Code.org Circuit Playground Individual Kit Pack

PRODUCT ID: 3795

The Code.org CS Discoveries course is a yearlong curriculum for teaching computer science, and there's even a physical computing unit! For large classrooms and workshops, we recommend our Code.org Classroom pack. But, if you need to supplement your Classroom pack or are learning on your own, we now have a mini-kit – with just the essentials for a single student or share-pair.

Individual kit includes everything you need:

- 1 x Circuit Playground Express – this is pre-programmed with Firmata!
- 1 x USB cable – A/MicroB – 3ft
- 1 x Small Alligator Clip Test Lead (set of 12)
- 1 x Adafruit LED Sequins – Multicolor Pack of 5

This pack is for students and individuals who want to learn the physical computing unit of the Code.org CS Discoveries curriculum, but it can also be used by anyone who is learning Arduino. If you're an educator looking to buy Circuit Playgrounds in bulk for a Code.org CS Discoveries classroom, check out our Code.org Circuit Playground Educators' Pack which gives you enough parts for up to 30 share-pair or 15 individual students.

This pack comes with the Express version of Circuit Playground so you can use it with Code.org, then also try with MakeCode, CircuitPython or Arduino as your skill levels up!

About Circuit Playground Express:

Circuit Playground Express is the next step towards a perfect introduction to electronics and programming. We've taken the original Circuit Playground Classic and made it even better! Not only did we pack even more sensors in, we also made it even easier to program.

If you are moving the CS Discoveries curriculum, you can continue your journey with Microsoft MakeCode block-based or Javascript programming. Then, you can use the same board to try CircuitPython with the Python interpreter running on the Express. As you progress, you can advance to using Arduino IDE, which has full support of all the hardware down to the low level, so you can make powerful projects.

The board is round and has alligator-clip pads around it, so you don't have to solder or sew to make it work. You can power it from USB, a AAA battery pack, or with a Lipoly battery (for advanced users). Circuit Playground Express has built-in USB-support. Built-in USB means you can plug it in to program and it just shows up, no special cable or adapter required. Just program your code into the board then take it on the go!

Here are some of the great goodies baked into each Circuit Playground Express:

- 10 x mini NeoPixels, each one can display any color
- 1 x Motion sensor (LIS3DH triple-axis accelerometer with tap detection, free-fall detection)
- 1 x Temperature sensor (thermistor)
- 1 x Light sensor (phototransistor). Can also act as a color sensor and pulse sensor.
- 1 x Sound sensor (MEMS microphone)
- 1 x Mini speaker with class D amplifier (7.5mm magnetic speaker/buzzer)
- 2 x Push buttons, labeled A and B
- 1 x Slide switch
- Infrared receiver and transmitter – can receive and transmit any remote control codes, as well as send messages between Circuit Playground Expresses. Can also act as a proximity sensor.
- 8 x alligator-clip friendly input/output pins
- Includes I2C, UART, 8 pins that can do analog inputs, multiple PWM output
- 7 pads can act as capacitive touch inputs and the 1 remaining is a true analog output
- Green "ON" LED so you know its powered
- Red "#13" LED for basic blinking
- Reset button
- ATSAMD21 ARM Cortex M0 Processor, running at 3.3V and 48MHz
- 2 MB of SPI Flash storage, used primarily with CircuitPython to store code and libraries.
- MicroUSB port for programming and debugging
- USB port can act like serial port, keyboard, mouse, joystick or MIDI!

TECHNICAL DETAILS

- Circuit Playground outer diameter: ~50.6mm / ~2.0"
- Circuit Playground weight: 8.9g