

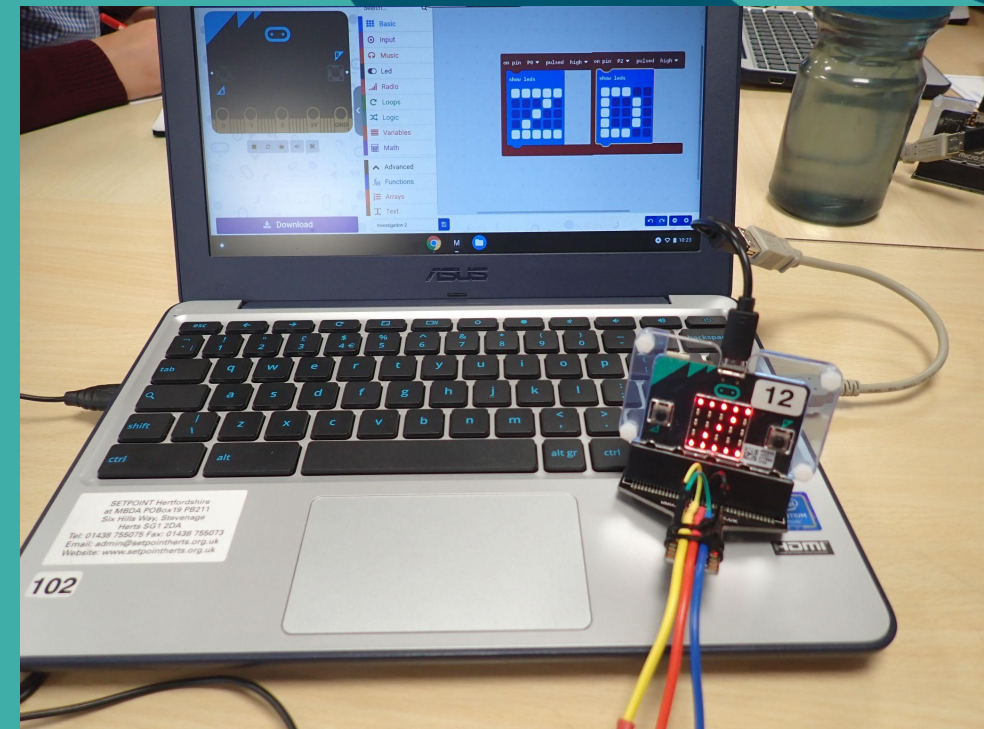
Welcome to CAS Stevenage Primary Community Meeting

Exploring Micro:bits

Tuesday 29 November 2022



These slides can be found at bit.ly/CASmicrobit22



Housekeeping and Agenda

- ★ Fire drill and facilities
- ★ What is CAS?
- ★ The Micro:bit for physical Computing in the classroom
- ★ Exploring Micro:bit Classroom
- ★ **Time to share your ideas and practice...**
- ★ What next?

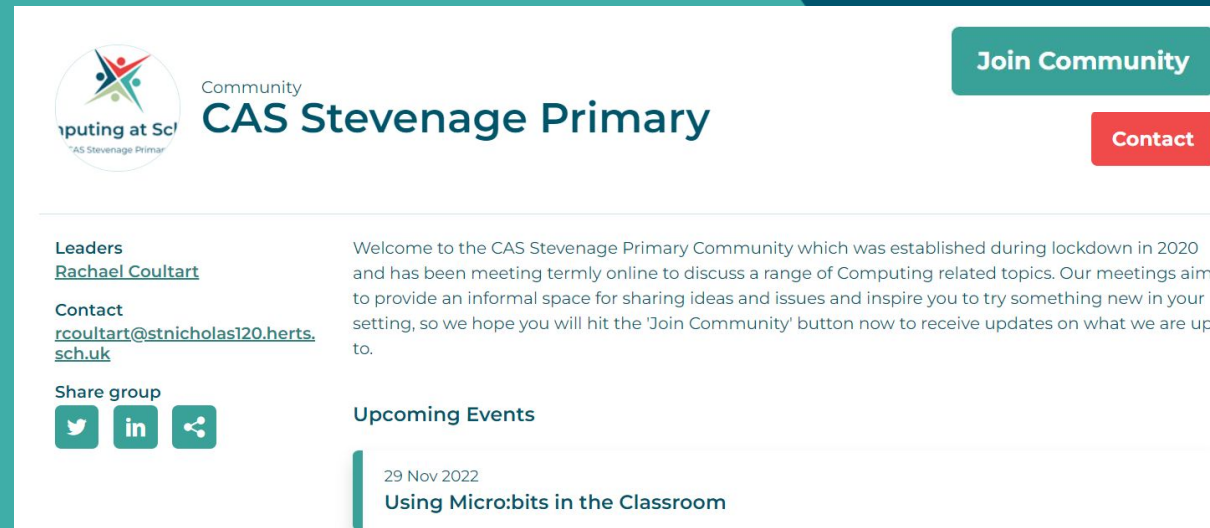
These slides can be found at bit.ly/CASmicro2022

What is CAS?


