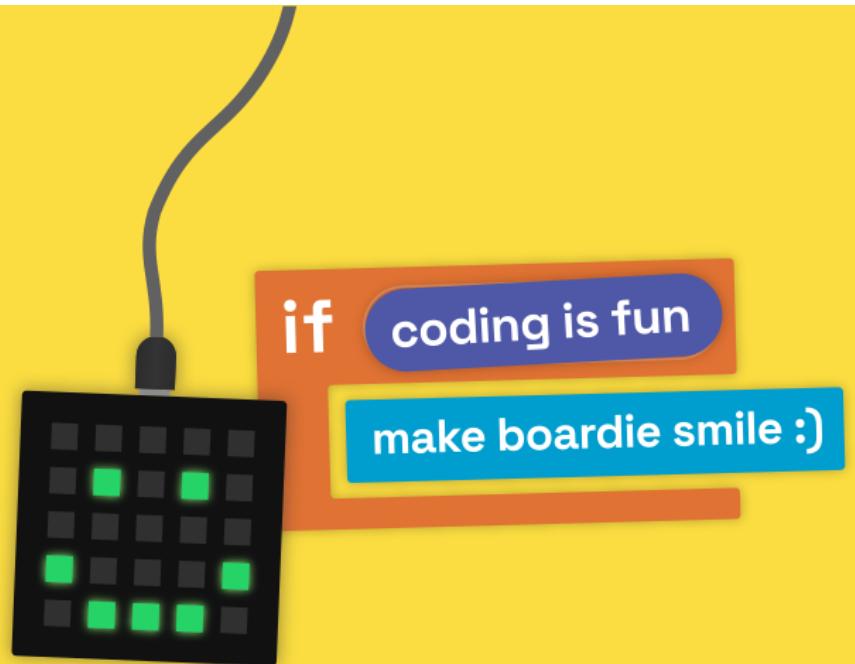


# MicroBlocks



DO A LOT WITH A FEW  
SIMPLE COMMANDS

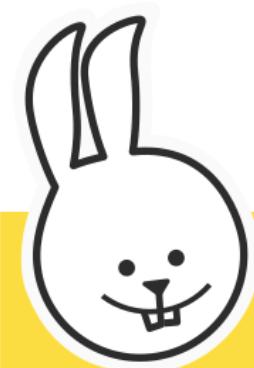
FROM IDEA TO REALITY  
IN NO TIME

**small, fast,  
human-friendly**

SPEAKS YOUR LANGUAGE



<https://microblocks.fun/>



# MicroBlocks

## WIE EN WAT BEN IK...

PETER MATHIJSEN

VERPLEEGKUNDIGE

LID MICROBLOCKS  
TEAM

APP INVENTOR  
POWER USER

NIEUWSGIERIG

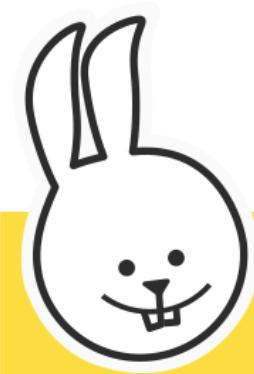


OPEN SOURCE  
GEBRUIKER

ECHTGENOOT  
EN VADER

BLOCK-A-HOLIC

CODERDOJO  
MENTOR & CHAMPION



# MicroBlocks

## JOHN MALONEY...

GPBLOCKS  
JENS MÖNIG (SNAP!)  
e.a.

