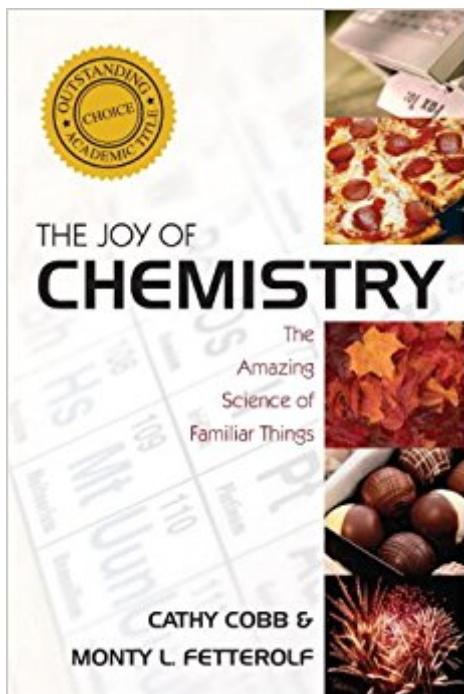


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# The Joy Of Chemistry: The Amazing Science Of Familiar Things



## Synopsis

This book challenges the perception of chemistry as too difficult to bother with and too clinical to be any fun. Cathy Cobb and Monty L. Fetterolf, both professional chemists and experienced educators, introduce readers to the magic, elegance, and, yes, joy of chemistry. From the fascination of fall foliage and fireworks, to the functioning of smoke detectors and computers, to the fundamentals of digestion (as when good pizza goes bad!), the authors illustrate the concepts of chemistry in terms of everyday experience, using familiar materials. The authors begin with a bang—•a colorful bottle rocket assembled from common objects you find in the garage—and then present the principles of chemistry using household chemicals and friendly, nontechnical language. They guide the reader through the basics of atomic structure, the nature of molecular bonds, and the vibrant universe of chemical reactions. Using analogy and example to illuminate essential concepts such as thermodynamics, photochemistry, electrochemistry, and chemical equilibrium, they explain the whys and wherefores of chemical reactions. Hands-on demonstrations, selected for their ease of execution and relevance, illustrate basic principles, and lively commentaries emphasize the fun and fascination of learning about chemistry. This delightful and richly informative book amply proves that chemistry can appeal to our intuition, logic, and—if we’re willing to get down and dirty—our sense of enjoyment too.

## Book Information

Paperback: 393 pages

Publisher: Prometheus Books (January 26, 2010)

Language: English

ISBN-10: 1591027713

ISBN-13: 978-1591027713

Product Dimensions: 6 x 0.8 x 9 inches

Shipping Weight: 1.2 pounds (View shipping rates and policies)

Average Customer Review: 4.0 out of 5 stars 29 customer reviews

Best Sellers Rank: #249,895 in Books (See Top 100 in Books) #113 in Books > Science & Math > Experiments, Instruments & Measurement > Experiments & Projects #221 in Books > Science & Math > Science for Kids #944 in Books > Science & Math > Chemistry > General & Reference

## Customer Reviews

Think of this as a chemistry education condensed into a single book: a lightning tour of the field for

the uninitiated. What the work lacks in depth is made up for in breadth, covering all the material of a general chemistry course along with organic, inorganic and analytical chemistry and biochemistry; there's even a chapter on forensic chemistry. Cobb and Fetterolf, professors of chemistry at the University of South Carolina, avoid math and focus on real-world examples. They explain everything from flatulence (the chemical composition of intestinal gas) to pizza cheese (why mozzarella rather than, say, parmesan?). This may sound a lot like the dozens of introductory chemistry books on the market. But unlike most others, this book comes with a lab component (supplies not included). Every chapter is preceded by an experiment (some quite complicated) using household goods, though someone inexperienced in laboratory techniques may find the directions difficult to follow. The explanations of principles fly past, and Cobb and Fetterolf avoid oversimplifying the chemistry, which may leave some readers confused. Whether or not readers fully understand the principles of chemistry by the end of the book, they will at least have a better understanding of the world around them and enough everyday trivia to hold their own at a cocktail party. B&w illus. Copyright © Reed Business Information, a division of Reed Elsevier Inc. All rights reserved. --This text refers to an out of print or unavailable edition of this title.

