



Circuit Playground Express Educator's Pack

PRODUCT ID: 2769



. Description

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. You can now start 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 right 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.

Because you can program the same board in 3 different ways - the Express has great value and re-usability. From beginners to experts, Circuit Playground Express has something for everyone. If you are looking for our original, Arduino-only Circuit Playground, check out the Circuit Playground Classic.

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 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!

Pack includes:

- **2 x** Circuit Playground Express
- **2 x** USB cable - A/MicroB

Parts to make wearable and sewable electronics:

- **1 x** Stainless Thin Conductive Thread - 2 ply - 23 meter/76 ft for sewing wearable projects
- **1 x** Needle set - 3/9 sizes - 20 needles
- **1 x** Sewable Snaps - 5mm Diameter - Card of 24
- **1 x** Magnetic Pin Back

Parts to make breadboard, paper-craft, or clip-on electronics and sensors:

- **1 x** Copper Foil Tape with Conductive Adhesive - 6mm x 15 meter roll
- **1 x** Small Alligator Clip Test Lead (set of 18)
- **1 x** Small Alligator Clip to Male Jumper Wire Bundle - 6 Pieces

Extra RGB and multicolor LEDs, and two motors:

- **2 x** Micro Servo - make your own little robots!
- **1 x** Flora RGB Smart NeoPixel version 2 - Pack of 4
- **1 x** Adafruit LED Sequins - Multicolor Pack of 5

Two ways to power your projects, AAA's for smaller and lighter builds and AA's for when you want to blink all night long!

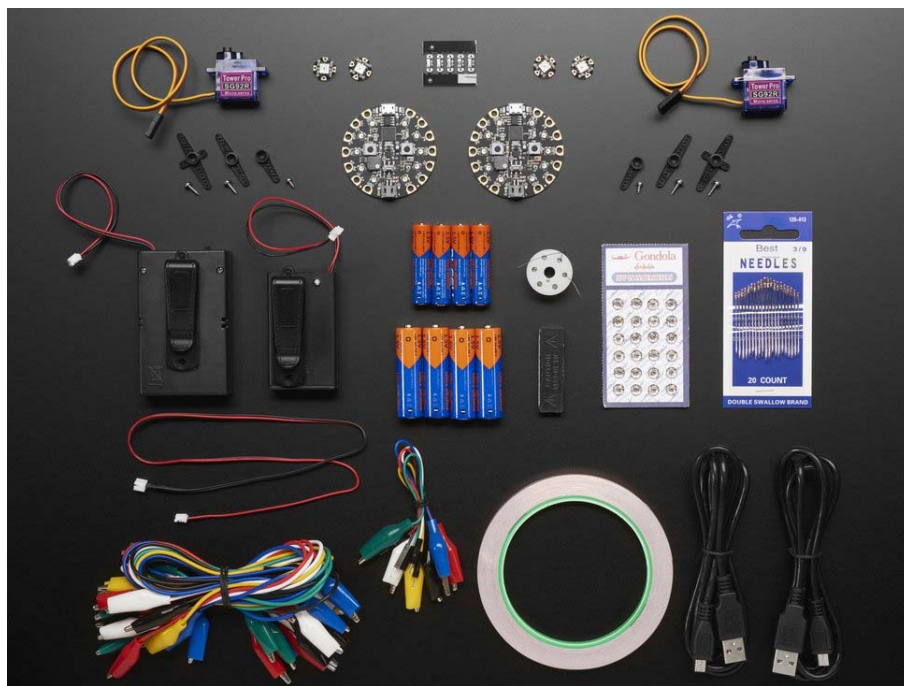
- **1 x** JST-PH Battery Extension Cable - 500mm - Extension cables for the battery holders
- **1 x** 3x AAA Battery Holder with On/Off Switch, JST, and Belt Clip
- **3 x** Alkaline AAA batteries
- **1 x** 3x AA Battery Holder with On/Off Switch, JST, and Belt Clip
- **3 x** Alkaline AA batteries

And plenty of storage for projects and parts:

- **2 x** Mini Storage Box
- **1 x** AdaBot LunchBox!

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
- ATSAM21 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!



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