

The SparkFun Arduino Inventor's Guide



Description: The Arduino microcontroller makes it easy to learn about electronics, but it can be hard to know where to start. The 10 projects in "The SparkFun Arduino Inventor's Guide" will teach you to build, code and invent with the super-smart Arduino and a handful of parts.

First, you'll master the basics with a primer that explains how a circuit works, how to read a wiring schematic, and how to build and test projects with a solderless breadboard. Then you'll learn how to make your hardware move, buzz, flash and interact with the world using motors, LEDs, sensors and more as you build these 10 projects:

- The classic first Arduino project: blinking an LED
- A miniature traffic light
- An LED screen that displays animated patterns and shapes
- A fast-paced button-smashing game to test your reflexes
- A light-sensitive, color-changing night-light
- A challenging ball-balancing game
- A temperature-sensing mini greenhouse with an automated fan and vent
- A motorized robot that you can control
- A racing timer for toy cars
- A tiny electric piano that you can actually play!

With each project, you'll learn real coding skills so you can tell your inventions what to do — for example, store temperature readings with variables, start a timer or spin a motor with functions, and make decisions using loops. You'll even find tips and tricks to put your own twist on each gadget and take things further.

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