Code.org Circuit Playground Express Educators' Pack

PRODUCT ID: 3399

For many years, instructors and teachers have asked us to come up with a better way to teach programming and electronics. We have worked on Circuit Playground Express for over a year to come up with a board that is powerful, beautiful, fun, and perfect for teaching Code.org CS Discoveries

Circuit Playground Express is a perfect introduction to electronics and programming. It combines a poweful ATSAMD21G18 microcontroller with full Code.org CS Discoveries, MakeCode, CircuitPython and Arduino support. You can program it in any of those language and it even comes with a collection of useful sensors, inputs and outputs all built-in! 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 like your computer. To make it portable, a AAA battery pack, or with a Lipoly battery (for advanced users) can be plugged in. Circuit Playground Express has built-in USB support. Built in USB means you plug it in to program it and it just shows up, no special cable or adapter required. Just program your code into the board then take it on the go!

This pack is for educators who wish to purchase Circuit Playground Express development boards in bulk along with accessories for getting started. You'll get enough parts for 15 students working individually or 30 students working paired up. All at a price that makes it possible to give anyone a chance to explore, perfect for classrooms and workshops!

In particular, this pack is for instructors teaching the physical computing unit of the Code.org CS Discoveries curriculum, but it can also be used by any instructor who is teaching with MakeCode, Arduino or CircuitPython

Pack includes:

- 15 x Circuit Playground Express - Programmed with Firmata so it can be used with code.org out of the box
- 15 x USB cable - A/MicroB - 3ft
- 10 x Small Alligator Clip Test Lead (set of 12)
- 12 x Adafruit LED Sequins - Multicolor Pack of 5

Here's some of the great goodies baked in to 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

- Check out our detailed tutorial for pinouts, driver installation, Arduino IDE usage, and more!
- Circuit Playground outer diameter: ~50.6mm / ~2.0"
- Circuit Playground weight: 8.5g