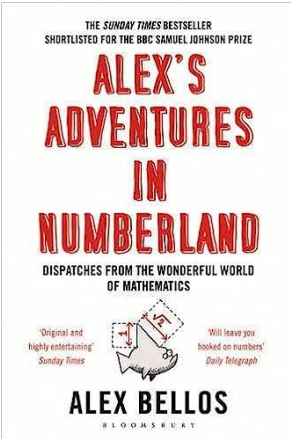
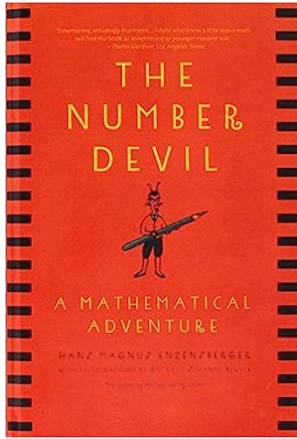


Book selection

Key stage	Wider Reading Book Recommendations
ALL	<p>Alex's Adventures in Numberland - In this richly entertaining and accessible book, Alex Bellos explodes the myth that maths is best left to the geeks, and demonstrates the remarkable ways it's linked to our everyday lives.</p>  <p>Alex explains the surprising geometry of the 50p piece, and the strategy of how best to gamble it in a casino. He shines a light on the mathematical patterns in nature, and on the peculiar predictability of random behaviour. He eats a potato crisp whose revolutionary shape was unpalatable to the ancient Greeks, and he shows the deep connections between maths, religion and philosophy.</p> <p>From the world's fastest mental calculators in Germany to numerologists in the US desert, from a startlingly numerate chimpanzee in Japan to venerable Hindu sages in India, these dispatches from 'Numberland' are an unlikely but exhilarating cocktail of history, reportage and mathematical proofs. The world of maths is a much friendlier and more colourful place than you might have imagined.</p> <p>Alex Through the Looking-Glass: How Life Reflects Numbers, and Numbers Reflect Life - From triangles, rotations and power laws, to fractals, cones and curves, bestselling author Alex Bellos takes you on a journey of mathematical discovery with his signature wit, engaging stories and limitless enthusiasm. As he narrates a series of eye-opening encounters with lively personalities all over the world, Alex demonstrates how numbers have come to be our friends, are fascinating and extremely accessible, and how they have changed our world.</p>  <p>He turns even the dreaded calculus into an easy-to-grasp mathematical exposition, and sifts through over 30,000 survey submissions to reveal the world's favourite number. In Germany, he meets the engineer who designed the first roller-coaster loop, whilst in India he joins the world's highly numerate community at the International Congress of Mathematicians. He explores the wonders behind the Game of Life program, and explains mathematical logic, growth and negative numbers. Stateside, he hangs out with a private detective in Oregon and meets the mathematician who looks for universes from his garage in Illinois. Read this captivating book, and you won't realise that you're learning about complex concepts. Alex will get you hooked on maths as he delves deep into humankind's turbulent relationship with numbers, and proves just how much fun we can have with them.</p>

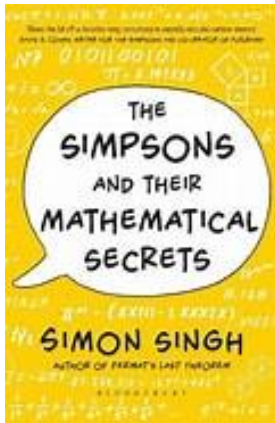
The Number Devil: A Mathematical Adventure - In twelve dreams, Robert, a



boy who hates math, meets a Number Devil, who leads him to discover the amazing world of numbers: infinite numbers, prime numbers, Fibonacci numbers, numbers that magically appear in triangles, and numbers that expand without. As we dream with him, we are taken further and further into mathematical theory, where ideas eventually take flight, until everyone - from those who fumble over fractions to those who solve complex equations in their heads - winds up marveling at what numbers can do. Hans Magnus Enzensberger is a true polymath, the kind of superb intellectual who loves thinking and marshals all of his charm and wit to share his passions with the world. In "The Number Devil," he brings

together the surreal logic of Alice in Wonderland and the existential geometry of Flatland with the kind of math everyone would love, if only they had a number devil to teach it to them.

The Simpsons and their Mathematical Secrets - You may have watched

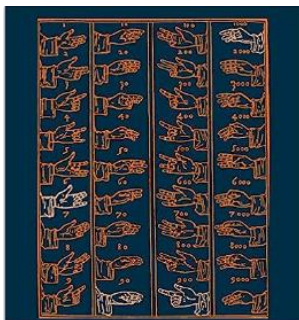


hundreds of episodes of The Simpsons (and its sister show Futurama) without ever realising that they contain enough maths to form an entire university course.

In The Simpsons and Their Mathematical Secrets, Simon Singh explains how the brilliant writers, some of the mathematicians, have smuggled in mathematical jokes throughout the cartoon's twenty-five year history, exploring everything from Mersenne primes, from Euler's equation to the unsolved riddle of P vs. NP, from perfect numbers to narcissistic numbers, and much more.