- ★ to engage in training and **professional development** activities.
- ★ to connect directly with others and build your **professional community**.
- ★ to **share** ideas and keep up to date on the latest information across the community.
- ★ to share teaching and learning resources and **reflect** on what works in the classroom.

Free to join

www.computingatschool.org.uk



The screenshot shows the 'CAS Stevenage Primary' community page. At the top left is the 'Computing at School' logo. The page title is 'Community CAS Stevenage Primary'. On the right, there are two buttons: 'Join Community' (green) and 'Contact' (red). Below the title, there is a 'Leaders' section with the name 'Rachael Coultart' and a 'Contact' section with the email 'rcoultart@stnicholas120.herts.sch.uk'. There are also social media share icons for Twitter, LinkedIn, and a general share icon. A 'Welcome' message states the community was established during lockdown in 2020. An 'Upcoming Events' section lists an event on 29 Nov 2022 titled 'Using Micro:bits in the Classroom'.




 Community
CAS Stevenage Primary

[Join Community](#)

[Contact](#)

Leaders
[Rachael Coultart](#)

Contact
rcoultart@stnicholas120.herts.sch.uk

Share group
  

Welcome to the CAS Stevenage Primary Community which was established during lockdown in 2020 and has been meeting termly online to discuss a range of Computing related topics. Our meetings aim to provide an informal space for sharing ideas and issues and inspire you to try something new in your setting, so we hope you will hit the 'Join Community' button now to receive updates on what we are up to.

Upcoming Events

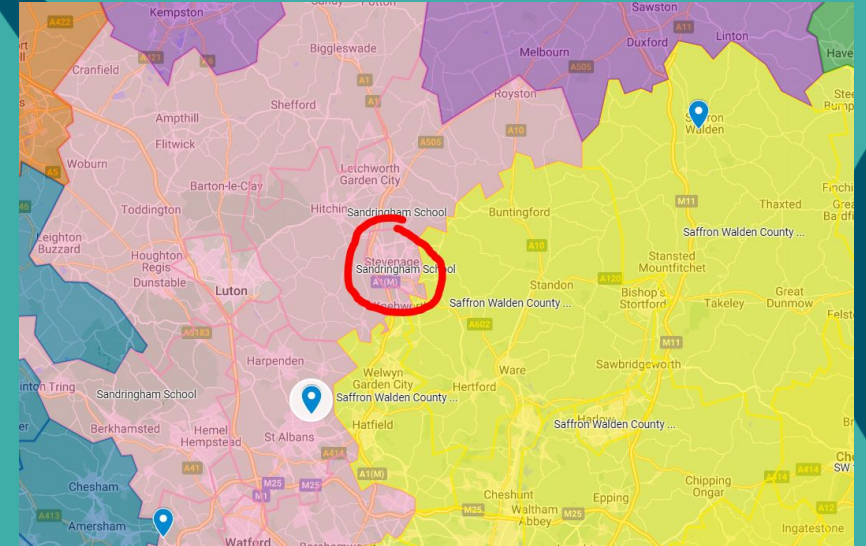
29 Nov 2022
Using Micro:bits in the Classroom

What is the NCCE?

★ Our local HUB has changed...

we were in Saffron Walden Hub, now in Sandringham School Hub, The Ridgeway, St Albans, AL4 9NX

★ Borrow a set of Micro:bits from them!