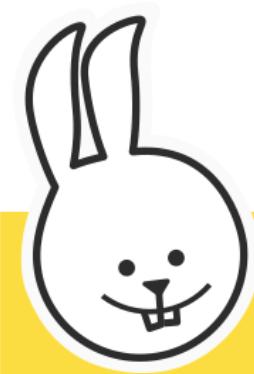


SCRATCH

MICROBLOCKS  
JENS MÖNIG EN  
BERNAT ROMAGOSA

ETOYS

SQUEAK



# MicroBlocks

## GEBRUIKERSOMGEVING...

**Language**

- English
- Castellano
- Català
- Deutsch
- Français
- Galego
- Nederlands
- Türkçe

Select board type:

- microbit
- Calliope mini
- Citilab ED1
- M5Stack-Core
- ESP32
- ESP8266
- Databot
- Mbits
- ELECFREAKS Pico:ed
- ELECFREAKS Wukong2040
- RP2040 (Pico or Pico-W)
- Adafruit Board
- MakerPort

microBlocks  
Small, Fast, Human Friendly

Output

- Input
- Pinnen
- Besturen
- Functies
- Variabelen
- Data
- Mijn blokken

Bibliotheken +

maak gebruiker LED

zeg 123 ▶

grafiek 100 ▶

Boardie

RESET

Boardie

A

B

Bestand

Nieuw

Open

Open from board

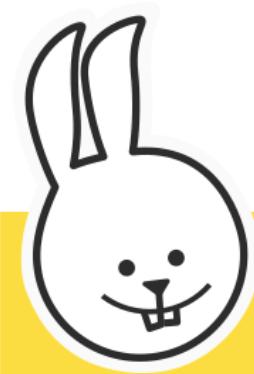
Bewaar

Data Graph

25

0

-25

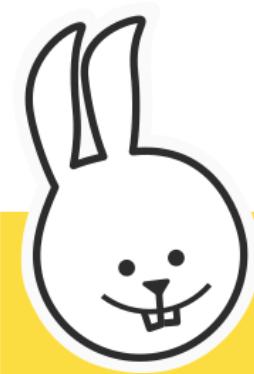


# MicroBlocks

## VEEL BLOKKEN...

item 1 van Rosa  
lengte van Rosa  
voeg micro blocks samen ►  
  
lijst kat ◀  
voeg vis toe aan lijst |  
  
vervang item 1 van lijst door 10  
verwijder item 1 van lijst |  
  
vind a in kat ►  
kopieer lachen van 2 ►  
splits A,B,C door ,  
  
Gevorderd  
voeg items van lijst samen ►  
  
unicode 2 van kat  
tekst van unicode verander met 1  
initialiseer lokaal var naar 0

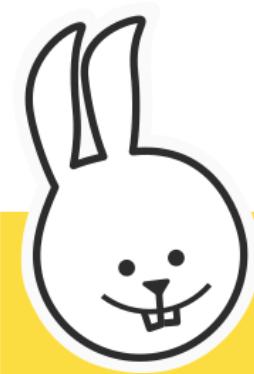
wanneer gestart  
wanneer knop A wordt ingedrukt  
herhaal  
herhaal 10  
wacht 500 millsec.  
als [ ] ► maak gebruiker LED [ ] ► illekeurig getal tussen 1 en 10  
zeg 123 ► grafiek 100 ►  
wanneer [ ] ► wacht tot [ ] ► terug 0  
10 + 2  
10 - 2  
10 × 2  
10 / 2  
10 modulo 2  
absolute waarde van -10  
min 1 2 ►  
max 1 2 ►  
3 < 4  
3 <= 4  
3 = 4  
3 ≠ 4  
3 >= 4  
3 > 4  
lees digitale pin 1 ►  
lees analoge pin 1 ►  
maak digitale pin 1 ►  
maak pin 1 1023 ►  
analoge pinnen  
digitale pinnen  
knop A  
knop B  
timer  
timer resetten  
milliseconden  
microseconden  
board type  
connected to IDE



# MicroBlocks

## DRAG & DROP...

The screenshot shows the MicroBlocks IDE interface. On the left, a sidebar lists categories: Output, Input, Pinnen, Besturen, Functies, Variabelen, Data, Mijn blokken, and Bibliotheken. A red arrow points from the 'Bibliotheken' button to a 'Bestand openen' dialog box. This dialog lists several library options, with 'LED Display.ulb' selected. A detailed description of the 'LED Display.ulb' library is provided: "Display primitives for the 5x5 LED display on the BBC micro:bit, Calliope mini and M5Atom Matrix. Boards with TFT displays (such as the Citilab ED1 or the M5Stack family) also support this primitives in a simulated 'fat pixel' display." Below the dialog, the main workspace shows a script consisting of a 'wanneer gestart' (when started) event followed by a 'herhaal' (repeat) loop. Inside the loop, there is a 'scherm' (matrix) block with a 5x5 grid of red pixels. To the right, a BBC micro:bit board is shown with its 5x5 LED matrix display illuminated in red, matching the pattern defined in the script.