With wit, clarity and a true fan's zeal, Singh analyses such memorable episodes as 'Bart the Genius' and 'Homer3' to offer an entirely new insight into the most successful show in television history.

The Pleasures of Counting - What is the connection between the outbreak of

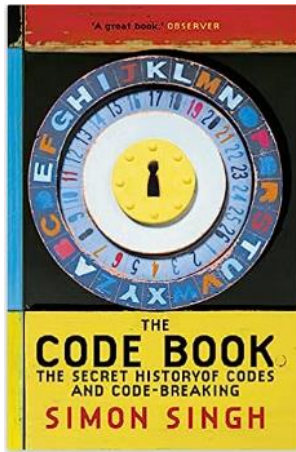


The Pleasures of Counting
T. W. KÖRNER

cholera in Victorian Soho, the Battle of the Atlantic, African Eve and the design of anchors? One answer is that they are all examples chosen by Dr Tom Körner to show how a little mathematics can shed light on the world around us, and deepen our understanding of it. Dr Körner, an experienced author, describes a variety of topics which continue to interest professional mathematicians, like him. He does this using relatively simple terms and ideas, yet confronting difficulties (which are often the starting point for new discoveries) and avoiding condescension. If you have ever wondered what it is that mathematicians do, and how they go about it,

then read on. If you are a mathematician wanting to explain to others how you spend your working days (and nights), then seek inspiration here.

The Code Book: The Secret History of Codes and Code-breaking -The Science of Secrecy from Ancient Egypt to Quantum Cryptography

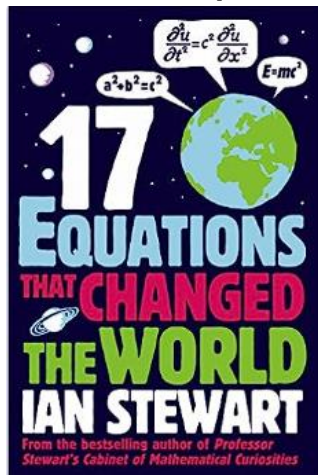


From the best-selling author of Fermat's Last Theorem, The Code Book is a history of man's urge to uncover the secrets of codes, from Egyptian puzzles to modern day computer encryptions.

As in Fermat's Last Theorem, Simon Singh brings life to an astonishing story of puzzles, codes, languages and riddles that reveals man's continual pursuit to disguise and uncover, and to work out the secret languages of others.

Codes have influenced events throughout history, both in the stories of those who make them and those who break them. The betrayal of Mary Queen of Scots and the cracking of the enigma code that helped the Allies in World War II are major episodes in a continuing history of cryptography. In addition to stories of intrigue and warfare, Simon Singh also investigates other codes, the unravelling of genes and the rediscovery of ancient languages and most tantalisingly, the Beale ciphers, an unbroken code that could hold the key to a \$20 million treasure.

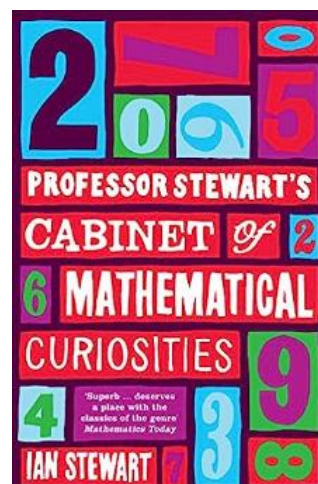
Seventeen Equations that Changed the World - From Newton's Law of Gravity to the Black-Scholes model used by bankers to predict the markets, equations, are everywhere - and they are fundamental to everyday life.



Seventeen Equations that Changed the World examines seventeen ground-breaking equations that have altered the course of human history. He explores how Pythagoras's Theorem led to GPS and Satnav; how logarithms are applied in architecture; why imaginary numbers were important in the development of the digital camera, and what is really going on with Schrödinger's cat.

Entertaining, surprising and vastly informative, Seventeen Equations that Changed the World is a highly original exploration - and explanation - of life on earth.

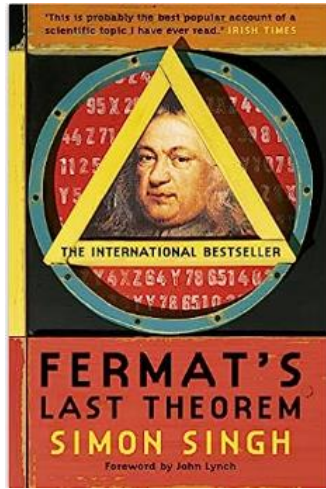
Professor Stewart's Cabinet of Mathematical Curiosities - School maths is not the interesting part. The real fun is elsewhere. Like a magpie, Ian Stewart has collected the most enlightening, entertaining and vexing 'curiosities' of maths over the years... Now, the private collection is displayed in his cabinet.



