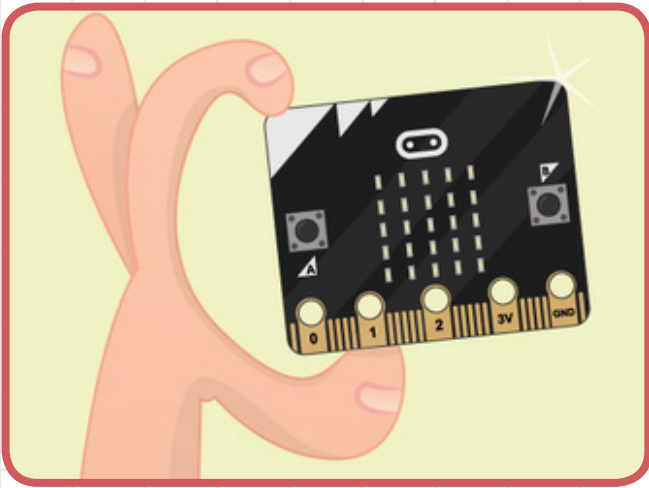


## Overview

The micro:bit is a mini computer you can use in digital making projects. It has two buttons, 25 red LEDs in a 5x5 grid, and sensors for detecting movement and light, and for measuring temperature. You can also attach other input and output components to it, for example buttons, coloured LEDs, and speakers. The micro:bit is **suitable for use with Cubs, Scouts, and Explorers.**



Watch the video here [rpf.io/microbit-video](https://rpf.io/microbit-video) to find out more about what the micro:bit can do.

To program the micro:bit, you need to connect it to a laptop or desktop computer via a micro USB cable.



The micro:bit is powered through this same USB cable; to make your micro:bit project portable, you can also power it using a battery pack.

## Preparations for programming the micro:bit

Scouts Digital Maker resources use one of two different code editors. Before using a resource, check which editor is required and make sure you have done the necessary preparations.

The **MakeCode editor** ([rpf.io/microbit-makecode](https://rpf.io/microbit-makecode)) runs in a web browser and, as such, is a good choice if you will have internet access during your Scouting activity. With this editor, users can create programs out of coloured code blocks; MakeCode is therefore **suitable for Cubs and Scouts.** (MakeCode also gives users the option to view and edit their program as JavaScript code, which is a text-based programming language.)

**If you are using Windows 10**, you can also download and install the free MakeCode app from [rpf.io/makecodeapp](https://rpf.io/makecodeapp). After it's installed, you can use the app without an internet connection.

The **Mu editor** ([rpf.io/mu-download](https://rpf.io/mu-download)) is free to download and install on computers with any operating system. This editor requires young people to use the text-based programming language Python and is therefore **suitable for Scouts and Explorers.**

You will need an internet connection to download and install the Mu editor, but once it's installed, you can use it without an internet connection.

# How to use the micro:bit

## Moving your program to the micro:bit

A micro:bit program is a **.hex** file that you need to copy (flash) onto your micro:bit from your computer.

Plug your micro:bit into your computer using a micro USB cable. The micro:bit will appear as a USB drive — for example (**F:**) — just like a USB storage drive would.

The process of copying the **.hex** file to the micro:bit is different depending on the editor and browser you are using. Try out the process first for the setup you'll be using.

### Tip

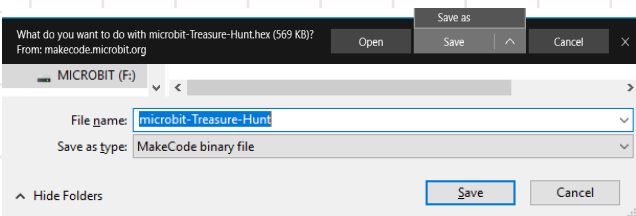


The yellow LED on the micro:bit will flash when code is being copied so you can tell that it is working.

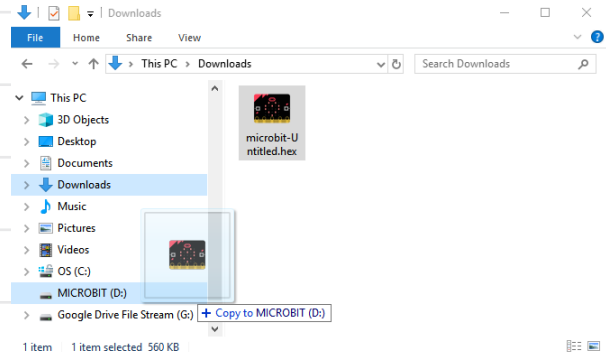
- If you are using the **Mu editor**, just click **Flash**, and the **.hex** file will be copied to the connected micro:bit.
- If you are using the **online MakeCode editor**, clicking the **Download** button will download a copy of the **.hex** file to your computer.



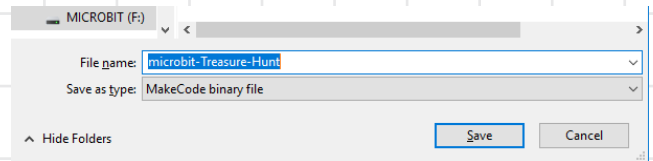
- If you are using the **Microsoft Edge browser**, you can then choose the **Save As** option, and select the micro:bit drive to save to.



- If you are using another browser (e.g. **Chrome**), you will need to then copy the **'hex'** file from your **Downloads** directory to your micro:bit drive.



- If you are using the installed **MakeCode app for Windows 10**, click the **Download** button. The Windows File Explorer will pop up, and you can choose the micro:bit drive and click **Save**.



## Safety

The Micro:bit Educational Foundation provides safety advice on using the micro:bit. You can find this online at [rpf.io/microbit-safety](http://rpf.io/microbit-safety). You can also download and print the official safety guides:

- [rpf.io/microbit-leader-safety](http://rpf.io/microbit-leader-safety)
- [rpf.io/microbit-student-safety](http://rpf.io/microbit-student-safety)

**Make sure leaders and young people are aware of the safety advice, and make the safety advice guides available during activities with the micro:bit.**

## Resources

See the Raspberry Pi partner page of the Scouts website at [rpf.io/raspberrypi-scouts-partner](http://rpf.io/raspberrypi-scouts-partner) for all the Digital Maker Badge projects in which you can use the micro:bit.