One hour introduction to programming the BBC Micro:Bit

Author: Josie Floyd www.nightskyonline.info

What language?

Computers can be programmed using a variety of languages including Blocks, JavaScript, and Python. We will be using Blocks because it is similar to the Scratch programming interface.

JavaScript Blocks Editor - https://makecode.microbit.org/#

BBC Micro:Bit Programs × 🗢 Microsoft MakeCode for ×																_	e ×
← → C a Secure https://makecode.microbit.org													☆	•	0 2	•	
★ Bookmarks 📓 Poppit Free Pogo G 📮 Personalising the Ma 🌢	Various Voice Types																
💿 micro:bit 🝃 Projects < Share		t B	llocks	{	} Java	Script						8		\$	-	Micro	soft
	Search Q	on	star		III fo	orever	÷	\mathcal{R}^{*}	ΞĘ.	\mathcal{F}	÷	19	×		Getting	Started	
	Basic					+	:41										
	 Input 																
	O Music																
	Led																
	I Radio																
0000	C Loops																
0 1 2 3V GND	X Logic																
	Variables																
	🖩 Math																
	✓ Advanced							_									
I 🕹 Download	Untitled		B											ß	٩	÷	•
0 🧿 📔 📄 💶							_	_					8	•	13:08	₹ 🔒 U	s J

To start a new project, click the projects button and select 'New Project'.

C A Secure https://makecode.microbit			
arks I Poppit Free Pogo G D Personalisi	on the Marinus Voice Types		т (ч 🛛 🖓 ч
	g no mil y vanoo roloc types		
My Stuff Projects Examples			
L A	±		
New Project Creates a new empty project	Import File Open files from your computer		
Today			
Untitled a few seconds ago	Untitled 4 minutes ago	Bitty Data Logger 3.0 4 minutes ago	
Dider			
Bitty Data Logger 3.0 Ms Floyd	welcome 5 months ago	P1 Alarm 6 months ago	Temperature_3_December_201 9 months ago

Uninstall the Micro:Bit from the Chromebook

Important! Once you have installed your program on the Micro:Bit, remember to uninstall it correctly. Go in the *Launcher* (small circle) and open the *Files* app. Click on the Uninstall symbol (see below image) and click on the pyramid symbol (above the hand in the image).



Tip! Once you have uninstalled the Micro:Bit, the Chromebook will no longer recognise it as being plugged in. You will have to remove it from the Chromebook and then plug it back in for it to be recognised by the Chromebook.

Save your projects

Make sure you save your projects. Make a new folder in your Google Drive and call it BBC Micro:Bit programs.



The 'Save' button is at the bottom of the JavaScript Blocks Editor page. Remember to name your program. If you don't, you will overwrite a program that you have already written with the same name.



Name badge



Once you have created your program, you will need to download it to your BBC Micro:Bit.





Your name will begin scrolling (moving) across the BBC Micro:Bit screen.

Draw your face

BBC Micro:Bit Programs × C Microsoft MakeCode for ×								-	_ @ ×
\leftarrow \rightarrow C \blacksquare Secure https://makecode.microbit.org							*	0 🔊 ᅌ	• n :
★ Bookmarks 🧕 Poppit Free Pogo G 📮 Personalising the Ma 🏺	Various Voice Types								
💿 micro: bit 📂 Projects < Share	[📩 Blocks	{} JavaScrij	pt		(•	Mi	crosoft
	Search Q	t otto	de	4 <u>.</u> 4	t dt	ote	+		rted
	III Basic								
	 Input 			III fo	rever	.+	+	+	1
	O Music				show	leds			
· D	C Led								
	I Radio								
\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc	C Loops								
0 1 1 2 3V GND	🔀 Logic								÷.
	Variables								
	🖩 Math				+		+	+-	+
	✓ Advanced							+	
🛛 📩 Download	Untitled						2	ი ი с	• •
0 🏮 🎽 📄 💴						Ŧ	≝ ± +4	13:28 🔻	US J

Temperature

BBC Micro:Bit Programs × C Microsoft MakeCode for ×									-	e ×
\leftarrow \rightarrow C $$ Secure https://makecode.microbit.org								\$	o 🔊 🔶	I :
★ Bookmarks 📓 Poppit Free Pogo G 📮 Personalising the Ma 🏼 🥊	Various Voice Types									
💿 micro:bit 🕞 Projects < Share		💼 Bl	ocks {	} JavaScrip	t;		(•	📒 Mic	rosoft
	Search Q	+	+	÷	+	÷	+ +	+	Getting Star	led
21°C	 Input 	÷.	+	+	+					+
·Ø ⊿			f f	orever			tompor	atura	(10)	
	l Radio		se	show	number		remper	acure	(-0)	4
	C Loops	#		1	Trainber					+
	■ Variables									+
	Math									
	 Advanced f_↔ Functions 									
🖬 🛃 Download	Untitled		8						n n 이	•
0 🧿 🎽 🖹 💌							Ŧ	± 🖬 +5	13:40 💎 🛢	US J

More here: https://makecode.microbit.org/reference/input/temperature

Pedometer

This program turns the Micro:Bit into a pedometer or step counter. The program uses the accelerometer chip on the Micro:Bit to detect movement.

It also introduces a 'variable'. Variables are used to store data (in this case the number of steps you have taken).

Optional!! Want to know more about variables? More reading here: <u>https://www.microbit.co.uk/blocks/book/variables</u>



To make the '*steps*' variable for your code.



Then rename 'item' to 'steps'.



You also need to get used to terminology such as input and output. This is particularly important because a computer only does what you tell it to do. For instance, the buttons on a Micro:Bit are not automatically used by the Micro:Bit. You have to include that in your code.



Optional I didn't find the accelerometer chip on the Micro:Bit to be very sensitive. It didn't count my steps correctly. However, that may have been because I was holding the Micro:Bit the 'wrong' way or that the code needs to be changed. Remember that computers only do what you tell them to do.

Fast finisher?

Lots more projects can be found here on the Micro:Bit website: <u>https://makecode.microbit.org/projects</u>