There are some hidden gems of logic, geometry and probability -- like how to extract a cherry from a cocktail glass (harder than you think), a pop up dodecahedron, the real reason why you can't divide anything by zero and some tips for making money by proving the obvious. Scattered among these are keys to unlocking the mysteries of Fermat's last theorem, the Poincaré

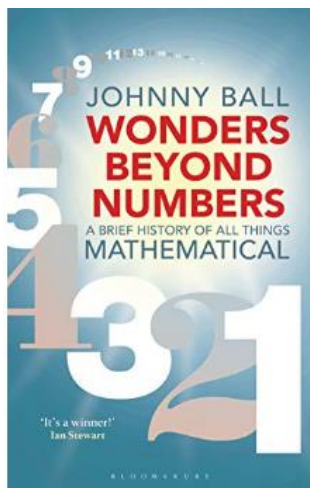
Conjecture, chaos theory, and the P/NP problem for which a million dollar prize is on offer. There are beguiling secrets about familiar names like Pythagoras or prime numbers, as well as anecdotes about great mathematicians. Pull out the drawers of the Professor's cabinet and who knows what could happen...

Fermat's Last Theorem: The Story Of A Riddle That Confounded The World's Greatest Minds For 358 Years - 'I have a truly marvellous



demonstration of this proposition which this margin is too narrow to contain.' It was with these words, written in the 1630s, that Pierre de Fermat intrigued and infuriated the mathematics community. For over 350 years, proving Fermat's Last Theorem was the most notorious unsolved mathematical problem, a puzzle whose basics most children could grasp but whose solution eluded the greatest minds in the world. In 1993, after years of secret toil, Englishman Andrew Wiles announced to an astounded audience that he had cracked Fermat's Last Theorem. He had no idea of the nightmare that lay ahead. In 'Fermat's Last Theorem' Simon Singh has crafted a remarkable tale of intellectual endeavour spanning three centuries, and a moving testament to the obsession, sacrifice and extraordinary determination of Andrew Wiles: one man against all the odds.

Wonders Beyond Numbers: A Brief History of All Things Mathematical - By

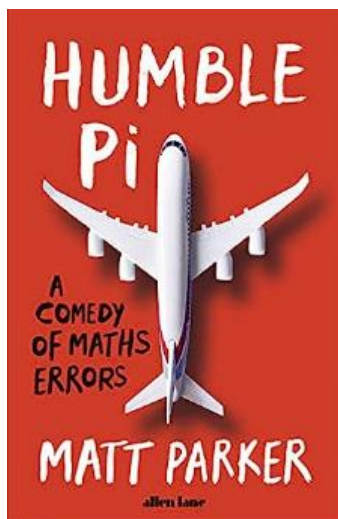


introducing us to the major characters and leading us through many historical twists and turns, Johnny slowly unravels the tale of how humanity built up a knowledge and understanding of shapes, numbers and patterns from ancient times, a story that leads directly to the technological wonderland we live in today. As Galileo said, 'Everything in the universe is written in the language of mathematics', and Wonders Beyond Numbers is your guide to this language.

Mathematics is only one part of this rich and varied tale; we meet many fascinating personalities along the way, such as a mathematician who everyone has heard of but who may not have existed; a Greek philosopher who made so many mistakes that many wanted his books destroyed; a mathematical artist who built the largest masonry dome on earth, which builders had previously declared impossible; a world-renowned painter who discovered mathematics and decided he could no longer stand the sight of a brush; and a philosopher who lost his head, but only after he had died.

Enriched with tales of colourful personalities and remarkable discoveries, there is also plenty of mathematics for keen readers to get stuck into. Written in Johnny Ball's characteristically light-hearted and engaging style, this book is packed with historical insight and mathematical marvels; join Johnny and uncover the wonders found beyond the numbers.

Humble Pi: A Comedy of Maths Errors - *What makes a bridge wobble when*



it's not meant to? Billions of dollars mysteriously vanish into thin air? A building rock when its resonant frequency matches a gym class leaping to Snap's 1990 hit I've Got The Power? The answer is maths. Or, to be precise, what happens when maths goes wrong in the real world.

As Matt Parker shows us, our modern lives are built on maths: computer programmes, finance, engineering. And most of the time this maths works quietly behind the scenes, until ... it doesn't. Exploring and explaining a litany of glitches, near-misses and mishaps involving the internet, big data, elections, street signs, lotteries, the Roman empire and a hapless Olympic shooting team, Matt Parker shows us the bizarre ways maths trips us up, and what this reveals about its essential place in our world.

Mathematics doesn't have good 'people skills', but we would all be better off, he argues, if we saw it as a practical ally. This book shows how, by making maths our friend, we can learn from its pitfalls. It also contains puzzles, challenges, geometric socks, jokes about binary code and three deliberate mistakes. Getting it wrong has never been more fun.