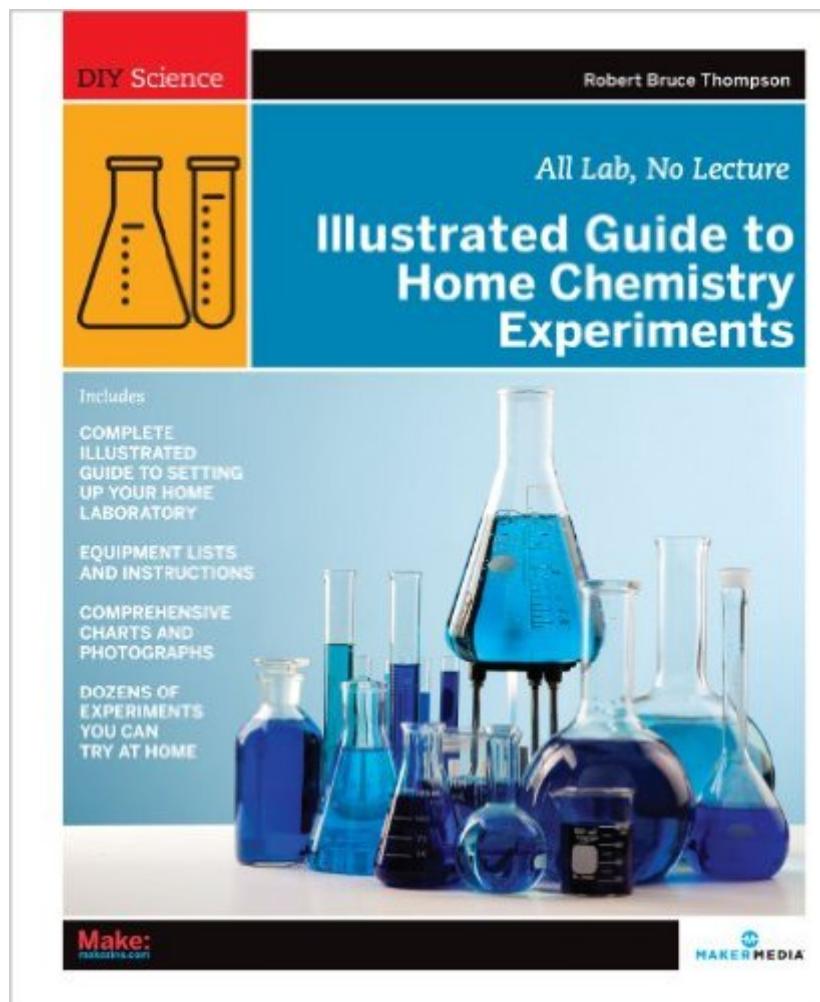


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# Illustrated Guide To Home Chemistry Experiments: All Lab, No Lecture (DIY Science)



## Synopsis

For students, DIY hobbyists, and science buffs, who can no longer get real chemistry sets, this one-of-a-kind guide explains how to set up and use a home chemistry lab, with step-by-step instructions for conducting experiments in basic chemistry -- not just to make pretty colors and stinky smells, but to learn how to do real lab work: Purify alcohol by distillation; Produce hydrogen and oxygen gas by electrolysis; Smelt metallic copper from copper ore; You make yourself; Analyze the makeup of seawater, bone, and other common substances; Synthesize oil of wintergreen from aspirin and rayon fiber from paper; Perform forensics tests for fingerprints, blood, drugs, and poisons; and much more. From the 1930s through the 1970s, chemistry sets were among the most popular Christmas gifts, selling in the millions. But two decades ago, real chemistry sets began to disappear as manufacturers and retailers became concerned about liability. *The Illustrated Guide to Home Chemistry Experiments* steps up to the plate with lessons on how to equip your home chemistry lab, master laboratory skills, and work safely in your lab. The bulk of this book consists of 17 hands-on chapters that include multiple laboratory sessions on the following topics: Separating Mixtures; Solubility and Solutions; Colligative Properties of Solutions; Introduction to Chemical Reactions & Stoichiometry; Reduction-Oxidation (Redox) Reactions; Acid-Base Chemistry; Chemical Kinetics; Chemical Equilibrium and Le Chatelier's Principle; Gas Chemistry; Thermochemistry and Calorimetry; Electrochemistry; Photochemistry; Colloids and Suspensions; Qualitative Analysis; Quantitative Analysis; Synthesis of Useful Compounds; Forensic Chemistry. With plenty of full-color illustrations and photos, *Illustrated Guide to Home Chemistry Experiments* offers introductory level sessions suitable for a middle school or first-year high school chemistry laboratory course, and more advanced sessions suitable for students who intend to take the College Board Advanced Placement (AP) Chemistry exam. A student who completes all of the laboratories in this book will have done the equivalent of two full years of high school chemistry lab work or a first-year college general chemistry laboratory course. This hands-on introduction to real chemistry -- using real equipment, real chemicals, and real quantitative experiments -- is ideal for the many thousands of young people and adults who want to experience the magic of chemistry.

## Book Information

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## Customer Reviews

Are you a frustrated chemist who never outgrew their fascination with the home chemistry kits of the good old days? Back when people took responsibility for their actions and "product liability" wasn't the fear of every company out there? This is the EXACT book you need to get in order to rekindle that love or to pass it on to a new generation... Illustrated Guide to Home Chemistry Experiments: All Lab, No Lecture by Robert Bruce Thompson. You won't get a simple "isn't it cool how this changes color?" approach to science. Thompson covers serious stuff, complete with best practices, methodologies for recording your experiments, and plenty of safety tips along the way. After working through this book, you'll be further ahead than most entry-level college students. Contents: Introduction; Laboratory Safety; Equipping a Home Chemistry Lab; Chemicals for the Home Chemistry Lab; Mastering Laboratory Skills; Separating Mixtures; Solubility and Solutions; Colligative Properties of Solutions; Introduction to Chemical Reactions and Stoichiometry; Reduction-Oxidation (Redox) Reactions; Acid-Base Chemistry; Chemical Kinetics; Chemical Equilibrium and Le Chatelier's Principle; Gas Chemistry; Thermochemistry and Calorimetry; Electrochemistry; Photochemistry; Colloids and Suspensions; Qualitative Analysis; Quantitative Analysis; Synthesis of Useful Compounds; Forensic Chemistry; Index! \*did\* say it was far more than just changing the colors of liquids in a test tube... You can tell that Thompson has a real love of this field. He starts off with his story of how he got interested in chemistry, as well as how this book would map to a first or second year chemistry course.

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