Cathy Cobb (Aiken, SC) is the author of *Crime Scene Chemistry for the Armchair Sleuth* (with Monty L. Fetterolf and Jack G. Goldsmith); *Magick, Mayhem, and Mavericks: The Spirited History of Physical Chemistry*; and *Creations of Fire: Chemistry's Lively History from Alchemy to the Atomic Age* (with H. Goldwhite). She is currently an instructor of calculus and physics at Aiken Preparatory School and an adjunct professor of chemistry at the University of South Carolina at Aiken. Monty L. Fetterolf (Aiken, SC) is the coauthor with Cathy Cobb and Jack G. Goldsmith of *Crime Scene Chemistry for the Armchair Sleuth*. He is a professor of chemistry at the University of South Carolina at Aiken.

This book is fantastic. I just graduated with a degree in political science last year and just started working towards a degree in science or engineering (haven't decided whether I am going to major in chemistry, biology, or chemical engineering). I just started general chemistry 1. The Joy of Chemistry was extremely helpful in helping me prepare for general chemistry. Over the past year I read through a general chemistry textbook and I was amazed to find that The Joy of Chemistry actually explains many important concepts in greater detail than my textbook explained them. Unlike a textbook however this book is pretty much math free which I think is great for beginners and people like me who are looking for a book with a conceptual approach to chemistry to supplement

their academic study of chemistry.

Got it from the library as a 2nd year chemistry teacher. Had to get my own copy!

I got this book to try to provide some context to help my students understand chemistry. So far, I have not been able to squeeze in much extra, but being able to provide a quick example to illustrate helps. I intend to incorporate some of the examples into a reading assignment, and have the students research for more details. Very helpful, and just plain interesting. Well written, in an engaging style.

While laced with humor, this is a very serious book, and truly a joy. What most surprised me is its willingness to tackle in some fashion all the deepest theoretical findings and issues. They may simplify, but are careful never to misstate. In comparing the dual nature of light, wave and particle, to a pet cat, both wild (when stalking birds) and domestic, the authors are less scientific than usual, but even this analogy contributes to understanding. Given my own confusion, I was glad to learn that "no one has completely explained" why a moving current causes magnetism. The authors do a really good job with chemical attraction, and explain that "all bonds have a bit of each quality - covalent, ionic and metallic - to a greater or lesser degree". I did find some of the references to entropy in explanations a bit unsatisfying, and I think it is because the authors were trying to avoid any discussion of probability. There is a wealth of information. Despite having taken chemistry, years ago, I learned for the first time such things as what distinguishes a diesel engine, and how cheese is made. I did not actually do any of the many experiments described, but got a lot out of just reading about them. "The Joy of Chemistry" is a great book for anyone interested in science, whether or not you have ever taken a chemistry course.

I bought this book because of an intriguing review in Science News. This book makes chemistry accessible to adults who would like to learn more - it includes a shopping list so you can go out and get supplies for all the demonstrations described in the book, and then read about what is going on. I plan on incorporating some of the demos and, more importantly, the book's spirit of curiosity into my own teaching of a chemistry unit within a high school general science course.

This book is great for teachers who want to do short chemistry experiments with students or even demos. There is a great shopping list to get anything you need for all the experiments at the grocery

store or hardware store. It also has good information and review for teachers on every chemistry concept. If you don't know a lot about chemistry this book will help make sense of basic concepts.

What a great book! The thing is very well laid out and written, with clear, contained experiments and great guidance as to materials and methods. It'll be a great resource for our summer explorations in chemistry.

More like a grade school mentality to this book. I was expecting something more and was disappointed that I bought it.

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