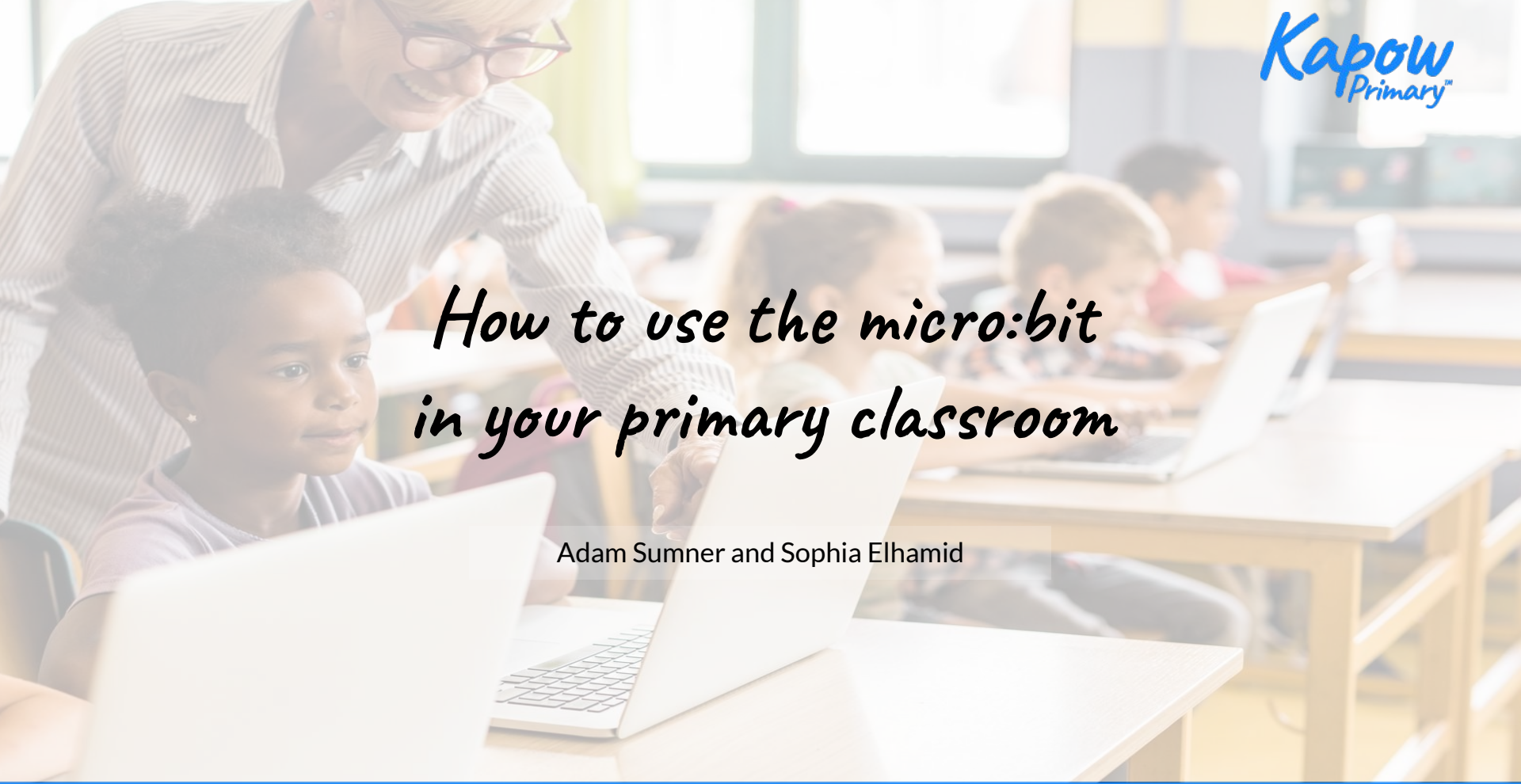


How to use the micro:bit in your primary classroom

Adam Sumner and Sophia Elhamid

Overview

- National curriculum coverage.
- A run through of the features and functions of the micro:bit that could be useful in a primary classroom.
- Code along.
- A showcase of lessons in Computing and Design and technology that utilise the micro:bit.
- Cross-curricular opportunities with Kapow.
- An opportunity to ask questions regarding the micro:bit.

Computing - National curriculum

National curriculum

Computing

Pupils should be taught to:

- ✓ Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
- ✓ Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.
- ✓ Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.

See National curriculum - Computing - Key stages 1 and 2.

Design and technology - National curriculum

National curriculum

Design and technology

Pupils should be taught to:

Design

- ✓ use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.

