



The Ultimate Book of Saturday Science: The Very Best Backyard Science Experiments You Can Do Yourself

By Neil A. Downie

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The Ultimate Book of Saturday Science is Neil Downie's biggest and most astounding compendium yet of science experiments you can do in your own kitchen or backyard using common household items. It may be the only book that encourages hands-on science learning through the use of high-velocity, air-driven carrots.

Downie, the undisputed maestro of Saturday science, here reveals important principles in physics, engineering, and chemistry through such marvels as the Helevator--a contraption that's half helicopter, half elevator--and the Rocket Railroad, which pumps propellant up from its own track. The Riddle of the Sands demonstrates why some granular materials form steep cones when poured while others collapse in an avalanche. The Sunbeam Exploder creates a combustible delivery system out of sunlight, while the Red Hot Memory experiment shows you how to store data as heat. Want to learn to tell time using a knife and some butter? There's a whole section devoted to exotic clocks and oscillators that teaches you how.

The Ultimate Book of Saturday Science features more than seventy fun and astonishing experiments that range in difficulty from simple to more challenging. All of them are original, and all are guaranteed to work. Downie provides instructions for each one and explains the underlying science, and also presents experimental variations that readers will want to try.

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Editorial Review

Review

"In his book, physicist Neil Downie provides a series of do-it-yourself science experiments that stand apart from your ho-hum Mr. Wizard-fare because, well, they involve a few high-speed projectiles. . . . All you need are a few household items, some good judgment and, possibly, a carrotproof vest."--**Aaron Leitko, *Washington Post***

"To keep the kids entertained this summer, what better than a bit of Saturday science? Neil A. Downie's compendium of experiments--'chosen on the grounds that they are new, that they work, that they are spectacular, and that they are interesting'--includes electric gunpowder, the knife-through-butter clock, the impossible turbine and armour-piercing carrots. Each experiment is accompanied by a straightforward scientific explanation, the occasional hazard warning and 'just a little math.'"--***Nature Physics***

"If you either run a science club or are a teenager who likes getting your hands dirty experimentally, you are going to love this. I certainly would have in my youth."--***Popular Science blog (U.K.)***

"[T]his ample resource encourages readers to consider everyday occurrences and enlivens complex ideas with lessons designed to inspire curiosity. . . . Recommended as a follow-up to the author's previous collections in the series, and as a valuable treasury of projects for teachers, coordinators of science clubs, parents of advanced, older homeschoolers, and adult enthusiasts who have experience in the field and are seeking enjoyable activities to practice and share with others."--**Karen Rigby, *ForeWord Reviews***

"Downie's instructions are admirably clear and straightforward; his explanations of the underlying science admirably comprehensive and comprehensible; and his passion and enthusiasm, totally infectious."--**Helen Mulley, *Teach Secondary***

"This book is guaranteed fun."--***New Scientist***

"[T]hose willing to put in the effort will get a real kick out of this book."--**Clarissa Ai Ling Lee, *Physics World***

"*The Ultimate Book of Saturday Science* is an absolutely fantastic book that contains one of the largest collections of fun-to-do experiments that you will ever come across in a science library. . . . Downie does not just stop at the experiment--each one is backed up with the science behind it, the equipment you need and references for further reading. It truly is a wonderful book to read, and more importantly, a book to bring out the scientist in anyone."--**Paul Wolstenholme-Hogg, *Education in Chemistry***

"This really is the ultimate science project book and could be used as the basis of a great science club or for ideas for some interesting and unexpected physics demonstrations. The projects range from simple to quite challenging and all of them are original and guaranteed to work. There should be a copy of the book in the school and staff library. There is also a video on YouTube featuring the author that is well worth watching."--**Sandra Baggle, *School Science Review***

From the Back Cover

"This is the most extensive collection of project ideas at this level that I know of. Downie gives better 'how to' explanations and takes the ideas further than most other books of this kind. *The Ultimate Book of Saturday Science* is a true omnibus."--**David Willey, University of Pittsburgh at Johnstown**

"The projects in this book are interesting and thought provoking, and some are quite creative and unique. Educators can use the projects to enhance their teaching, and hobbyists will also enjoy them."--**Kenneth G. Libbrecht, California Institute of Technology**

About the Author

Neil A. Downie is a lead scientist with Air Products and Chemicals, Inc., and visiting professor of multidisciplinary engineering at the University of Surrey. His books include *Vacuum Bazookas*, *Electric Rainbow Jelly*, and *27 Other Saturday Science Projects* (Princeton).

Users Review

From reader reviews:

Laura Wilson:

This *The Ultimate Book of Saturday Science: The Very Best Backyard Science Experiments You Can Do Yourself* book is not really ordinary book, you have it then the world is in your hands. The benefit you obtain by reading this book will be information inside this guide incredible fresh, you will get details which is getting deeper you read a lot of information you will get. This specific *The Ultimate Book of Saturday Science: The Very Best Backyard Science Experiments You Can Do Yourself* without we comprehend teach the one who reading it become critical in thinking and analyzing. Don't possibly be worry *The Ultimate Book of Saturday Science: The Very Best Backyard Science Experiments You Can Do Yourself* can bring if you are and not make your handbag space or bookshelves' turn into full because you can have it with your lovely laptop even phone. This *The Ultimate Book of Saturday Science: The Very Best Backyard Science Experiments You Can Do Yourself* having very good arrangement in word and layout, so you will not really feel uninterested in reading.

Grace McClellan:

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Merlin Doyle:

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