

The Joy of Chemistry: The Amazing Science of Familiar Things

By Cathy Cobb, Monty Fetterolf



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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.



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Editorial Review

From Publishers Weekly

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.

About the Author

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.

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Wendell Radford:

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