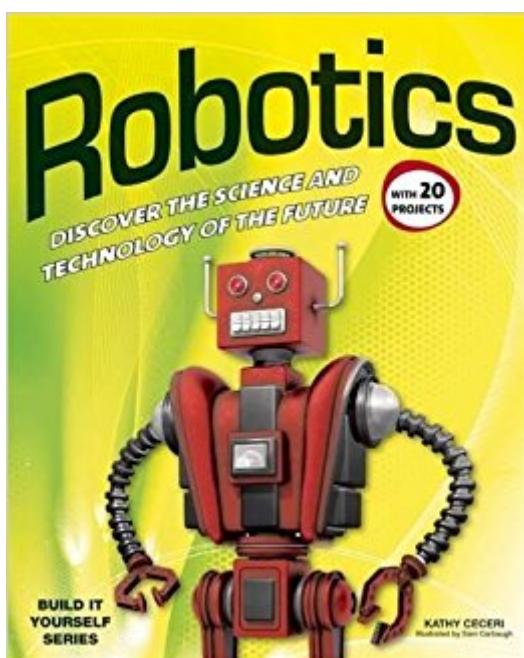


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# Robotics: DISCOVER THE SCIENCE AND TECHNOLOGY OF THE FUTURE With 20 PROJECTS (Build It Yourself)



## **Synopsis**

Named to the 2012 Chicago Public Library's "Best of the Best" Reading List for Informational Books for Older Readers, *Robotics: Discover the Science and Technology of the Future* is a fun and educational introduction to the exciting field of designing, building, and operating robots. Along with background material and clear explanations of how robots work, *Robotics* features step-by-step instructions for building real robot models using ordinary craft materials and parts salvaged from recycled toys and other household devices. Budding roboticists will learn how to create working robot hands, hydraulic arms, sensors, solar-powered robots, light-seeking robots and more. A great way to get kids interested in STEM subjects (science, technology, engineering, and math), the activities encourage kids to use all their talents to come up with creative solutions to tricky problems and figure out how things work.

## **Book Information**

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Age Range: 9 - 12 years

Grade Level: 3 - 7

## **Customer Reviews**

"If you've got a child who is a robot fanatic, you must grab a copy of this book. Over a dozen hands-on projects and easy-to-understand technical explanations are going to make it a hit with teachers and parents and a must-have for kids." â "James Floyd Kelly, author, LEGO

*MINDSTORMS NXT-G Programming Guide*"Kathy Ceceri has packed this readable book with tons of information to inspire kids to pursue robots. The activities are creative and will prepare kids to build robots. For children too young to program computers and do soldering, this is the book to whet their appetite for robotics." â "Ed Sobey, PhD, author, *The Way Toys Work and Unscrewed*, cofounder of *Kids Invent!*"These exciting, bite-sized science experiments will catapult young readers into the world of robotics." â "Daniel H. Wilson, PhD., author of *Robopocalypse*"Light in tone but dense with information, this guide should appeal to those who already have a strong interest in the topic and are ready for a hands-on challenge." â "Publishers Weekly (July 9, 2012)

Real robots are among the most advanced machinery ever built. But the most interesting thing I learned putting this book together is that robot researchers and hobbyists use simple robotic models to help them understand and improve their designs! I hope my book will serve as a true introduction to robotics for kids (and adults) who know nothing about electronics. By building simple projects (including a few electronic hacks) you'll come away with an idea of what's going on behind all that complicated circuitry. But you'll also see how technology opens the door for creativity and innovation -- a true melding of STEM (science, technology, engineering, and math) with Art to create STEAM education! You can find out more about the projects in this book, and news about robotics in general, on my website Crafts for Learning and on the Amazing Robotics Projects page on Facebook!

I bought this book for my 7 year old after reading the rave reviews. My seven year old is high functioning autistic and very into robots atm. This book is way too 'dumbed down' for him. It was honestly a disappointment. None of the projects are very serious or in depth (and only one or two are actual robots). He read through it in one afternoon, sighed in disappointment and after telling me it wasn't really about making robots he said, "I think the vibrobot might be fun... but I want to change some things." (he wasn't really into the idea of it using markers) and he hasn't looked at the book since. I read through it and have to agree with him. It's a neat concept book and has some interesting info, but not much in depth. I'm putting this up on the shelf and expect my younger son to get more out of it in a few years. Since it said, "Build it Yourself" and was geared at younger audiences I expected a book that would walk us through the different kinds of robotics and making them. This is very interesting and goes into the concepts and that is neat, but I just don't feel it has as much practical applications as I was hoping for or as in depth in making the actual robots. It's still a neat book.

