Circuit Playground

Vår lilla dator

Connection Pads (14 total)

"ON" LED

Micro-B USB Jack

Pin 13 LED

ON

GND

SCL #3

#17

ATmega32u4 Microcontroller

3.3V

#10

SDA #2

A5

Light Sensor

Reset Button

A0

Temp. Sensor

#9

3.3V

Left Button

#

Accelerometer

#19

Right Button

GND

RX #0

Speaker

Slide Switch

Microphone

#6

TX #1

#5

#21

A4

#12

GND

JST Battery Connector

VBATT

NeoPixels (10 total)
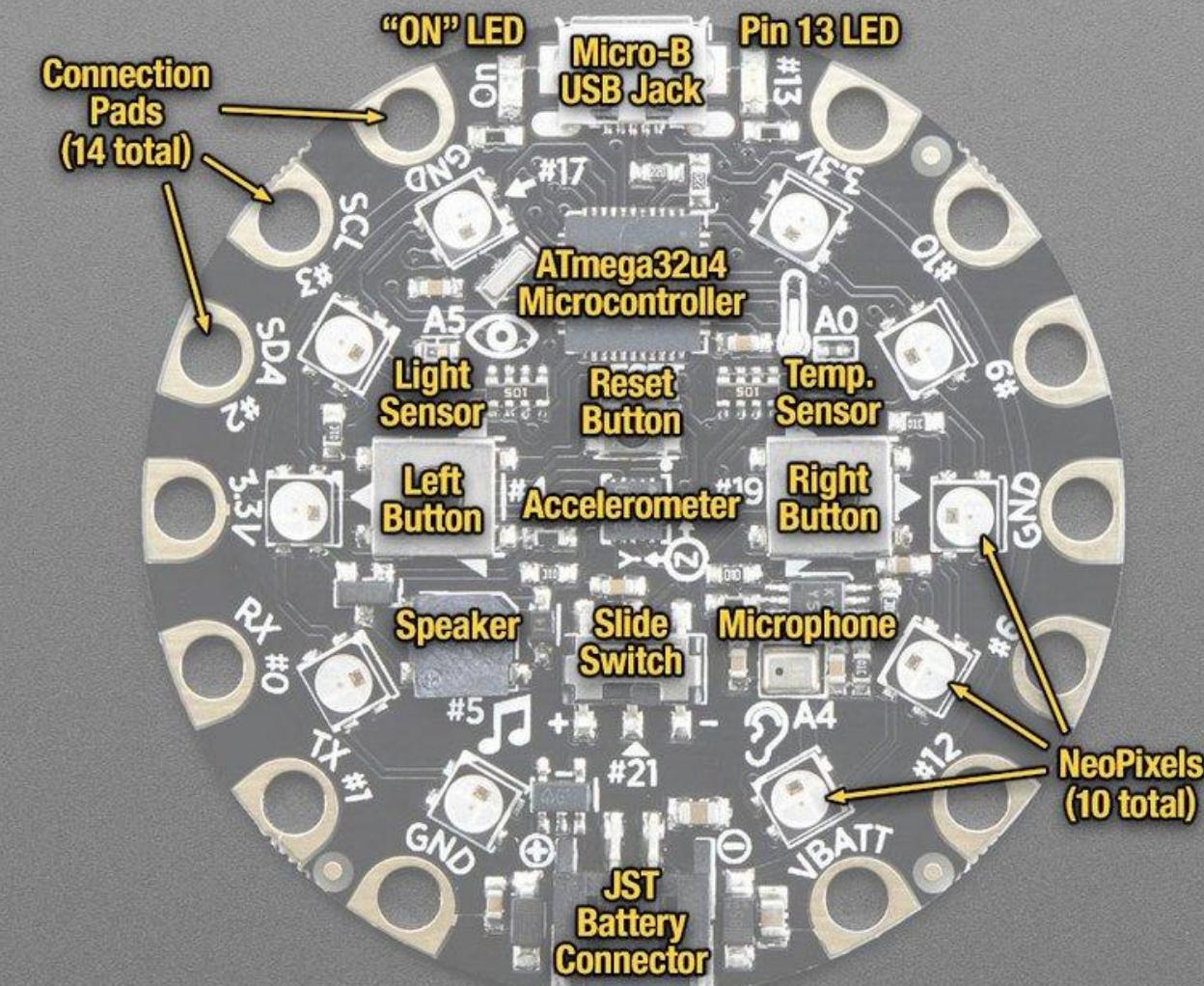
Arbeta så här

1. Starta datorn och logga in
2. Koppla ihop med Circuit Playground (CP)
3. Kör igång programmet Arduino
4. (Välj CP i menyerna -- Staffan visar.)
5. Skriv in programmet
6. Ladda över till CP