Technical knowledge

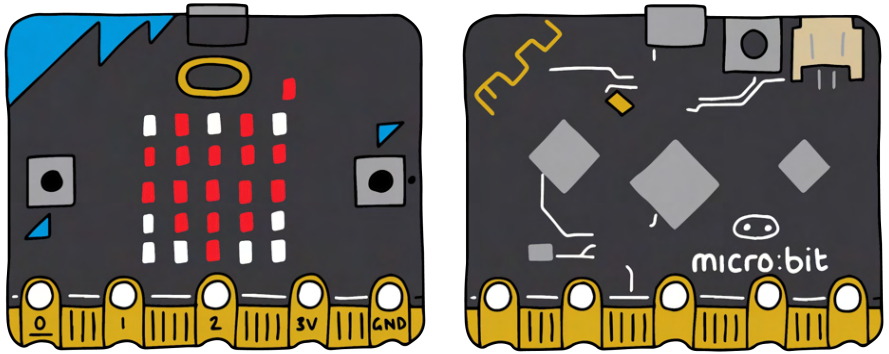
- ✓ apply their understanding of computing to program, monitor and control their products.

See National curriculum - Design and technology - Key stages 1 and 2.

Functions and features

Front

- USB connector
- Touch sensor
- LED panel
- Button A and B



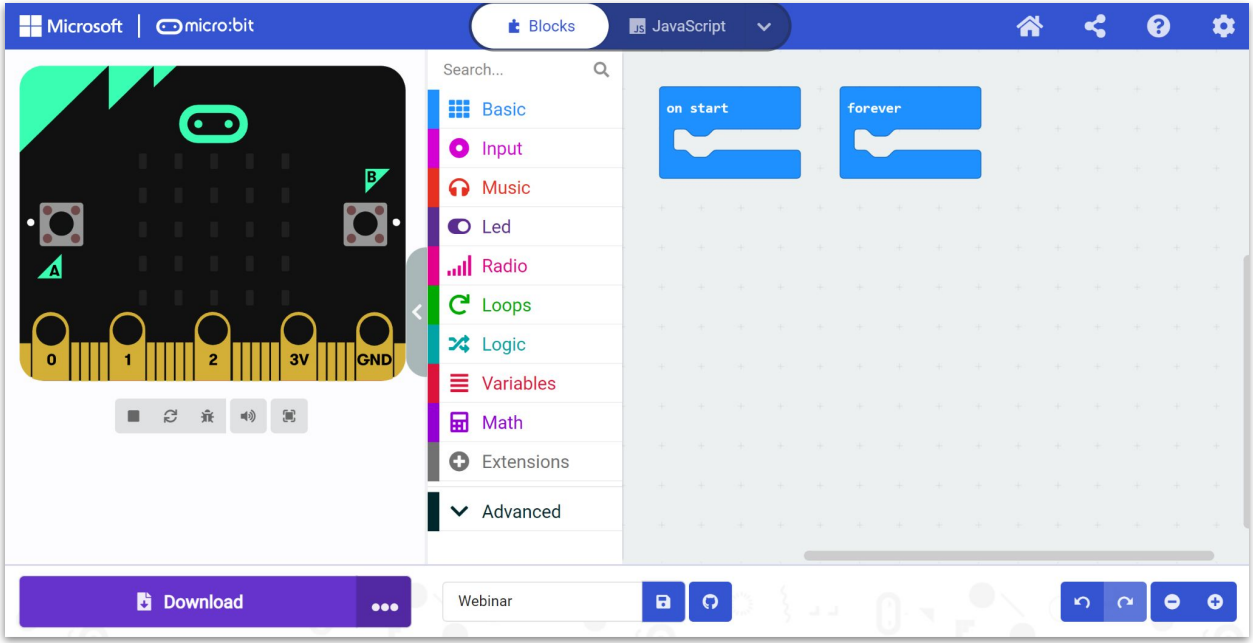
- Pins

Back

- Radio antenna
- Microphone
- Reset and power button
- Battery socket
- Processor
- Speaker
- Compass and accelerometer