My firstborn son is your classic engineer dork, and he was born that way. He didn't make much eye contact with people when he was a toddler. He could be counted on to completely fail to notice when anyone except me was trying to get his attention. He never really talked to people or played pretend. As a small child he did not require human interaction. He spent hours alone building things. Sometimes if I was really lucky he pointed out to me interesting gears, and he often slammed books about mechanical things into my knees until I read them for the five hundredth time. Never, ever, ever, did he respond to a friendly "hello", notice when a new person entered a room, or otherwise appear to be a member of society. When he was five, his older cousin got a robot for Christmas and drove it into the living room with a remote control. For the first time ever, my nearly non-verbal son 1) noticed someone new was in the room, 2) made eye contact, 3) approached the person respectfully, not too close or too far. Then he said (still making eye contact!) "Hello, Mister Robot. I'm [Name]. How are you today?" and... you would never believe it if you knew him... waited for the robot to respond! My baby DID know how to make conversation! He WAS capable of interaction! I then burst into tears. And, of course, my son didn't notice my emotions. My heart broke for him even as my boy made his bent so clear to me. I vowed to do everything I could to help my son make for himself that robot companion that was clearly his only hope for ever having a friend. Together he and I would create a world of androids to warm every Aspergian's heart. In the five years after that episode, either my son or I have read every single book on robotics accessible to young people in the U.S. No, I don't think I am actually exaggerating. We are aggressive pursuers of books and fanatic followers of our interests. We have read ALL the robot books. They fall into three main categories: silly stories about robots doing things they can't do; technical manuals that you need to have higher maths or a neurological disorder to follow; dry non-fiction with flashy pictures that do a poor job compensating for a lack of depth in the content. Being unable to shell out the \$750 for both a Lego robotics kit AND a Lego robotics class, we had pretty much given up on the idea of doing anything for robotics at home, besides studying electronics and math and programming and construction all separately. Both the boy and I were counting the days till I could dump him on the steps of CUNY's mechatronics lab. (One thousand, eight hundred and thirty five if they'll take him for early admission.) Enter Kathy Ceceri's Robotics. Whoa... I am as blown away as I was that Christmas day my son had his first appropriate conversation with anyone. Somebody finally did it! She wrote a book that starts with very simple, basic ideas, explains them, THEN doesn't stop there but explains the next thing you need to understand, and then even doesn't stop there yet but goes on to make clear, using your slowly developed new knowledge, how the complicated, really serious

robotics actually works. In detail. This is the best book on robotics for kids ever. It is also a fabulous example of how to do a book on a very technical subject for children (or non-engineer-ish parents). The projects are all genius! I have super high standards for science projects. I do not want to make a chemical reaction inside paper mache and call it earth science; that's chemistry, not a freakin' volcano. My son too, having already made many a silly pretend robot out of recyclables, no longer has any interest in busywork. He will only do projects that help him think about robotics. This book was full of them. Every last project was instructive or thought-provoking. No where does she skim a fact or concept and cover that up by providing a dinky, funny craft or a big glossy photo. She covers them all in such a slow gradient, on a step-by-step, idea-by-idea basis, that I am unafraid to read this book to my younger, non-Aspergian children. My first grader will not be frustrated. He will get it. Every school and every library should have this book. It's the only good one on the topic. But it's good enough for a shelf of books. Really, really, buy this book. You will use it. Your kid will love it. You will look at it on the shelf and swell with satisfaction from the simple knowledge that

SOMEONE knows how to write engineering for kids.

This is my first year teaching a Robotics Class. I have borrowed over 30 books from the library, read many books and sifted through TPT packets. This book is my go-to book and has become the most valuable tool for planning my classes. I \*highly\* recommend it!

This was a gift for my 11 year old grandson and he loves it! Before I knew it he was ripping the insides out of the flashing, beeping, talking toys the other grands love as per instructions in this book! No worries tho, once he began building we all added bits and pieces to add to his stockpile of supplies. Lots of cool facts and if you read the chapter to get the concept of what is going on and why you'll get more out of it. Some parental help advised on some projects.

Who should read this book? I don't know. The projects are silly, for a 7 years old kid, but it has concepts like "language programming", photovoltaic effect and more, beyond the information a child has. The graphics are childish and confusing. By the way, the author says that the word "robot" was introduced by Isaac Asimov in the novel "I, Robot", and that's not true. It was invented by Karel Capek, czech writer, in the play R.U.R. How could I recommend it.

Great beginning book. Terrific information and provides simple robots to build. Everything is explained in terms that are understandable. Goes beyond my expectations.

Excellent book for an elementary school and early middle school students. Has great ideas for science projects that are easy to build, and teach good insight into basic robotics.

7 year-old robotics-obsessed son loves this book. We read it and do the projects together. If you can relate to that you'll like it as well. Definitely one for the robotic library, if you have one of those.

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