Apply for an EduFund grant of up to £1000 to purchase a set of Micro:bits



The Micro:bit



Parts of a micro:bit

Radio & Bluetooth antenna

Communicate with microbits; and other devices using Bluetooth

Processor & temperature sensor

The 'brain' of the device which carries out your instructions; Measures how warm or cold the environment is

Accelerometer & compass

Detects movement; Detects the direction the microbit is facing

Speaker

Built-in speaker to play music and sounds in projects

USB port

Connect your microbit to a computer using a micro USB lead

Battery socket

Connect two AAA batteries to power your microbit away from a computer

Reset and power button

Use this to restart a program; Hold this button to put your microbit into sleep mode

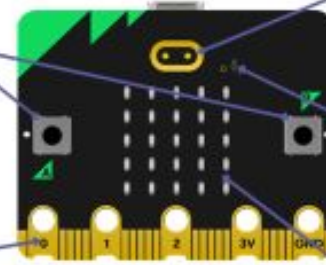
V2 microbit



Parts of a micro:bit

Buttons
Press these to make things happen

Input and output pins
Connect other devices to the microbit



V2 microbit

Touch logo

The gold logo can work as an extra button in programs.

V2 microbit

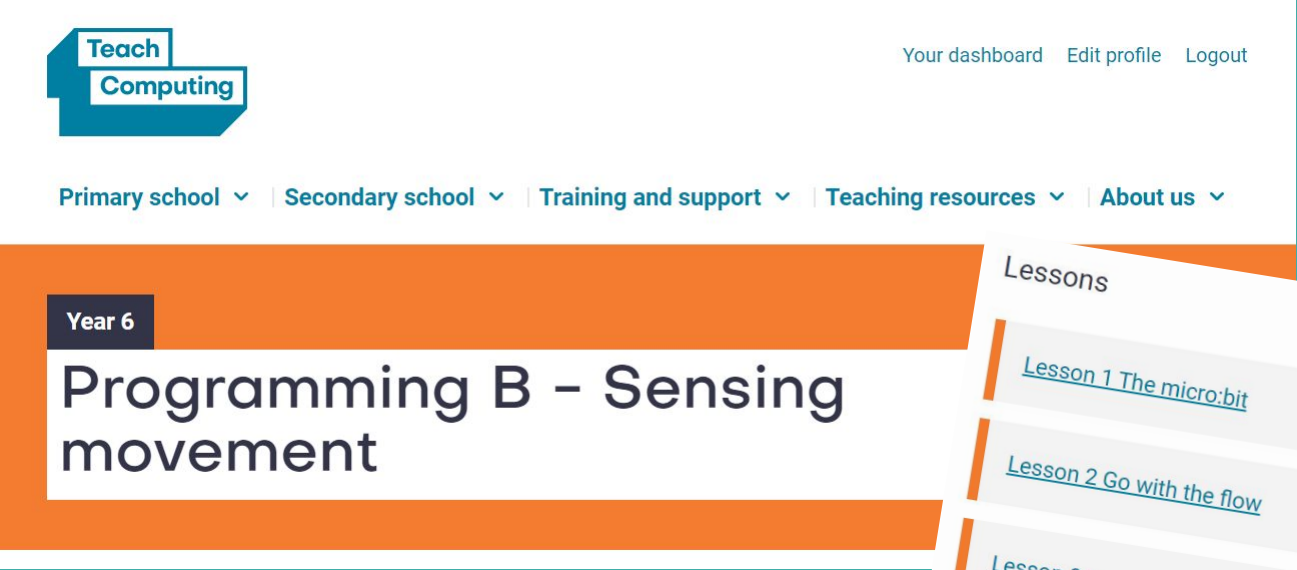
Microphone & LED

The LED shows when the microphone is actively measuring sound.

LED display & Light sensor

Show pictures, words, and numbers; Measures how much light is falling on the microbit

NCCE Unit of work using Micro:bit



Teach Computing

Your dashboard Edit profile Logout

Primary school ▾ Secondary school ▾ Training and support ▾ Teaching resources ▾ About us ▾

Year 6

Programming B - Sensing movement

Lessons

- [Lesson 1 The micro:bit](#)
- [Lesson 2 Go with the flow](#)
- [Lesson 3 Sensing inputs](#)
- [Lesson 4 Finding your way](#)
- [Lesson 5 Designing a step counter](#)
- [Lesson 6 Making a step counter](#)

Year 6 Unit

making a step counter (so links well with PE and PSHE)


Barefoot resources for the Micro:bit

LKS2 Barefoot meets micro:bit - Wildlife animations



Age: 7-9 years
Type: Classroom
Curriculum Links to: Science
Computer Science Concepts: Programming, Repetition, Outputs, Sequence

[Download Resource](#)

 Remove Favourite

In this activity, pupils first program the micro:bit's LEDs to display an image. They then go on to create a simple animation on the micro:bit's LEDs inspired by wildlife and using repetition commands.

