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SparkFun Digital Sandbox

○ **DEV-12651 ROHS** ✔ ⚙ ▯

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DESCRIPTION   INCLUDES   DOCUMENTS   EXAMPLES

The Digital Sandbox (DS) is a learning platform that engages both the software and hardware worlds. It's powered by a microcontroller that can interact with real-world inputs – like light or temperature sensors – while simultaneously controlling LEDs, motors, and other outputs. The Digital Sandbox is equipped with everything, on board, you will need to complete 13 experiments, including controlling an LED, measuring how loud things are, detecting what the temperature is, and more. Think of this as a SparkFun Inventor's Kit, all in one board!

By interfacing the Sandbox to your computer via a USB cable, the Sandbox can be programmed using the popular Arduino programming environment. To further simplify the experience, we've designed the Sandbox and its guide around a simple, "blocky" programming add-on to Arduino called *Ardublock*. Using *ArduBlock* – a simple, graphical version of the popular Arduino language – you will be able to program all the experiments with a simple graphical interface instead of writing code.

The full-color Digital Sandbox Guide (included) contains step-by-step instructions on how to connect each circuit with the included parts. Full example code is provided and explained, and even includes troubleshooting tips if something goes wrong. The kit does not require any soldering and is recommended for beginners ages 8 and up.

Note: There are three additional circuit experiments included in the DS Guide that will require the Digital Sandbox Add-On pack.
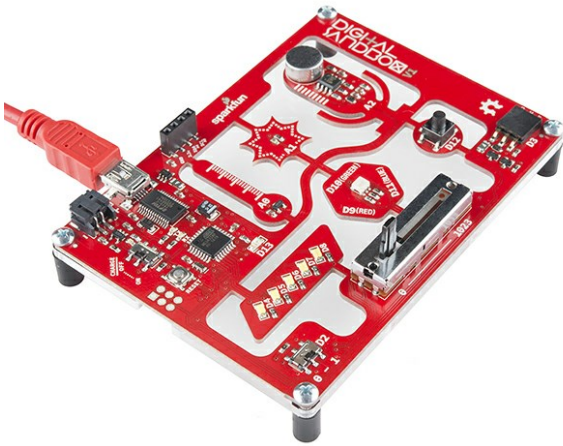
GET STARTED WITH THE DIGITAL SANDBOX EXPERIMENTS GUIDE

Tags

ARDUINO   DEVELOPMENT   DIGITAL SANDBOX   KIT

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SparkFun Digital Sandbox Product Help and Resources

TUTORIALS   VIDEOS   ⓗ hackster.io   SKILLS NEEDED

Digital Sandbox Experiment Guide
JULY 31, 2014

Your guide to the Digital Sandbox! 16+ experiments that, using a graphical programming language, teach you to blink LEDs, monitor microphones, read temperature, and much more.

Digital Sandbox Arduino Companion
JULY 31, 2014

Let's take the same examples from the ArduBlock-based Digital Sandbox guide, and implement them using Arduino code.
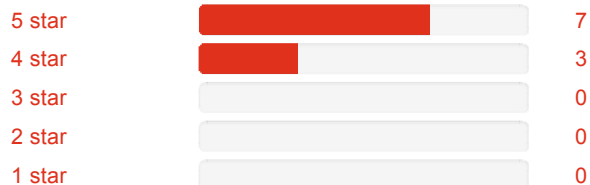
DigitalSandbox PicoBoard
AUGUST 15, 2014

This tutorial walks through how to upload code to your Digital Sandbox to emulate the functionality of the PicoBoard with Scratch.

Customer Reviews

★★★★⯨ 4.7 out of 5

Based on 10 ratings:

5 star	████████	7
4 star	████	3
3 star		0
2 star		0
1 star		0

Currently viewing all customer reviews.

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13 of **14** found this helpful:

★★★★★ The perfect teaching tool!

about 3 years ago by Farmington Public Library ✔ **verified purchaser**

We ordered 15 of these DS to use as teaching aids in our public library Maker space.

They are good looking and well labeled. It is very easy for students to find pin numbers and identify the embedded electronics.

They are very rugged with the acrylic plate and feet. very little worry of damage. I have no problem taking these to do offsite training. Just toss them in a shoe box and go.

It is all built in. No need for students to fuss with tons of wires, resistors, breadboards, potentiometers, LEDs, etc. etc. This really allows me to focus on teaching Arduino programming much faster than I would be able to do otherwise. When you have 15 students in a class, just the breadboard setup to teach blink can take 45 minutes.

