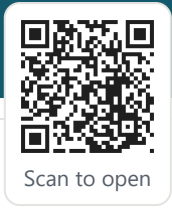
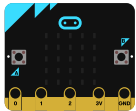


Rainbow lightsaber · START A BIT



Parts you need



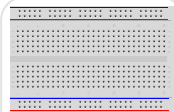
Micro:bit



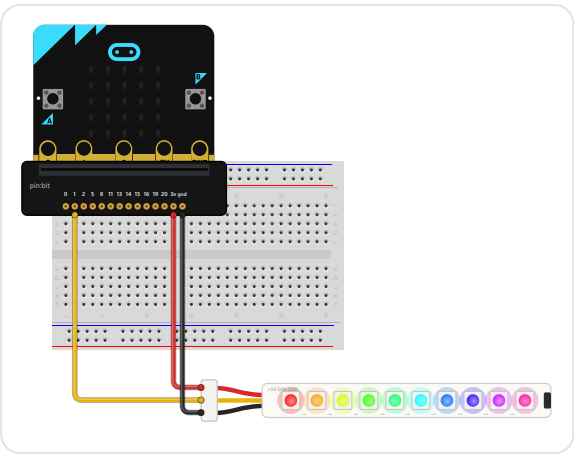
Breakout board (pin:bit)



LED strip



Breadboard



- strip + (red) → 3v
- strip DIN (yellow) → pin 1
- strip GND (black) → gnd

The same wiring for every story. Power the Micro:bit with the USB cable; the battery pack is only for swinging it at story 4. Unplug while you wire.

Remember

Addressable LEDs

Change the colours in the program, then show: nothing changes until the program sends them.

Breadboard

Two legs in the same column are connected. Two legs in the same row are not.

Motion sensor (accelerometer)

Events like "on shake" for quick moves; "acceleration (mg)" for how far it is tilted.

Story 1: A moving rainbow

```
forever
  strip → rotate pixels by 1
  strip → show
  pause (ms) 50

on start
  set strip → to NeoPixel at pin P1 with 10 leds as RGB (GRB format)
  strip → set brightness 40
  strip → show rainbow from 1 to 360
```

Story 2: Chase the light

```
forever
  for index → from 0 to 9
    do
      strip → clear
      strip → set pixel color at index → to red
      strip → show
      pause (ms) 30

on start
  set strip → to NeoPixel at pin P1 with 10 leds as RGB (GRB format)
  strip → set brightness 40
```

Story 3: Switch on the blade

```
on button A → pressed
  for index → from 0 to 9
    do
      strip → set pixel color at index → to blue
      strip → show
      pause (ms) 20

on button B → pressed
  for index → from 0 to 9
    do
      strip → set pixel color at 9 → index → to black
      strip → show
      pause (ms) 20

on start
  set strip → to NeoPixel at pin P1 with 10 leds as RGB (GRB format)
  strip → set brightness 40
```

Story 4: Swing for colours

```
on shake →
  strip → show color: white
  pause (ms) 80
  strip → show color: hue → saturation 100 luminosity 50

forever
  set hue → to map (acceleration (mg): x → from low -1823 high 1823 to low 0 high 359)
  strip → show color: hue → saturation 100 luminosity 50
  pause (ms) 50

on start
  set strip → to NeoPixel at pin P1 with 10 leds as RGB (GRB format)
  strip → set brightness 40
```