# MicroBlocks

## LIVE PROGRAMMEREN...

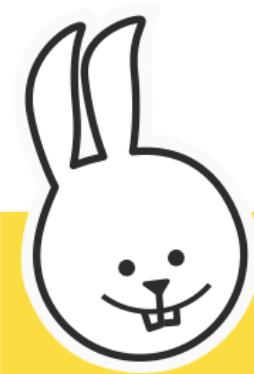
The image displays a screenshot of the MicroBlocks visual programming environment on the left and a photograph of a micro:bit board on the right.

**Screenshot (Left):**

- A blue **display** block with a 5x8 grid of red squares.
- A blue **clear display** block with a small mouse cursor icon pointing at it.
- A second blue **display** block with a 5x8 grid of red squares.

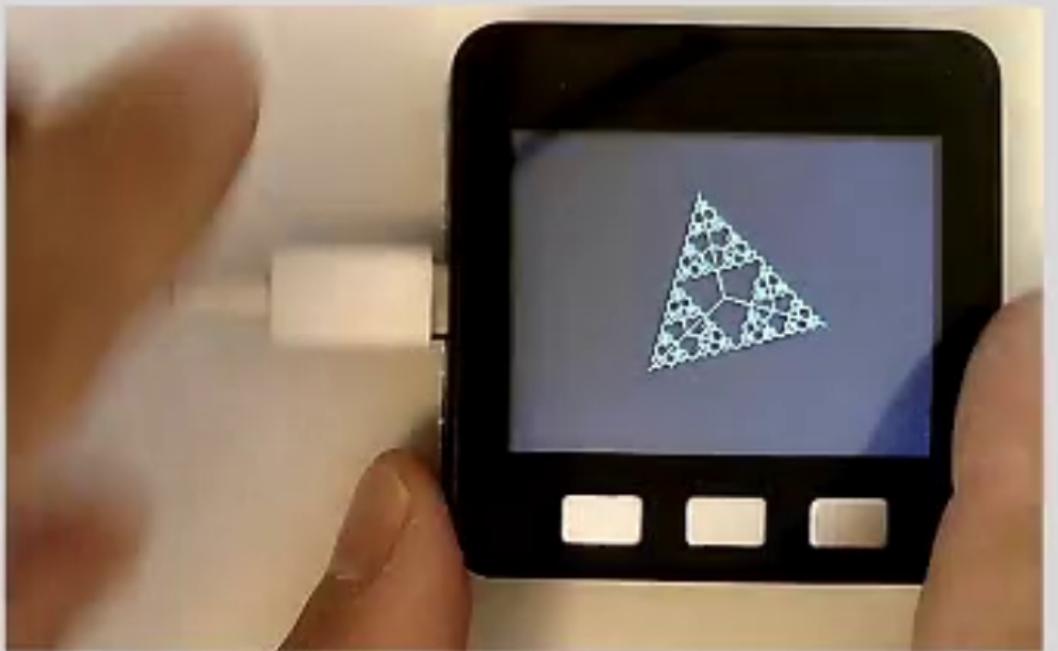
**Photograph (Right):**

A photograph of a micro:bit board. The board is black with a blue micro:bit logo in the center. It features a 5x8 grid of red LEDs. Two gold-colored push buttons labeled 'A' and 'B' are located on the sides. On the bottom edge, there are five yellow pins labeled '0', '1', '2', '3V', and 'GND'. A white QR code sticker is visible on the right side of the board.



