

Circuit Playground Python Cheat Sheet!

Commands

Do This Thing - Use This Code

Adjust neopixel brightness - `cp.pixels.brightness = brightness`

Light up a neopixel - `cp.pixels[number] = (color, color, color)`

Light up *all* neopixels - `cp.pixels.fill((color, color, color))`

Pause for a few seconds - `time.sleep(# of seconds)`

Write in the console - `print("What To Write")`

Start sound - `cp.play_tone(frequency of a sound, how long to play for)`

Stop sound - `cp.stop_tone()`

Sensors

Sensor / Switch - How To Call It

Sound Sensor - `cpb.loud_sound(sound_threshold=number)`

Touch Sensor - `cp.touch_PINOUT`

Accelerometer Sensor - `cp.acceleration`

Temperature (Celsius) Sensor - `cp.temperature`

Slide Switch - `cp.switch`

Shake Sensor - `cp.shake(shake_threshold=number)`

Tapped Sensor - `cp.tapped`

Button A - `cp.button_a`

Button B - `cp.button_b`

Light Sensor - `cp.light`

Conditions & Math

Condition - How To Write In Python

Equals: `a == b`

Does Not Equal: `a != b`

Less than: `a < b`

Less than or equal to: `a <= b`

Greater than: `a > b`

Greater than or equal to: `a >= b`

Colors

Color - (Red, Green, Blue)

White - (255, 255, 255)

Red - (255, 0, 0)

Green - (0, 255, 0)

Blue - (0, 0, 255)

Cyan - (0, 255, 255)

Magenta - (255, 0, 255)

Yellow - (255, 255, 0)

Black - (0, 0, 0)

Libraries

Library - from big library import specific library

Circuit Playground -

`from adafruit_circuitplayground import cp`

Circuit Playground Bluefruit -

`from adafruit_circuitplayground.bluefruit`

`import cpb`

Timer - `import time`

Math functions - `import math`

Tones

Note - Frequency in Hertz

A - 440

E - 659

B - 494

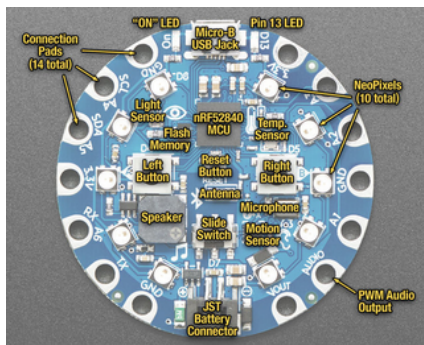
F - 698

C - 523

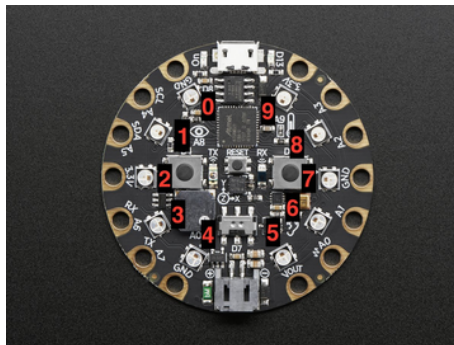
G - 784

D - 587

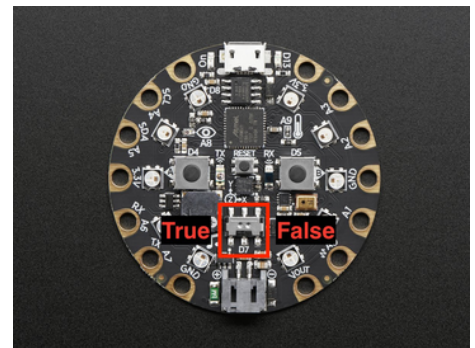
A - 880



All the Sensors, Buttons, & Chips



Neopixel Numbers



Switch Direction

Circuit Playground & Python References!

Computer Links

Adafruit Circuit Playground Bluefruit page: <https://learn.adafruit.com/adafruit-circuit-playground-bluefruit>

Python tutorials and lessons for kids: <https://projects.raspberrypi.org/en/pathways/python-intro>

PyGames, a library for game development with Python: <https://www.pygame.org/wiki/about>

CircuitPython lessons from Carnegie Mellon University: <https://courses.ideate.cmu.edu/16-376/s2022/ref/text/code/index.html>

Documentation for CircuitPython: <https://docs.circuitpython.org/projects/circuitplayground/en/latest/>

Books in the Library

Kids' Books

A Beginner's Guide to Coding - Marc Scott

You Can Code: Make Your Own Games, Apps and More in Scratch and Python! - Kevin Pettman

Creative Coding in Python - Sheena Vaidyanathan

Code This Game! - Meg Ray

Adult Section Books

Python for Kids for Dummies - Brendan Scott

Impractical Python Projects: Playful Programming Activities To Make You Smarter - Lee Vaughn