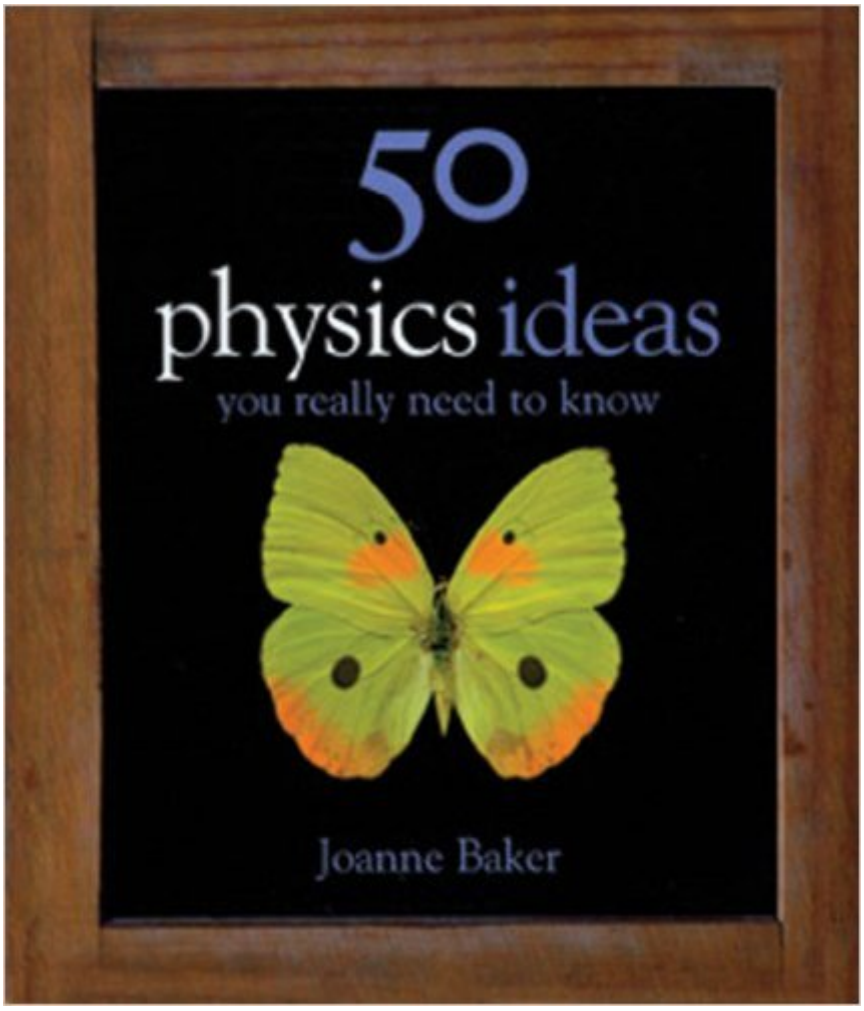
# 50 Physics Ideas You Really Need To Know (50 Ideas)



## Synopsis

As well as outlining and explaining such historic breakthroughs in human understanding of the physical world as Keplerâ ™s law of planetary motion and Newtonâ ™s law of gravitation, Joanne Baker unravels the sometimes baffling complexities of modern scientific theory – from Planckâ ™s law to Pauliâ ™s exclusion principle and from Schrondingerâ ™s cat to string theory. The essays are accompanied by a range of useful editorial features, including biographies of iconic physicists, timelines of related ideas, explanatory diagrams and display quotations.

## Book Information

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## Customer Reviews

This book contains 50 concise overviews of important ideas that form the basis of classical and modern physics. They are grouped into five sections, namely:Ã Â Matter in Motion (mostly classical physics, such as Newton's laws of motions and Kepler's laws, but with some more modern ideas such as Chaos theory).Ã Â Beneath the Waves (wave behavior of light, electromagnetic waves and Maxwell's equations).Ã Â Quantum Conundrums (quantum mechanics, including Planck's law of black body radiation, photoelectric effect, Schrodinger's wave equation, Heisenberg's uncertainty principle and superconductivity).Ã Â Splitting Atoms (structure of the atom, atomic fission and fusion, the standard model of particle physics and string theory)Ã Â Space and Time (special and general relativity, the big bang theory, black holes, dark matter and dark energy).The specific topics listed above represent only 20 of the 50 ideas covered in the book, each of which is presented in exactly four pages. Each idea is supplemented with boxes containing some extended discussion of

a particular point, some quotations concerning the idea and biographical information about some scientists. Given that only four pages are allotted to each idea, the presentation is necessarily only superficial, but the author did a very good job of compressing the most salient points into a very limited space.This is a good book for those who only want an general overview of some very important ideas, presented without any math, for a general audience. It is also a useful review book for those who know are better versed in physics.

A Series on Fifty Basic Ideas:I was not sure exactly what readership this book is intended for, until I browsed through its penta-sections and read some of its entries. Since the fifty ideas cannot be quite included in a coffee table book nor is it a physics reference book, indeed it could be labeled a refresher review of modern physics. If you approach this book as a physics vocabulary, with elaborate definitions you could get more out of it.This second volume of an innovative series representing the core of critical areas of modern human knowledge, on Management, Mathematics, Philosophy, and Physics, the Cantab author Joanne Baker wraps up the top complex ideas of twentieth century physical sciences theory for a scientific enquiry reader. She explores the state of science on physical concepts at the end of the last century, for third millennia lay persons helping them upgrading their outdated space related science.Advancing Fifty Physics Ideas:The book title which caught my attention is a good description of the book’s 50 concise essays Dr. Baker describes within two to three pages each. Some of those 50 basic concepts in physics which appealed to me, as an outdated applied scientist counted more than thirty from Kepler’s laws, Maxwell demon, Fractals, Chaos theory, the butterfly effect, Fermat principle (proved recently), DNA double helix, extrasolar planets, Schrodinger’s cat, teleportation etc.Dr. Baker makes a good job of describing the relevant physics theorems behind each concept, advocating a compelling plea for appreciation of modern physics that is happening daily around us.

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