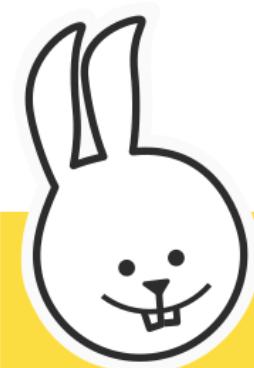
# MicroBlocks

## AUTONOOM UITVOEREN...



The image shows a hand holding a MicroBit microcontroller. The screen displays a fractal pattern of triangles. To the left, a Scratch-style script is shown:

```
when button A pressed
  clear display
  go to x 0 y 0
  turn 15 degrees
  set pen to random color
  cross fractal sized 80
```



# MicroBlocks

## PARALLEL PROGRAMMEREN...

The image shows the MicroBlocks software interface with two parallel programs running on a CitiLab microcontroller.

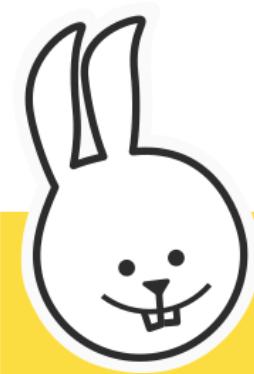
**Top Program (Parallel Task):**

```
forever
  for i in list 1 2 3 2
    display BMP file join magic- i .bmp
```

**Bottom Program (Parallel Task):**

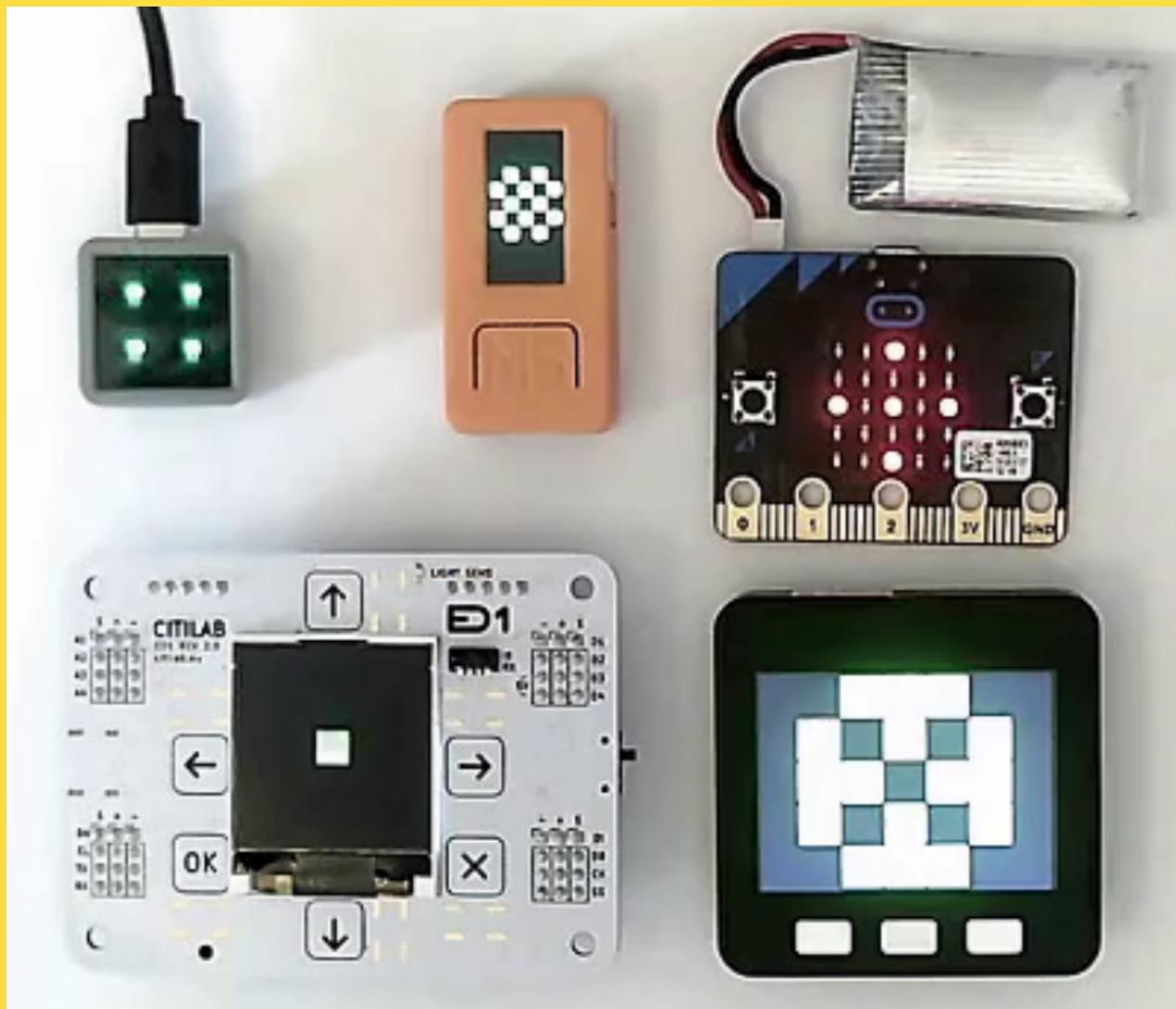
```
forever
  move motor 1 angle -90 °
  move motor 1 angle 90 °
```