Much cheaper than purchasing Arduino's with all the breadboards, wires, resistors, LED's. We do not have to purchase replacement LED's all the time when students forget a resistor

The Digital Sandbox is Arduino compatible so students have a large number of options to choose from when they go to purchase a board for their projects later.

SparkFun did a ton of work and created full experiment guides for use with both Ardublock and Arduino. I did not even have to write class curriculum. They did it for me!

Everyone who wants to teach Arduino should be using these! They have saved us countless hours of work and dollars in our tight budget.

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3 of **4** found this helpful:

★★★★★ great product

about 3 years ago by Member #632822 ✔ **verified purchaser**

I have found the Sandbox to be a good intermediate step between drop-down menu type programming and Arduino programming.

---

3 of **4** found this helpful:

★★★★★ Great first microcontroller for kids.

about 3 years ago by Member #279176 ✔ **verified purchaser**

I bought this board for my 7 year old to get her into coding. Prior to this she had worked with the hour of code site and this board was a perfect next step.

---

2 of **3** found this helpful:

★★★★★ Best way to teach arduino to kids

about 3 years ago by Member #613233 ✔ **verified purchaser**

My middle school students have chromebooks and I use codebender with the Digital Sandbox to teach arduino.

It circumvents bread boarding so I can focus on the code. That turns out to be a more successful way to get girls involved. Once they gain some confidence with arduino, they get all kinds of ideas on things to build. Then I give them an inventors kit and show them how to build their own circuits. Best way to get kids to think like a maker. I used to start with an inventors kit and spent so much time on the tedious bread boarding that I would lose kids on the cusp (mostly the girls). Then I discovered the lilypad protosnap and wished for something similar, but with more inputs and outputs. Sparkfun read my mind and came out with the Digital Sandbox. Love it! Now I have 50/50 girls and boys.

---

2 of **3** found this helpful:

⭐⭐⭐⭐☆ Seriously fun introduction to programming and microcontrollers!

about 3 years ago by chasward ✓ verified purchaser

I got this (plus the add-on kit) for a technician at my company who was interested in learning to program small uC's, which we use extensively in our products (scientific instruments). With no extra assistance, he set up the arduino tool chain, libraries, etc. and started programming on his kitchen table. And so did his 5-year old daughter, who was soon suggesting R-G-B patterns to light up the on-board LED's with her favorite colors! Now they are moving ahead to voice-activated blinky lights, reading pots and switches, etc. He hasn't tried the ArduBlock interface, as I recommended starting out with the text editor, since this will be more like the "real" programming interface he will encounter later. All in all, a really good (and fun!) learning tool, backed by all kinds of resources on Sparkfun and the Arduino websites.

---

1 of **2** found this helpful:

⭐⭐⭐⭐☆ An awesome entry point for learners!

about 2 years ago by Member #735052 ✓ verified purchaser

The sandbox, programming tool and introductory book are a great package for those new to Arduino, microcontrollers and programming.

---

1 of **2** found this helpful:

⭐⭐⭐⭐☆ Nice little board

about 2 years ago by Member #133110 ✓ verified purchaser

Nice product. ArduBlocks could use some help. It's pretty limited.

---

1 of **2** found this helpful:

⭐⭐⭐⭐⭐ Best thing we use with students!

about 2 years ago by Member #329527 ✓ verified purchaser

I really like these as a classroom tool. They are the quickest way for students to get into "IoT", great for beginners as it builds confidence in themselves. Students can quickly get a program up and running, see how the codes work, etc.

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1 of **3** found this helpful:

⭐⭐⭐⭐⭐ Great for Kids

about 3 years ago by Member #527960 ✓ verified purchaser

As others have mentioned, the SparkFun Digital Sandbox is a great way to introduce kids to programming and Arduino. Since everything is already wired on the board, students can start making it do things right away.

I've been using Ardublock for my classes. Ardublock isn't perfect, but it allows students to get a feel for programming without all the aggravation of misplaced or missing semicolons and parentheses.

Once students see what they can do, they'll be ready to put in the time to learn wiring and syntax. The Digital Sandbox removes these early barriers to learning.

START SOMETHING.

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In 2003, CU student Nate Seidle blew a power supply in his dorm room and, in lieu of a way to order easy replacements, decided to start his own company. Since then, SparkFun has been committed to sustainably helping our world achieve electronics literacy from our headquarters in Boulder, Colorado.

No matter your vision, SparkFun's products and resources are designed to make the world of electronics more accessible. In addition to over 2,000 open source components and widgets, SparkFun offers curriculum, training and online tutorials designed to help demystify the wonderful world of embedded electronics. We're here to help you start something.

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For which department?

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