Microsoft Makecode for micro:bit

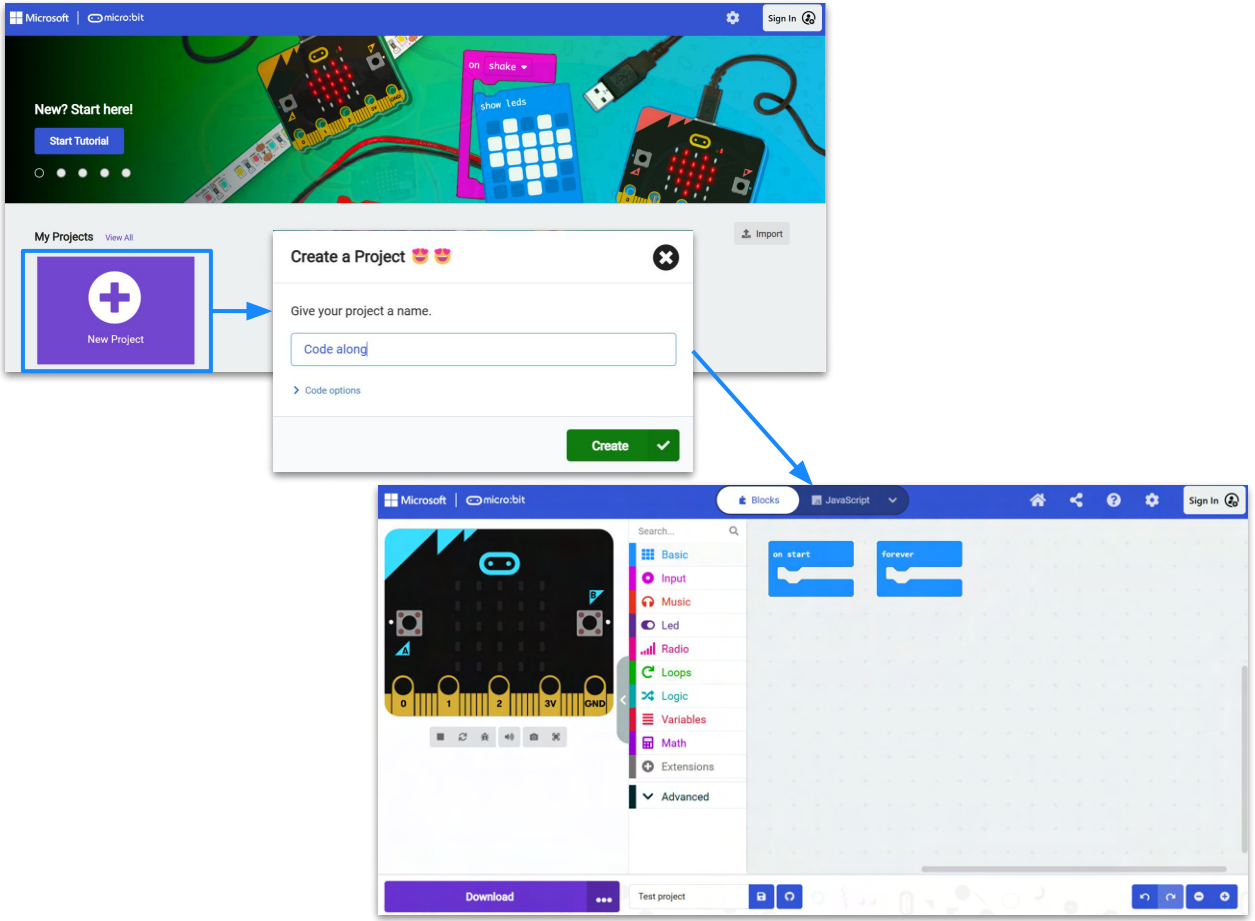
Virtual micro:bit [Makecode editor](#).



Code along

[Makecode editor]