The CitiLab microcontroller board is visible on the right, connected to a servo motor and a display screen showing a blue character icon.



# MicroBlocks

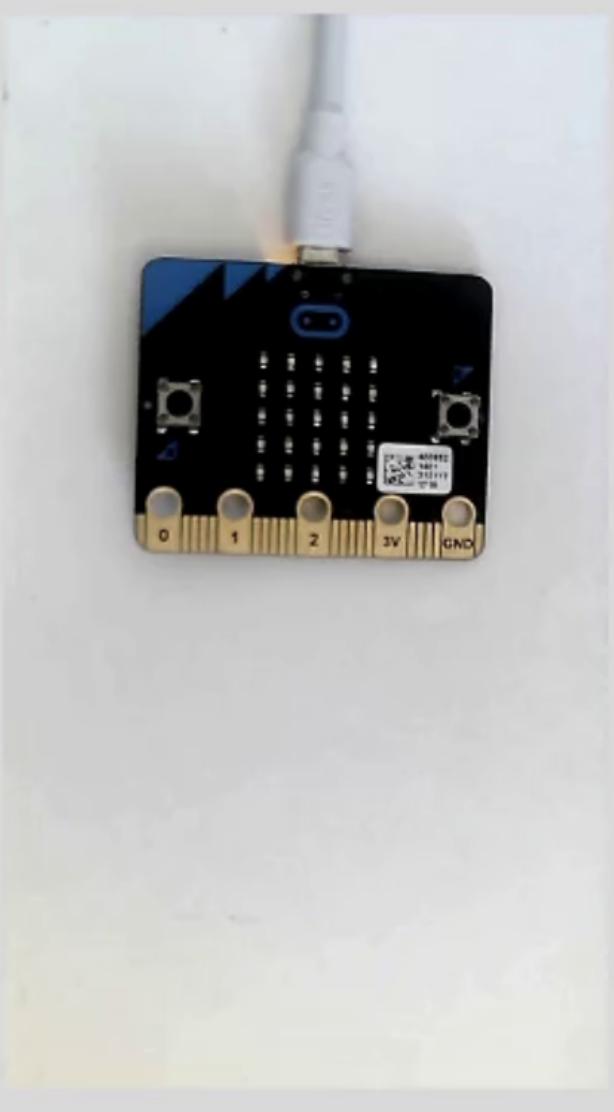
## OVERDRAAGBAAR...





# MicroBlocks

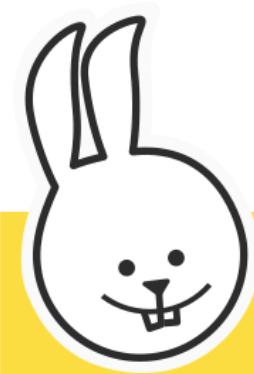
## TERUG LEZEN...