Byt vid tangentbordet mellan de olika övningarna!!! Anteckna i loggboken.

1. Lysdioder

- power on
- #13
  - PÅ: CircuitPlayground.redLED(true);
  - AV: CircuitPlayground.redLED(false);

```
#include <Adafruit_CircuitPlayground.h>

void setup() {
  CircuitPlayground.begin();
}

void loop() {
  CircuitPlayground.redLED(HIGH);
  delay(500);

  CircuitPlayground.redLED(LOW);
  delay(500);
}
```

2. Knappar (3 stycken)

CircuitPlayground.leftButton();

CircuitPlayground.rightButton();

CircuitPlayground.slideSwitch();

```
#include <Adafruit_CircuitPlayground.h>

void setup() {
  CircuitPlayground.begin();
}

void loop() {
  if (CircuitPlayground.leftButton()) {
    CircuitPlayground.redLED(HIGH);
  } else {
    CircuitPlayground.redLED(LOW);
  }
}
```

3. NeoPixels

`CircuitPlayground.setPixelColor(0, red, green, blue)`

```
#include <Adafruit_CircuitPlayground.h>

void setup() {
  CircuitPlayground.begin();
}

void loop() {
  if (CircuitPlayground.leftButton()) {
      CircuitPlayground.setPixelColor(0, 200, 0, 200);
  } else {
      CircuitPlayground.clearPixels();
  }
}
```

`CircuitPlayground.setBrightness(255)`

4. Temp

```
#include <Adafruit_CircuitPlayground.h>

void setup() {
  CircuitPlayground.begin();
}

void loop() {
  if (CircuitPlayground.temperature() > 25) {
      CircuitPlayground.setPixelColor(0, 200, 0, 200);
  } else {
      CircuitPlayground.clearPixels();
  }
}
```

5. Ljus?

```
#include <Adafruit_CircuitPlayground.h>

void setup() {
  CircuitPlayground.begin();
}

void loop() {
  if (CircuitPlayground.lightSensor() > 100) {
      CircuitPlayground.setPixelColor(0, 200, 0, 200);
  } else {
      CircuitPlayground.clearPixels();
  }
}
```

6. Mick?

```
#include <Adafruit_CircuitPlayground.h>

void setup() {
  CircuitPlayground.begin();
}

void loop() {
  if (CircuitPlayground.soundSensor() > 500) {
      CircuitPlayground.setPixelColor(0, 200, 0, 200);
  } else {
      CircuitPlayground.clearPixels();
  }
}
```

7. Ljud

```
#include <Adafruit_CircuitPlayground.h>

void setup() {
  CircuitPlayground.begin();
}

void loop() {
  if (CircuitPlayground.leftButton()) {
      CircuitPlayground.playTone(880, 500);
  }
}
```

8. Rörelse?

```
#include <Adafruit_CircuitPlayground.h>

void setup() {
  CircuitPlayground.begin();
}


void loop() {
  if (CircuitPlayground.motionZ() > 10) {
      CircuitPlayground.setPixelColor(0, 200, 0, 200);
  } else {
      CircuitPlayground.clearPixels();
  }
}
```

https://learn.adafruit.com/circuit-playground-lesson-number-0/accelerometer

9. Känsel?

```
#include <Adafruit_CircuitPlayground.h>

void setup() {
  CircuitPlayground.begin();
}

void loop() {
  if (CircuitPlayground.readCap(1) > 5) {
      CircuitPlayground.setPixelColor(0, 200, 0, 200);
  } else {
      CircuitPlayground.clearPixels();
  }
}
```

Snabbspår

https://learn.adafruit.com/circuit-playground-lesson-number-0/intro