UKS2 Barefoot meets micro:bit - Litter Hunt




Age: 9-11 years
Type: Classroom
Curriculum Links to: Science
Computer Science Concepts: Variables, Inputs

[Download Resource](#)

 Add to Favourites

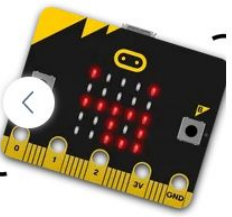
In this activity, pupils learn about the role of variables in storing data. Pupils then program the micro:bit to act as a counting device, using variables. They then use their counter to investigate the amount of litter around their school.

Micro:bit Projects

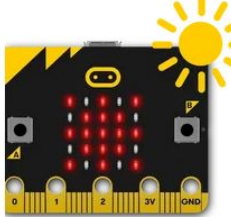


Make it: code it

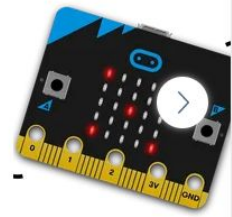
Quick projects in MakeCode, Python & Scratch to help you get the most out of the micro:bit's features - and have fun!



Get silly
Shake your micro:bit to make a silly face appear



Sunlight sensor
Make your micro:bit light up when the sun comes up



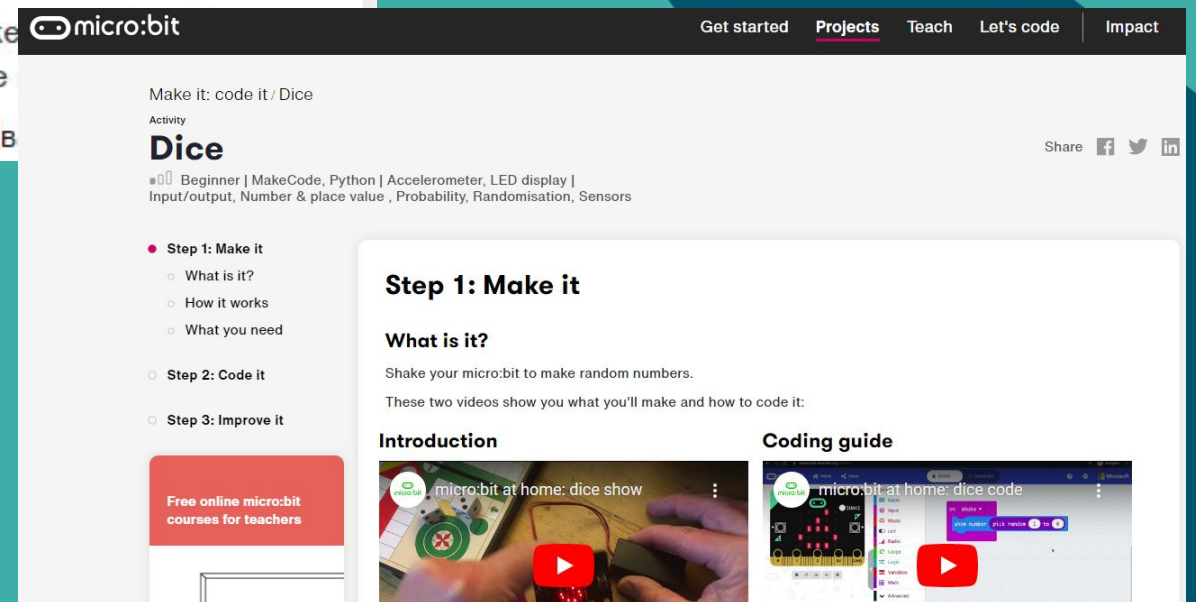
Graphical dice
Make micro:bit dice with dots

[Explore activities](#)



Dice

Shake
make



micro:bit

Get started **Projects** Teach Let's code Impact

Make it: code it / Dice

Activity

Beginner | MakeCode, Python | Accelerometer, LED display | Input/output, Number & place value, Probability, Randomisation, Sensors

- Step 1: Make it
 - What is it?
 - How it works
 - What you need
- Step 2: Code it
- Step 3: Improve it

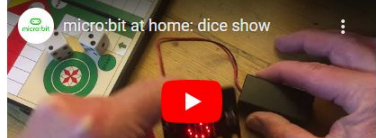
Step 1: Make it

What is it?

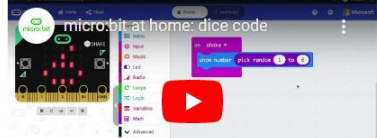
Shake your micro:bit to make random numbers.