The image shows a Micro:bit board connected to a USB cable. The board is black with gold-colored pins at the bottom. It has two small blue buttons on the left, a micro:bit logo in the center, and two larger grey buttons on the right. The pins are labeled 0, 1, 2, 3V, and GND.

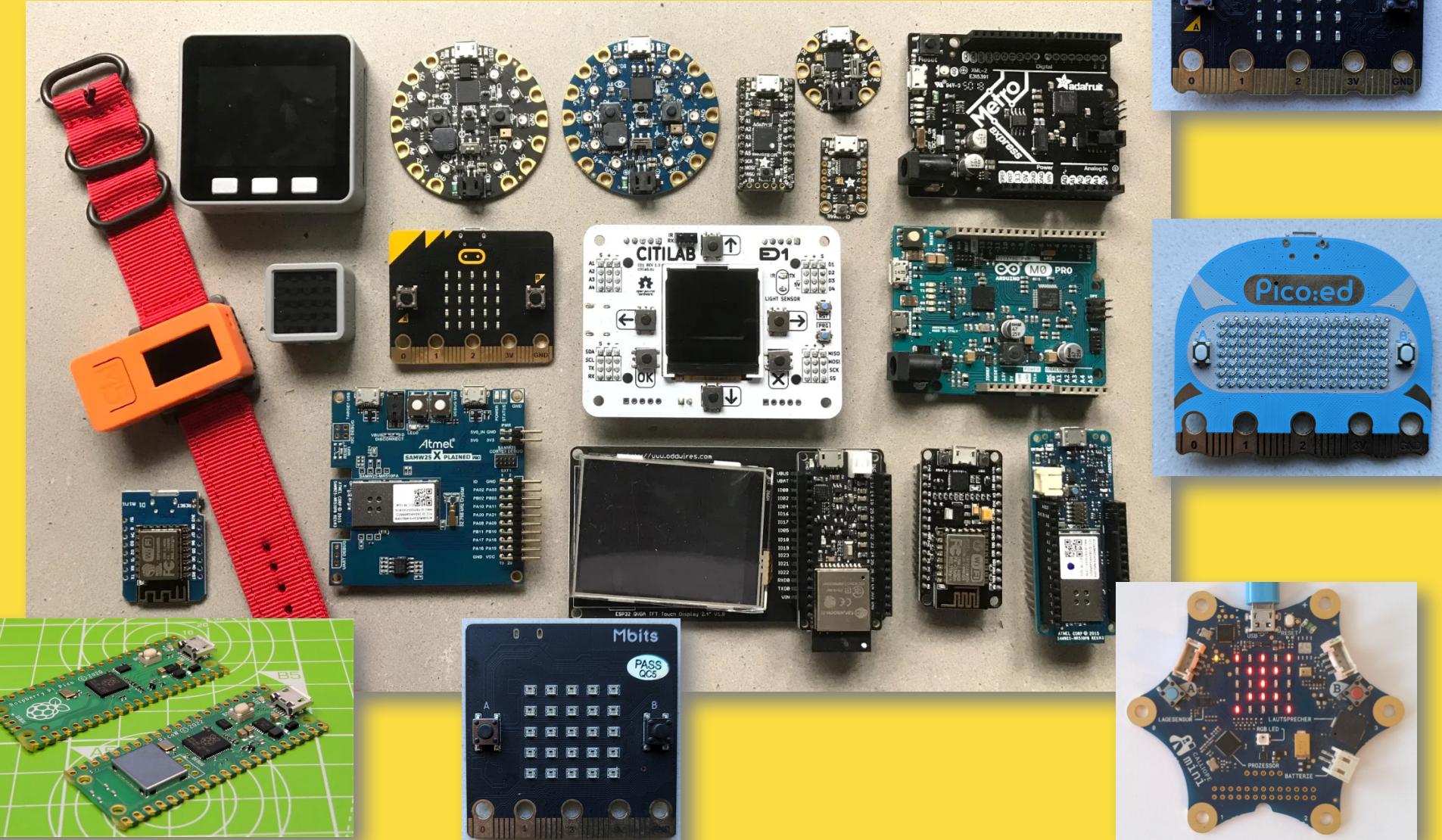
On the left side of the image, there is a screenshot of a MicroBlocks script. The script starts with a 'when started' hat block, followed by a 'forever' loop block. Inside the loop, there are two 'display' blocks. Each 'display' block shows a 5x5 grid of red and dark blue squares. After each 'display' block, there is a 'wait 500 millisecs' block.

```
when started
  forever
    display
      [red square, dark blue square, red square, dark blue square, red square]
      [dark blue square, red square, dark blue square, red square, dark blue square]
      [red square, dark blue square, red square, dark blue square, red square]
      [dark blue square, red square, dark blue square, red square, dark blue square]
      [red square, dark blue square, red square, dark blue square, red square]
    wait 500 millisecs
    display
      [red square, dark blue square, red square, dark blue square, red square]
      [dark blue square, red square, dark blue square, red square, dark blue square]
      [red square, dark blue square, red square, dark blue square, red square]
      [dark blue square, red square, dark blue square, red square, dark blue square]
      [red square, dark blue square, red square, dark blue square, red square]
    wait 500 millisecs
```



