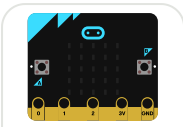


Blinking lights: police car and traffic light · START A BIT



Scan to open

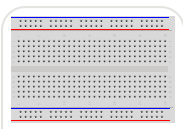
Parts you need



Micro:bit



Breakout board (pin:bit)



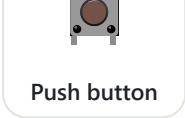
Breadboard



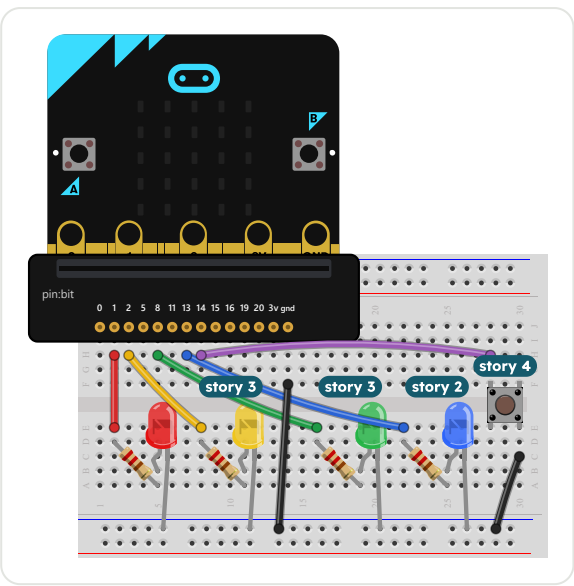
LEDs



220 Ω resistors



Push button



- pin 1 → red LED
- pin 13 → blue LED [story 2](#)
- pin 2 → yellow LED [story 3](#)
- pin 8 → green LED [story 3](#)
- pin 14 → button [story 4](#)
- gnd → – rail

Each LED: long leg (+) to the resistor, short leg in the – rail. Unplug the USB cable while you wire.

Remember

Breadboard

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

LED

Long leg towards the pin, short leg towards GND, and always a resistor in the loop.

Resistor

For an LED: 220 Ω, the bands red, red, brown (and a gold one).

Push button

One side to a pin, the other side to GND. With pull up, the pin reads 1, and 0 while pressed.

Story 1: Make it blink

```
forever
  digital write pin P1 to 1
  pause (ms) 500
  digital write pin P1 to 0
  pause (ms) 500
```

Story 2: Flash like a police car

```
forever
  digital write pin P1 to 1
  digital write pin P13 to 0
  pause (ms) 300
  digital write pin P1 to 0
  digital write pin P13 to 1
  pause (ms) 300
```

Story 3: Run a traffic light

```
function lights red yellow green
  digital write pin P1 to red
  digital write pin P2 to yellow
  digital write pin P8 to green

forever
  call lights 1 0 0
  pause (ms) 3000
  call lights 1 1 0
  pause (ms) 1000
  call lights 0 0 1
  pause (ms) 3000
  call lights 0 1 0
  pause (ms) 1000
```

Story 4: Press to cross

```
function lights red yellow green
  digital write pin P1 to red
  digital write pin P2 to yellow
  digital write pin P8 to green

forever
  call lights 0 0 1
  while digital read pin P14 = 1
  do
    pause (ms) 20
  pause (ms) 1000
  call lights 0 1 0
  pause (ms) 1000
  call lights 1 0 0
  pause (ms) 4000
  call lights 1 1 0
  pause (ms) 1000

on start
  set pull pin P14 to up
```