These two videos show you what you'll make and how to code it:

Introduction

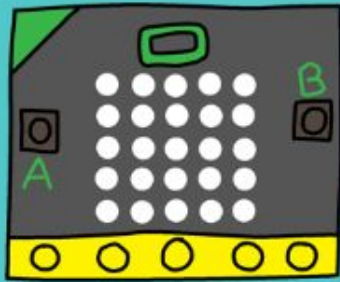


Coding guide



[Free online micro:bit courses for teachers](#)

Code Club Projects for Micro:bit

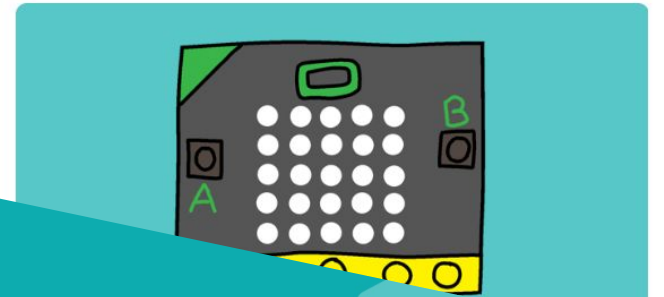


Micro:Bit

The BBC micro:bit is a pocket-sized, codeable computer that allows you to get creative.

Reaction

Make a game to see who has the fastest reactions.



Start

Reaction

micro:bit Web Browser

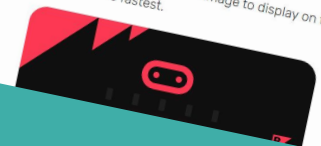
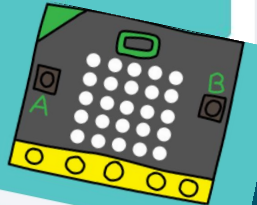
Introduction

- Wait for it!
- Challenge: Choose your own image
- Challenge: Choose your own delay
- Waiting for a winner
- Who is the fastest?
- Challenge: Keep score


Introduction

You are going to create a 2-player game to see who has the fastest reactions. The game will work by showing an image after a random amount of time - whoever presses their button first is the winner.

Instructions: If you're reading this online, wait for an image to display on the micro:bit below and then press **A** or **B** first to see who is the fastest.




Using Micro:bit with Scratch



Scratch Create Explore Ideas About Search Join Scratch Sign in

micro:bit

micro:bit is a tiny circuit board designed to help kids learn to code and create with technology. It has many features including an LED display, buttons, and a motion sensor. You can connect it to Scratch and build creative projects that combine the magic of the digital and physical worlds.





Requirements


Windows 10 version 1709+ macOS 10.13+ ChromeOS Android 6.0+ Bluetooth Scratch Link

Choose your OS: [Windows](#) [macOS](#) [ChromeOS](#) [Android](#)


Install Scratch Link

- Download and install Scratch Link.

or
[Direct download](#)
- Start Scratch Link and make sure it is running. It should appear in your toolbar.



Starter Projects




Heart Beat
Press the buttons to animate the heart.



Tilt Guitar
Make music by tilting your micro:bit.



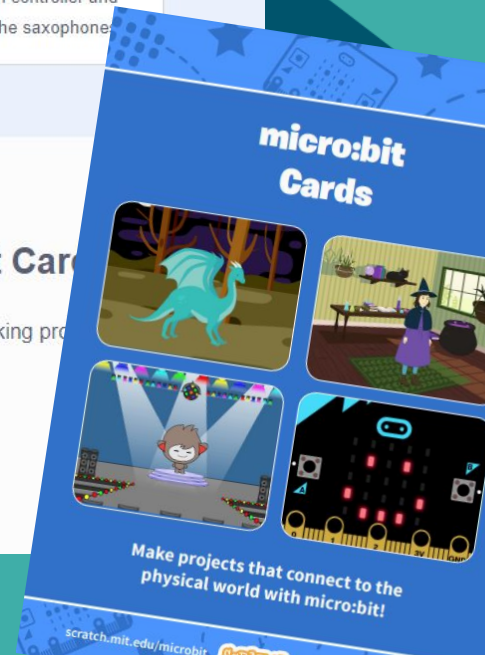
Ocean Adventure
Build your own controller and swim toward the saxophone.



Download micro:bit Cards

These cards show how to start making projects with micro:bit and Scratch.