# MicroBlocks

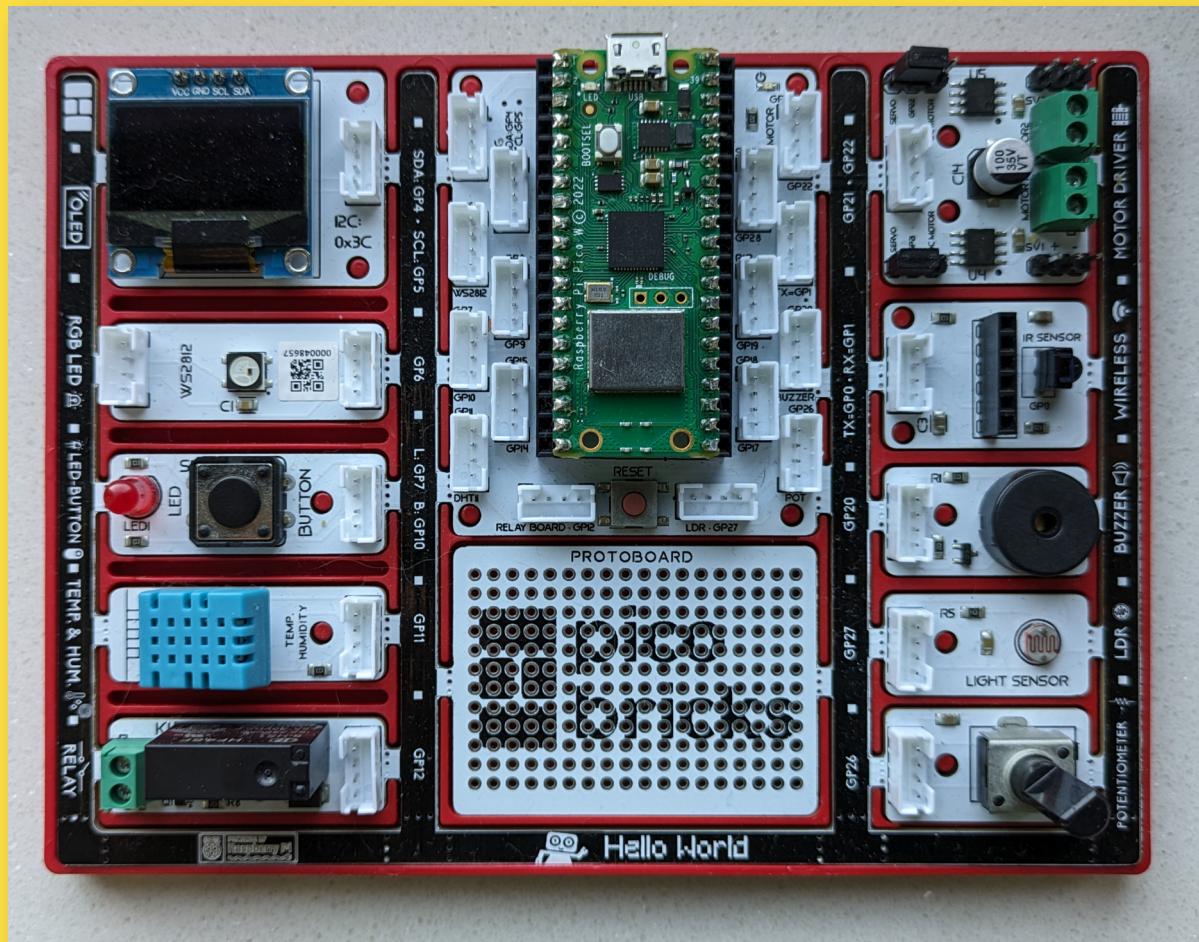
## VEEL KEUZE...

