How to Use micro:bit classroom to Manage Programming Lessons

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https://learn.adafruit.com/how-to-use-micro-bit-classroom-to-manage-programming-lessons

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Overview

The BBC micro:bit (https://adafruit.it/JBi) is an extremely powerful tool for teaching introductory programming skills. The microcontroller is packed with sensors, LEDs and more. However, with so many capabilities, it can be hard to organize lessons and manage the code of all your students. micro:bit classroom is here to help!

![BBC micro:bit](https://adafruit.it/JBi)

In this guide, we will show how to navigate the platform and walk through an example programming lesson in MakeCode.

Parts

To use micro:bit classroom, each student should have a computer that is connected to the internet.

To go along with micro:bit classroom, each student will need a micro:bit itself and a micro-B USB cable. Of course, students can always share!
BBC micro:bit
The British Invasion is here! No, not music...microcontrollers! New to the USA is the newest and easiest way to learn programming and electronics - the BBC...
https://www.adafruit.com/product/3530

USB cable - USB A to Micro-B
This here is your standard A to micro-B USB cable, for USB 1.1 or 2.0. Perfect for connecting a PC to your Metro, Feather, Raspberry Pi or other dev-board or...
https://www.adafruit.com/product/592

Kits and more

Here are some kits and other materials that can help out class groups.

These kits have all the necessary parts to get started as well as battery packs to make projects mobile.

BBC micro:bit Go Bundle
Discontinued - you can grab micro:bit v2 Go Bundle - Batteries and USB Cable Included instead! The British...
https://www.adafruit.com/product/3362
micro:bit V1 Club 10-Pack
Discontinued - you can grab micro:bit v2 Go Club 10-Pack - Batteries and USB Cables Included...
https://www.adafruit.com/product/3485

micro:bit - Skill badge, iron-on patch
Designed for kids and beginners, the micro:bit is a pocket-sized computer developed by the BBC. About...
https://www.adafruit.com/product/3682

Getting Started with the micro:bit
"Take a byte of the micro:bit!" This book is for everyone! It's for kids (and parents) who want to learn how to program their own simple games and gadgets...
https://www.adafruit.com/product/3639

Classroom Tour

How to start a new classroom

Head to the micro:bit classroom website to get started with setting up a "classroom". A classroom is essentially a coding lesson.
Make a name for the activity and choose a programming language. The current options are [MakeCode](https://adafru.it/JA6) and Python. This guide will be covering MakeCode. Microsoft MakeCode for micro:bit is a web-based code editor for physical computing. It provides a block editor, similar to Scratch or Code.org, and also a JavaScript editor for more advanced users.

### Navigation Bar

The navigation bar at the top of the website allows you to navigate to the different areas of the platform. If you ever get lost you can always head back to Instructions which will most likely guide you to the right place.
The editor

This feature of the website allows you to set up your code.

New to MakeCode for micro:bit? Check out this guide (https://adafruit.it/JA6)
The dashboard

This feature allows you to share the classroom joining details with your students.

First have your students visit https://microbit.org/join (https://adafruit.it/JA7)

When they visit the site they will be prompted to enter the classroom name followed by the pin, both of which are provided.
Student code

Keep track of your student's code live on the student code page.

You can also download a whole class record as a word document.

Save classroom

To save the code from a classroom session, head to the save classroom page. This file will be used to start your next classroom session and allow you to resume with your class where you last left off.

Once you have the file saved safely, go ahead and end the session.

To resume the session at any time, open the downloaded file and click the resume classroom session button.

Up next, we'll go through setting up and running a sample classroom project.
Example Lesson

In this example lesson, we'll walk through how to set up micro:bit classroom, use the editor, share joining details with the dashboard, track your student's code, and save classroom sessions to pick up where you left off.

The example

For the example we'll keep it simple with this fun little beating heart.

There is a whole range of great example projects to choose from on the micro:bit website (https://adafruit.it/JBd). This is a nice simple one (https://adafruit.it/JBe) to start off with.

Beating heart lesson in MakeCode

https://adafruit.it/JBe
Set up a new classroom

Head to the micro:bit classroom website to get started with setting up a classroom.

Click here to start a new classroom session

https://adafruit.it/JA5

Name your activity, then choose MakeCode as your programming language. Lastly, make sure the "Use temporary local storage" box is checked. Then hit "Launch classroom"
Code set-up and the editor

Click on the "editor" tab of the website.

Then follow the directions on the micro:bit website (https://adafru.it/JBf) to program the beating heart.
Share classroom joining details with your students on the dashboard

First have your students visit https://microbit.org/join (https://adafruit.it/JA7)

When they visit the site they will be prompted to enter the classroom name followed by the pin

You should be to see in the dashboard as your students join.

As a teacher you are able to edit student information such as names and progress status.
View student's work live

On this page, you can track your student's work as they code away.

You can also download a report for all students as a Word document. This creates a document detailing your student's current work and saves it to your computer.

You can also share the code of any one student with other students.

When your students are ready, they can submit their code to you along with how they are feeling about their work.
Your students
Select a student and review their code on the right hand panel

Adabot 😊
Finished

Blinka
In progress

Sparky
In progress

How do you feel?
😊😊😊😊😊
Saving the classroom file, ending and resuming sessions

To save the code from a classroom session, head to the save classroom page. Go ahead and download the file by clicking the "Download classroom html file" button.

This file will be used to start your next classroom session and allow you to resume with your class where you last left off.

Once you have the file saved safely, go ahead and the session.

To resume the session at any time, open the downloaded file and click the resume classroom session button.

FAQs

Q: How do I save my work? Can I download my classroom data?

A: You can do both and it's quite easy! See section entitled "Saving the classroom file, ending and resuming sessions" on the Example Lesson page.

Q: Can I have more than one classroom session open at a time?

A: Unfortunately not. If you'd like to start a new classroom session while keeping a current one, you must save the current classroom file, close the session, then start a new session.

Q: Where do I find more projects and curriculum on micro:bit and MakeCode?

A: Head here (https://adafruit.it/JBj)!
Q: Once the code is ready, how do the student upload and connect to the micro:bit itself?

A: See [this guide on programming the micro:bit here](https://adafruit.it/JBk).