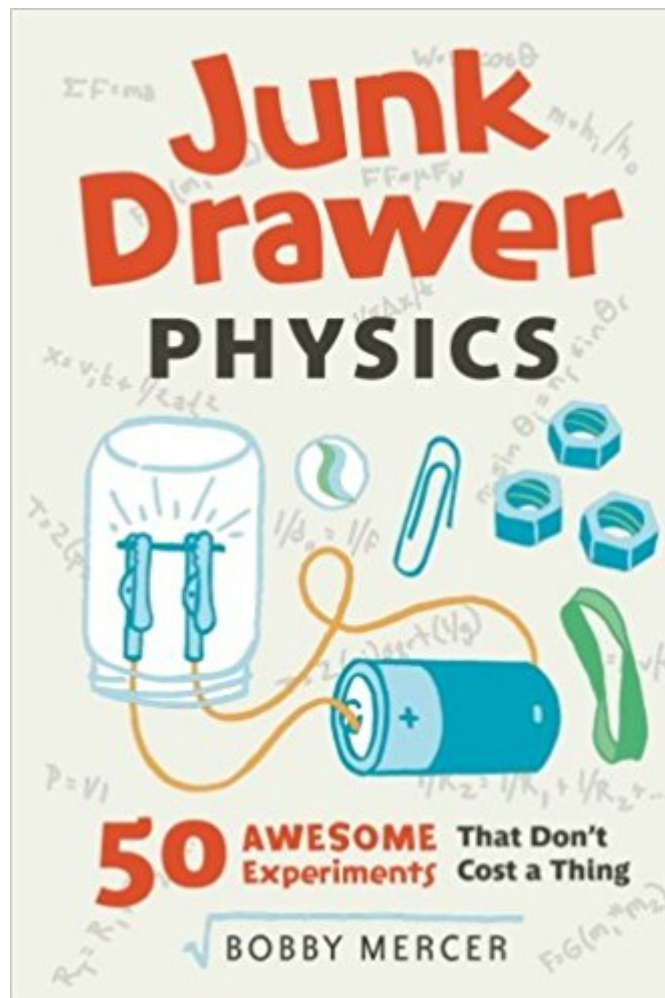




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# Junk Drawer Physics: 50 Awesome Experiments That Don't Cost A Thing (Junk Drawer Science)



## Synopsis

There's not need for expensive, high-tech lab equipment to perform physics experiments-you probably have all you need in your home junk drawer. Turn a plastic cup into a pinhole camera using waxed paper, a rubber band, and a thumbtack. Build a swinging wave machine using a series of washers suspended on strings from a yardstick. Use a cork, string, and water-filled plastic bottle to create a simple accelerometer. Or construct your own planetarium from an empty potato chip canister, construction paper, scissors, and a pin. Physics teacher Bobby Mercer provides readers with more than 50 great hands-on experiments that can be performed for just pennies . . . or less. Each project has a materials list, detailed step-by-step instructions with illustrations, and a brief explanation of the scientific principle being demonstrated. Junk Drawer Physics also includes sidebars of fascinating physics facts: did you know the Eiffel Tower is six inches taller in summer than in winter because its steel structure expands in the heat? Educators and parents will find this title a handy resource to teach children about physics topics that include magnetism, electricity, force, motion, light, energy, sound, and more, and have fun at the same time. Bobby Mercer has been a high school physics teacher for over two decades. He is the author of *The Flying Machine Book*, *The Racecar Book*, and *Smash It! Crash It! Launch It!* and lives with his family outside of Asheville, North Carolina.

## Book Information

Lexile Measure: 890 (What's this?)

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Average Customer Review: 4.9 out of 5 stars 21 customer reviews

Best Sellers Rank: #51,448 in Books (See Top 100 in Books) #38 in [Books > Children's Books > Education & Reference > Science Studies > Physics](#) #959 in [Books > Children's Books > Science, Nature & How It Works](#) #1122 in [Books > Children's Books > Activities, Crafts & Games > Activity Books](#)

Age Range: 9 and up

Grade Level: 4 and up

## Customer Reviews

Gr 5 Up—•This book is filled with practical and easy experiments that demonstrate many different principles of physics. Though it joins a crowded market of similar at-home science books, this title offers experiments that are fresh and different. The photos are illustrative and informative, making the instructions clearer and more accessible for children still working on their reading comprehension skills. The written instructions, however, are clear on their own, and the author does a great job connecting activities to principles of physics. The range of interest and engagement varies pretty widely—the pinhole camera experiment is fascinating, for instance, but the swinging wave machine requires quite a bit of setup for fairly little payoff—but that range is also a strength. Whether young scientists have a few minutes to burn or need to fill a longer stretch of time, there is an activity to suit those needs. This book would be a good addition to both school and public libraries because, during science fair season, even procrastinators with only the contents of their junk drawer handy need some inspiration. For those spending an afternoon with children who demand entertainment, this volume is just the ticket.—Trina Bolfig, Westbank Libraries, Austin, TX

—“More than enough to keep scientifically curious kids busy on rainy days.—”  
—Publishers Weekly “It’s the perfect book for the curious kid 9 to 14 who enjoys learning by doing and loves investigating not only how things work but why they work.— With straightforward instructions, inexpensive and easy to find materials, plus photographs that illustrate key steps in each experiment, the book is definitely user friendly. The Science Behind It section sheds further light on each experiment and the science principles and terms it illustrates.— This is an excellent book to keep your fourth to eighth grader busy, engaged and learning throughout the summer, as well as any other time of year.” —About.com Children’s Books—“Mercer’s categorization of types of experiment—force, energy, momentum, light, magnetism and pressure—also describes his educational outlook. There’s no teaching more forceful or energetic—no pedagogical principle more suffused with light or magnetic force—than the one in Junk Drawer Physics.—”  
—BookPage —“I’ve seen other books before that promised —“easy— experiments for kids, but this one— IS easy—and fun.—”

•NewsOK.com “These little experiments provide a great introduction to a lesson or can be used to as an activity to illustrate a physics concept. One word of warning •you might want to save the air horn for homework. •NSTA Recommends  
“Accessibility can be a major factor in comprehending abstract concepts, and this book suggests that you hardly need a fancy laboratory to learn...Junk drawers are an almost universal fixture in most homes, and this book helps readers representing a wide range of readiness to experience basic scientific concepts for themselves. •Booklist

Crazy me I took on teaching physics to 12 year olds in my homeschool coop. While I am fascinated by the subject, I really have no formal background to draw on. This book helped save my butt! ( this and YouTube :) Experiments are the way to go with kids and this is great book for easy and inexpensive. It delivers on what it says.

Love it! Easy to follow and great to do with the kids. This guy knows his physics and follows Einstein's idea that if you can't explain it simply you don't really know it! Even I can explain to my kids how these physics concepts work now!

My 12 year old LOVED the small projects in this book over spring break. I'm so glad this was on 's recommended list for him.

Purchased as gift for 13 yr old nephew who is in advanced math and enjoys problem solving. Said book was cool and started doing experiments as soon as he got the book. Believe this gift is a winner!

Bought for a 11 year old boy. He is going to love this.

Just as expected

good little book

It's a Good Book

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