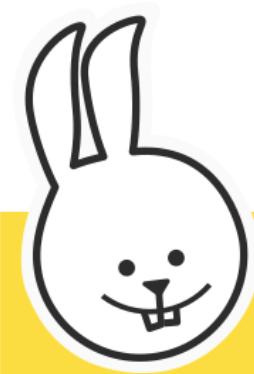




# MicroBlocks

## NOG MEER KEUZE...





# MicroBlocks

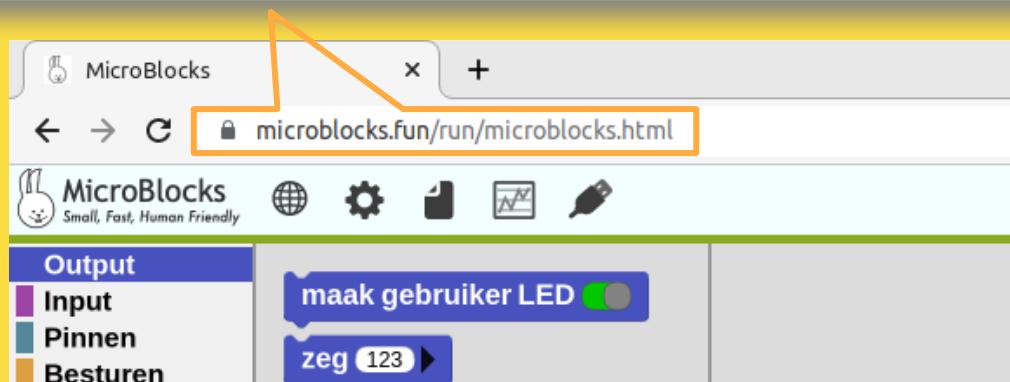
Download & installeer MicroBlocks  
<https://microblocks.fun/download>

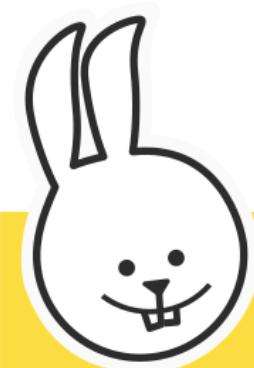


10 MB!

- Windows
- Raspberry Pi (Raspbian)
- Linux (32 bit)
- Mac OS
- Linux (64 bit)

Er is ook een browserversie beschikbaar voor Edge en Chrome!  
<https://microblocks.fun/run/microblocks.html>





# MicroBlocks **LEARN**

# **LEARN**

# **MicroBlocks**

**DISCORD**

<https://learn.microblocks.fun/en/index>

<https://wiki.microblocks.fun/en/home>

<https://petermathijssen.nl/>

<https://discord.gg/TCpHYbcvkS>





# MicroBlocks

# VRAGEN?