Physics

Recommended Reading List



Key Stage 5		
SURELY OU'RE JOKING JOKING MR. SEX MAR. SEX SEX MAR. SEX SEX MAR. SEX SEX MAR. SEX SEX SEX SEX SEX SEX SEX SEX SEX SEX	Surely You're Joking Mr Feynman: Adventures of a Curious Character In this warm, insightful portrait of the Winner of the Nobel Prize for Physics in 1965, we see the wisdom, humour, and curiosity of Richard Feynman through a series of conversations with his friend Ralph Leighton. Winner of the Nobel Prize for Physics in 1965, Richard Feynman was one of the world's greatest theoretical physicists, but he was also a man who fell, often jumped, into adventure. An artist, safecracker, practical joker and storyteller, Feynman's life was a series of combustible combinations made possible by his unique mixture of high intelligence, unquenchable curiosity, and eternal scepticism. Over a period of years, Feynman's conversations with his friend Ralph Leighton were first taped and then set down as they appear here, little changed from their spoken form, giving a wise, funny, passionate, and totally honest self-portrait of one of the greatest men of our age.	
	Moondust: In Search of the Men Who Fell to Earth In 1999, Andrew Smith was interviewing Charlie Duke, astronaut, and moon walker, for the Sunday Times. During the course of the interview, which took place at Duke's Texan home, the telephone rang, and Charlie left the room to answer it. When he returned, some twenty minutes later, he seemed visibly upset. It seemed that he'd just heard that, the previous day, one of his fellow moon walkers, the astronaut Pete Conrad, had died. 'Now there's only nine of us,' he said. Only nine. Which meant that, one day not long from now, there would be none, and when that day came, no one on earth would have known the giddy thrill of gazing back at us from the surface of the moon. The thought shocked Andrew Smith, and still does. Moondust is his attempt to understand why.	
QUANTUM THEORY CANNOT HURT YOUU UNDERSTANDING THE MIND-BLOWING BUILDING BLOCKS OF THE UNIVERSE MARCUS CHOWN	Quantum Theory Cannot Hurt You: Understanding the Mind-Blowing Building Blocks of the Universe The two towering achievements of modern physics are quantum theory and Einstein's general theory of relativity. Together, they explain virtually everything about the world we live in. But, almost a century after their advent, most people haven't the slightest clue what either is about. Did you know that there's so much empty space inside matter that the entire human race could be squeezed into the volume of a sugar cube? Or that you grow old more quickly on the top floor of a building than on the ground floor? And did you realize that 1% of the static on a TV tuned between stations is the relic of the Big Bang? Marcus Chown, the bestselling author of What A Wonderful World and the Solar System app, explains all with characteristic wit, colour, and clarity, from the Big Bang and Einstein's general theory of relativity to probability, gravity, and quantum theory.	
THE DEFENSE	Thing Explainer: Complicated Stuff in Simple Words It's good to know what the parts of a thing are called, but it's much more interesting to know what they do. Richard Feynman once said that if you can't explain something to a first-year student, you don't really get it. In <i>Thing Explainer</i> , Randall Munroe takes a quantum leap past this: he explains things using only drawings and a vocabulary of just our 1,000 (or the ten hundred) most common words. Many of the things we use every day - like our food-heating radio boxes ('microwaves'), our very tall roads ('bridges'), and our computer rooms ('datacentres') - are strange to us. So are the other worlds around our sun (the solar system), the big flat rocks we live on (tectonic plates), and even the stuff inside us (cells). Where do these things come from? How do they work?	

What do they look like if you open them up? And what would happen if we heated them up, cooled them down, pointed them in a different direction, or pressed this button?
Paradox How does the fact that it gets dark at night prove the Universe must have started with a big bang? Where are all the aliens? Why does the length of a piece of string vary depending on how fast it is moving? Our subject is 'perceived paradoxes' - questions or thought-experiments that on first encounter seem impossible to answer, but which science has been able to solve. Our tour of these mind-expanding puzzles will take us through some of the greatest hits of science - from Einstein's theories about space and time, to the latest ideas of how the quantum world works. Some of our paradoxes may be familiar, such as Schrödinger's famous cat, which is seemingly alive and dead at the same time; or the Grandfather Paradox - if you travelled back in time and killed your grandfather you would not have been born and would not therefore have killed your grandfather. Other paradoxes will be
Turn left at Orion - A hundred night sky objects to see in a small telescope- and how to find them A guidebook for beginning amateur astronomers, Turn Left at Orion provides all the information you need to observe the Moon, the planets, and a whole host of celestial objects. Large format diagrams show these objects exactly as they appear in a small telescope and for each object there is information on the current state of our astronomical knowledge. Revised and updated, this new edition contains a chapter describing spectacular deep sky objects visible from the southern hemisphere, and tips on observing the upcoming transits of Venus. It also includes a discussion of Dobsonian telescopes, with hints on using personal computers and the internet as aids for planning an observing session. Unlike many guides to the night sky, this book is specifically written for observers using small telescopes. Clear and easy-to- use, this fascinating book will appeal to skywatchers of all ages and backgrounds. No previous knowledge of astronomy is needed.