[Download PDF](#)



micro:bit Cards

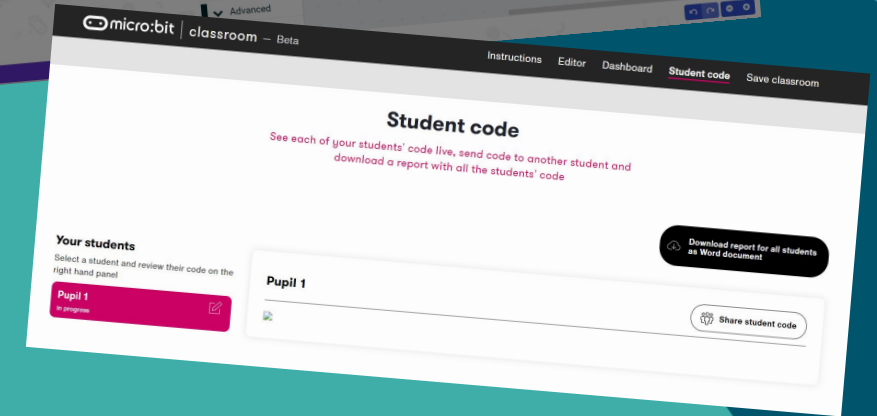
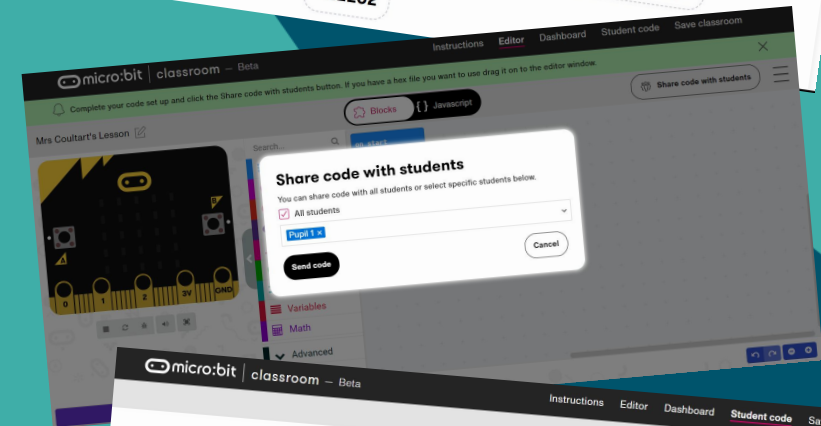
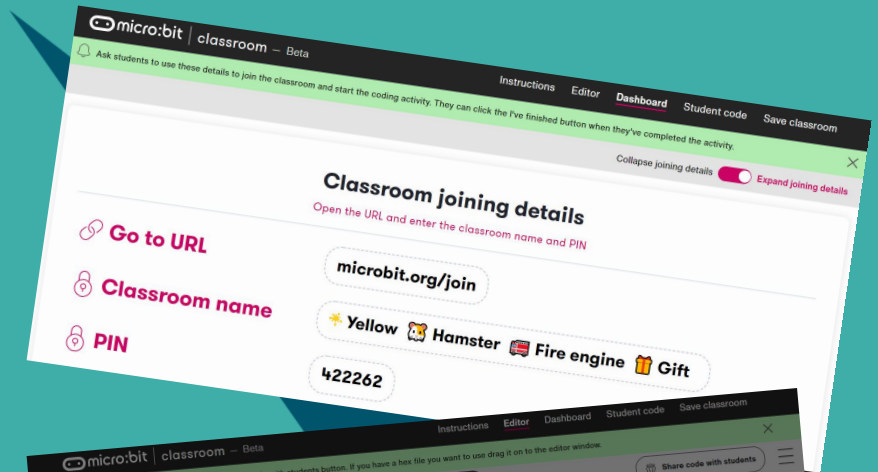
Make projects that connect to the physical world with micro:bit!

scratch.mit.edu/microbit

Bit of a fiddle, so allow plenty of time to get it working!

Micro:bit Classroom

- ★ whole class in same safe space
- ★ provide code blocks to use (Parson's Problems)
- ★ record of what everyone has done to reflect on and use for assessment after the lesson



[Step-by-step reminder guide to using Microbit classroom can be found on the CAS website to download \(free!\)](#)

What next?

- ★ What night of the week works best for you?
- ★ What else would be useful to look at as a group?

...Assessment, Crumbles, The Quality Review Framework, recording evidence, Scratch...

Email me rcoultart@stnicholas120.herts.sch.uk



Thank
you