



# The LEGO MINDSTORMS EV3 Discovery Book (Full Color): A Beginner's Guide to Building and Programming Robots

By Laurens Valk

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## The LEGO MINDSTORMS EV3 Discovery Book (Full Color): A Beginner's Guide to Building and Programming Robots By Laurens Valk

LEGO MINDSTORMS has changed the way we think about robotics by making it possible for anyone to build real, working robots. The latest MINDSTORMS set, EV3, is more powerful than ever, and *The LEGO MINDSTORMS EV3 Discovery Book* is the complete, beginner-friendly guide you need to get started.

Begin with the basics as you build and program a simple robot to experiment with motors, sensors, and EV3 programming. Then you'll move on to a series of increasingly sophisticated robots that will show you how to work with advanced programming techniques like data wires, variables, and custom-made programming blocks. You'll also learn essential building techniques like how to use beams, gears, and connector blocks effectively in your own designs.

Master the possibilities of the EV3 set as you build and program:

- The EXPLOR3R, a wheeled vehicle that uses sensors to navigate around a room and follow lines
- The FORMULA EV3 RACE CAR, a streamlined remote-controlled race car
- ANTY, a six-legged walking creature that adapts its behavior to its surroundings
- SK3TCHBOT, a robot that lets you play games on the EV3 screen
- The SNATCH3R, a robotic arm that can autonomously find, grab, lift, and move the infrared beacon
- LAVA R3X, a humanoid robot that walks and talks

More than 150 building and programming challenges throughout encourage you to think creatively and apply what you've learned to invent your own robots. With *The LEGO MINDSTORMS EV3 Discovery Book* as your guide, you'll be building your own out-of-this-world creations in no time!

Requirements: One LEGO MINDSTORMS EV3 set (LEGO SET #31313)

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### **Editorial Review**

From School Library Journal

Gr 6 Up—A tome for fans of robotics and LEGO Mindstorms EV3 Kits. Hyper-detailed instructions—with full color, easy-to-read and understand illustrations—help budding enthusiasts navigate EV3 Kits with clear language and step-by-step directions. Readers learn the basics of assembling a simple robot before being introduced to various programming tricks to be used on the EV3 Brick, the colloquial term for the Mindstorms mini-computer. Be forewarned that in order to take full advantage of the programming functionality of the kit, including the ability to create and edit programs, users must have a computer to connected to their EV3 Brick (though basic programming on the EV3 Brick can be done without one). Each chapter contains several short challenges, dubbed "discoveries," which are cleverly accompanied by a legend: whimsical gear wheels represent the estimated amount of building time; tiny Microsoft Windows-esque blocks show the expected level of programming expertise; and a small clock estimates the length of time it should take to solve the challenge. Later chapters describe building intricate robots with fun objectives: a racing robot, ANTY (a robotic ant), and the SNATCH3R (complete with a robotic arm that grabs). Readers who are intimidated by the discoveries can skip these and instead focus on the building projects and the programming tricks that do not involve the use of a computer. The size, advanced vocabulary, and organization of the book evokes a science or physics textbook, which is warranted due to the amount of complex and detailed programming information contained within. However, colorful images keep it from feeling too academic. **VERDICT** This book will find a home in libraries with makerspaces and/or those that offer robotics or science clubs, LEGO teams, or other STEM-oriented groups.—Amy M. Laughlin, Darien Library, CT

#### **About the Author**

Laurens Valk is a member of the MINDSTORMS Community Partners, a select group of MINDSTORMS enthusiasts who help test and develop new MINDSTORMS products. One of his robot designs is featured on the EV3 packaging as a bonus project. His previous work, the best-selling LEGO MINDSTORMS NXT 2.0 Discovery Book, introduced tens of thousands of beginners worldwide to the powerful world of LEGO MINDSTORMS robotics. He blogs about robots at [robotsquare.com](http://robotsquare.com).

### **Users Review**

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##### **Stacy Vincent:**

Now a day people that Living in the era everywhere everything reachable by interact with the internet and the resources in it can be true or not need people to be aware of each data they get. How individuals to be smart in obtaining any information nowadays? Of course the reply is reading a book. Studying a book can help persons out of this uncertainty Information especially this The LEGO MINDSTORMS EV3 Discovery Book (Full Color): A Beginner's Guide to Building and Programming Robots book because this book offers you rich info and knowledge. Of course the data in this book hundred % guarantees there is no doubt in it as you know.

**Michael Mitchell:**

Reading a book tends to be new life style in this era globalization. With studying you can get a lot of information that could give you benefit in your life. Together with book everyone in this world can share their idea. Guides can also inspire a lot of people. A lot of author can inspire all their reader with their story as well as their experience. Not only the story that share in the books. But also they write about the knowledge about something that you need case in point. How to get the good score toefl, or how to teach your young ones, there are many kinds of book which exist now. The authors in this world always try to improve their proficiency in writing, they also doing some exploration before they write to their book. One of them is this The LEGO MINDSTORMS EV3 Discovery Book (Full Color): A Beginner's Guide to Building and Programming Robots.

**Maria Levine:**

This The LEGO MINDSTORMS EV3 Discovery Book (Full Color): A Beginner's Guide to Building and Programming Robots is great guide for you because the content which is full of information for you who have always deal with world and also have to make decision every minute. This specific book reveal it data accurately using great coordinate word or we can state no rambling sentences inside. So if you are read the idea hurriedly you can have whole info in it. Doesn't mean it only will give you straight forward sentences but tough core information with lovely delivering sentences. Having The LEGO MINDSTORMS EV3 Discovery Book (Full Color): A Beginner's Guide to Building and Programming Robots in your hand like getting the world in your arm, info in it is not ridiculous 1. We can say that no book that offer you world with ten or fifteen moment right but this publication already do that. So , this really is good reading book. Hey Mr. and Mrs. active do you still doubt this?

**Willie Briggs:**

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