the Molecular Frontier* Dec 01 2019 Chemistry and chemical engineering have changed significantly in the last decade. They have broadened their scope into biology, nanotechnology, materials science, computation, and advanced methods of process systems engineering and control so much that the programs in most chemistry and chemical engineering departments now barely resemble the classical notion of chemistry. *Beyond the Molecular Frontier* brings together research, discovery, and invention across the entire spectrum of the chemical sciences from fundamental, molecular-level chemistry to large-scale chemical processing technology. This reflects the way the field has evolved, the synergy at universities between research

and education in chemistry and chemical engineering, and the way chemists and chemical engineers work together in industry. The astonishing developments in science and engineering during the 20th century have made it possible to dream of new goals that might previously have been considered unthinkable. This book identifies the key opportunities and challenges for the chemical sciences, from basic research to societal needs and from terrorism defense to environmental protection, and it looks at the ways in which chemists and chemical engineers can work together to contribute to an improved future.

**Composition of Matter** Feb 24 2022 This nonfiction science reader will help fifth grade students gain science content knowledge while building their reading comprehension and literacy skills. This purposefully leveled text features hands-on, challenging science experiments and full-color images. Students will learn all about matter, subatomic particles, the periodic table of elements, and much more through this engaging text that supports STEM education and is aligned to the Next Generation Science Standards. Important text features like a glossary and index will improve students close reading skills.

**What's the Matter in Mr. Whiskers' Room?** Sep 09 2020 Features Mr. Whiskers and his class performing seven activities which involve playing with and learning about

matter in its liquid, solid, and gaseous forms, and includes a list of materials so readers can duplicate their experiments.

*Changing Matter* Aug 09 2020 This title teaches students that everything is made of matter and that physical changes create different forms or states of matter. Examples of these different states are presented in easy-to-understand text. The book also introduces students to the law of conservation of mass.

**Quantifying Matter** Jul 20 2021 Matter is all around us and within us such as anything that we use, touch, eat, etc. is an example of matter. Matter can be as anything that takes up space, and it is composed of miniscule particles called atoms. All stuffs have properties that we can use to categorize them. In a similar way matter has two basic types of properties that we can associate with matter. These properties are known as Physical properties and Chemical properties. All properties of matter are either extensive or intensive and either physical or chemical. Extensive properties, such as mass and volume, depend on the amount of matter that is being measured. Intensive properties, such as density and color, do not depend on the amount of matter. Both extensive and intensive properties are physical properties, which mean they can be measured without changing the substance's chemical identity. Matter can have multiple dimensions or can be invisible to the naked eye. Different tools enable us to observe

and record different types of matter and the different properties of the same matter. Familiarizing with the different types of tools for matter and what qualities of matter they gauge can help you to get a better hold on matter. This book `Quantifying Matter` illuminates how scientists learned to compute matter and quantify some of its most enthralling and functional properties.

Matter Nov 23 2021 Explains the different types of matter and how it changes from one state to another by applying heat or pressure.

Chemistry: A Very Short Introduction Jul 28 2019 Most people remember chemistry from their schooldays as largely incomprehensible, a subject that was fact-rich but understanding-poor, smelly, and so far removed from the real world of events and pleasures that there seemed little point, except for the most introverted, in coming to terms with its grubby concepts, spells, recipes, and rules. Peter Atkins wants to change all that. In this Very Short Introduction to Chemistry, he encourages us to look at chemistry anew, through a chemist's eyes, in order to understand its central concepts and to see how it contributes not only towards our material comfort, but also to human culture. Atkins shows how chemistry provides the infrastructure of our world, through the chemical industry, the fuels of heating, power generation, and transport, as well as the fabrics of our clothing and furnishings. By considering the remarkable

achievements that chemistry has made, and examining its place between both physics and biology, Atkins presents a fascinating, clear, and rigorous exploration of the world of chemistry - its structure, core concepts, and exciting contributions to new cutting-edge technologies. ABOUT THE SERIES: The Very Short Introductions series from Oxford University Press contains hundreds of titles in almost every subject area. These pocket-sized books are the perfect way to get ahead in a new subject quickly. Our expert authors combine facts, analysis, perspective, new ideas, and enthusiasm to make interesting and challenging topics highly readable.

*A Framework for K-12 Science Education* Jun 06 2020 Science, engineering, and technology permeate nearly every facet of modern life and hold the key to solving many of humanity's most pressing current and future challenges. The United States' position in the global economy is declining, in part because U.S. workers lack fundamental knowledge in these fields. To address the critical issues of U.S. competitiveness and to better prepare the workforce, *A Framework for K-12 Science Education* proposes a new approach to K-12 science education that will capture students' interest and provide them with the necessary foundational knowledge in the field. *A Framework for K-12 Science Education* outlines a broad set of expectations for students in science and engineering in grades K-12. These expectations will inform the

development of new standards for K-12 science education and, subsequently, revisions to curriculum, instruction, assessment, and professional development for educators. This book identifies three dimensions that convey the core ideas and practices around which science and engineering education in these grades should be built. These three dimensions are: crosscutting concepts that unify the study of science through their common application across science and engineering; scientific and engineering practices; and disciplinary core ideas in the physical sciences, life sciences, and earth and space sciences and for engineering, technology, and the applications of science. The overarching goal is for all high school graduates to have sufficient knowledge of science and engineering to engage in public discussions on science-related issues, be careful consumers of scientific and technical information, and enter the careers of their choice. A Framework for K-12 Science Education is the first step in a process that can inform state-level decisions and achieve a research-grounded basis for improving science instruction and learning across the country. The book will guide standards developers, teachers, curriculum designers, assessment developers, state and district science administrators, and educators who teach science in informal environments.

*Extreme States of Matter in Strong Interaction Physics* Dec 13 2020 The thermodynamics of strongly interacting matter has become a profound and challenging

area of modern physics, both in theory and in experiment. Statistical quantum chromodynamics, through analytical as well as numerical studies, provides the main theoretical tool, while in experiment, high-energy nuclear collisions are the key for extensive laboratory investigations. The field therefore straddles statistical, particle and nuclear physics, both conceptually and in the methods of investigation used. This course-tested primer addresses above all the many young scientists starting their scientific research in this field, providing them with a general, self-contained introduction that emphasizes in particular the basic concepts and ideas, with the aim of explaining why we do what we do. To achieve this goal, the present text concentrates mainly on equilibrium thermodynamics: first, the fundamental ideas of strong interaction thermodynamics are introduced and then the main concepts and methods used in the study of the physics of complex systems are summarized. Subsequently, simplified phenomenological pictures, leading to critical behavior in hadronic matter and to hadron-quark phase transitions are introduced, followed by elements of finite-temperature lattice QCD leading to the important results obtained in computer simulation studies of the lattice approach. Next, the relation of the resulting critical behavior to symmetry breaking/restoration in QCD is clarified before the text turns to the study of the QCD phase diagram. The presentation of bulk equilibrium

thermodynamics is completed by studying the properties of the quark-gluon plasma as new state of strongly interacting matter. The final chapters of the book are devoted to more specific topics which arise when nuclear collisions are considered as a tool for the experimental study of QCD thermodynamics.