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Book Review*

## “The Joy of Chemistry: The Amazing Science of Familiar Things”

Cathy Cobb and Monty L. Fetterolf challenge the perception of chemistry as too difficult to bother with and too clinical to be any fun. The authors, both professional chemists and experienced educators, introduce readers to the magic, the elegance, and yes, even the joy of chemistry. From the fascination of fall foliage and fireworks, to the functioning of smoke detectors and computers, to the fundamentals of digestion, Cobb and Fetterolf illustrate concepts of chemistry in terms of everyday experience, using familiar materials.

Cathy Cobb is a highly acclaimed author of *Magick, Mayhem, and Mavericks: The spirited History of Physical Chemistry* and with H. Goldwhite, *Creations of Fire: Chemistry's Lively History from Alchemy to the Atomic age*. 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 is a professor of chemistry at the University of South Carolina at Aiken.

This book was really worth reading, since the first page started with the quote from Jean Webster “I’m beginning chemistry, a most unusual study. I’ve never seen anything like it before, molecules and atoms are the material employed, but I’ll be in a position to discuss them more definitely next month”(Jean Webster, *Daddy-long-legs.*, 1912).

This book took me on an organized trip through chemistry not as a pure, solid, and academic science but as an enjoyable one in daily life. It even started with a chapter about safety. “I learned another fact-nitric acid not only acts upon copper but it acts upon fingers....I drew my fingers across my trousers and another factor was discovered, Nitric acid also acts upon trousers” (Ira Remsen, *My first Hundred Years*, CA, 1970).

From safety to building your own lab and making your own chemicals, yes it sounds weird at the beginning but it’s really fun when you read about how you can go to the grocery store and buy some household products and use them as chemicals for certain experiments (ammonia, aluminum foil, analgesic stomach tablets, aquarium pH- lowering solution bleach, canola oil, batteries...).

This book mainly covers two related topics. First, it shows you how to design and conduct simple chemical reactions similar to those you can do in school-labs by using simple materials and household products. There is no need to be fancy or purchase expensive materials to do scientific observations or perform scientific experiments.

Second, the authors offered many stories, analogies, and illustrations not only to simplify complicated concepts in chemistry but also to relate chemistry to our daily life experience, breaking that barrier between academic work and life experience.

These two main topics for this book perfectly match with the book title “ Chemistry the amazing science of familiar things”.

This book was easy to navigate. The chapters go in order from safety, and the metric system to basic concepts about atomic structure and the octet rule, and then move to gas laws and kinetics. The authors also touch on organic chemistry in a simple enjoyable way.

Even though the book simplified the chemical concepts in many different ways, I believe it would be really hard to enjoy it without any background in chemistry.

Basic knowledge in chemistry is essential to deal with, and apply to the first couple chapters of this book, but more depth will be needed for the rest of the book to handle it in depth.

I highly recommend this book for all science teachers in general and particularly for chemistry teachers. It can be a very helpful resource in applying important concepts and relating science to our daily life tasks.

Personally this book didn't offer me new information in chemistry as much it provided me with a very nice tool to use in my classroom, a daily story, a nice quote or a kitchen chemical experiment I can do at home or ask my students to give it a try.