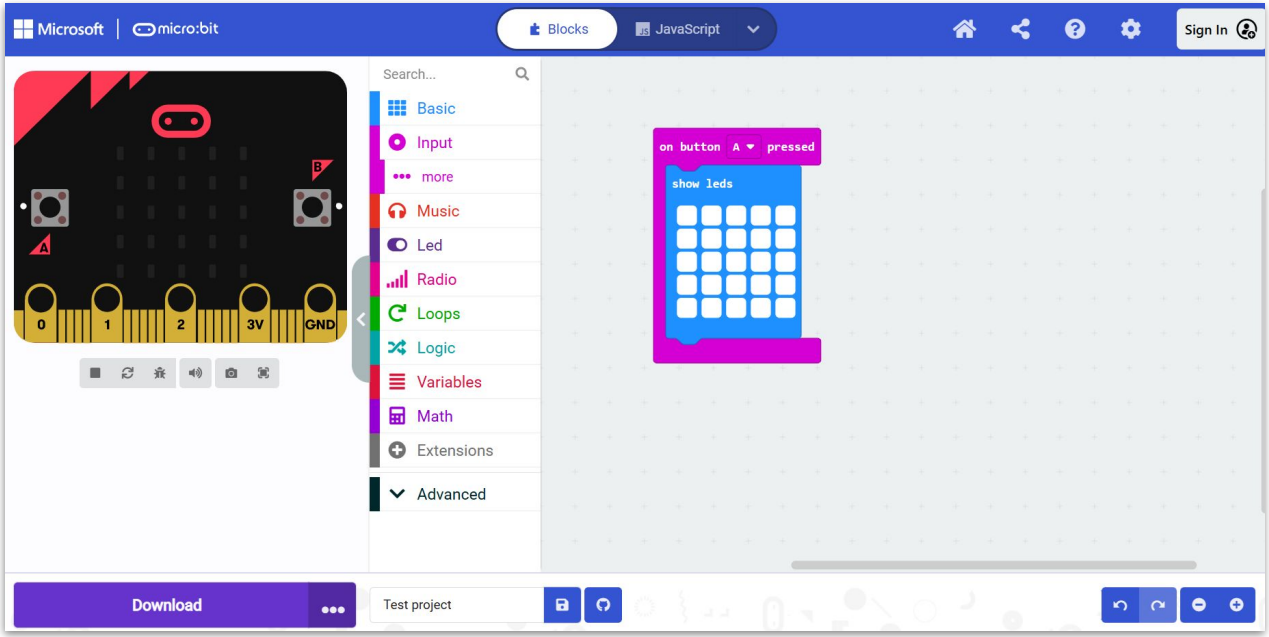
- Getting started



Code along

[Makecode editor]

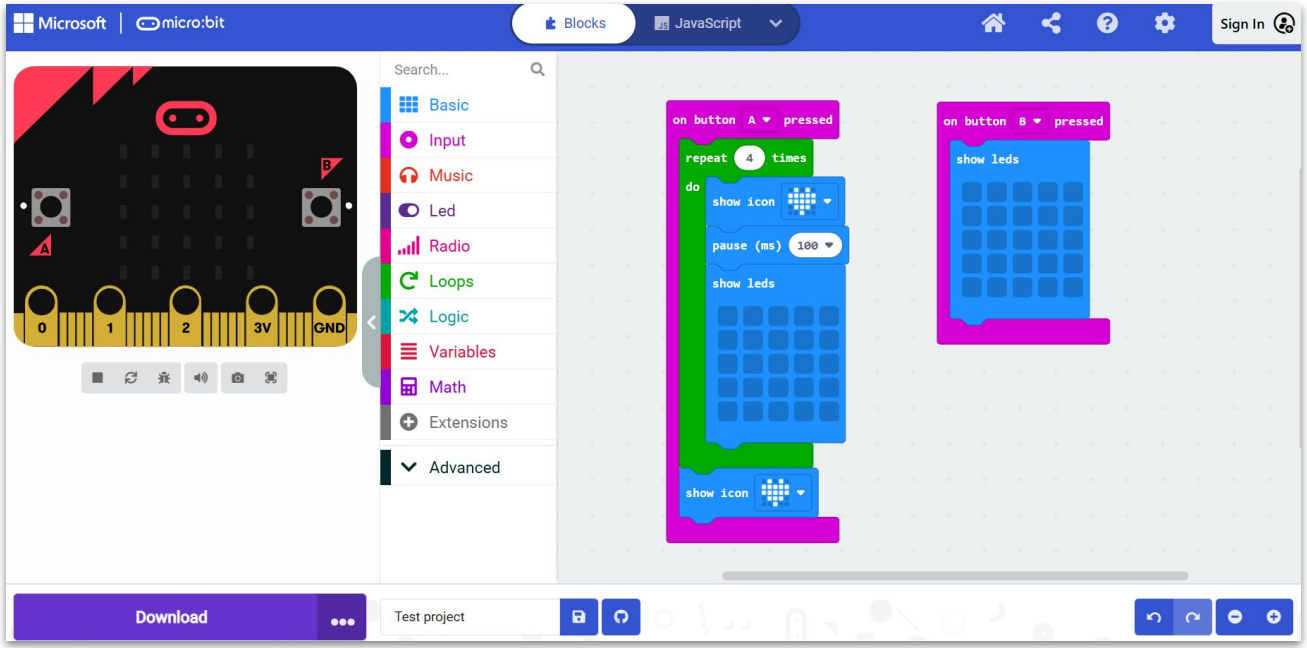
- LEDs on/off



Code along

[Makecode editor]

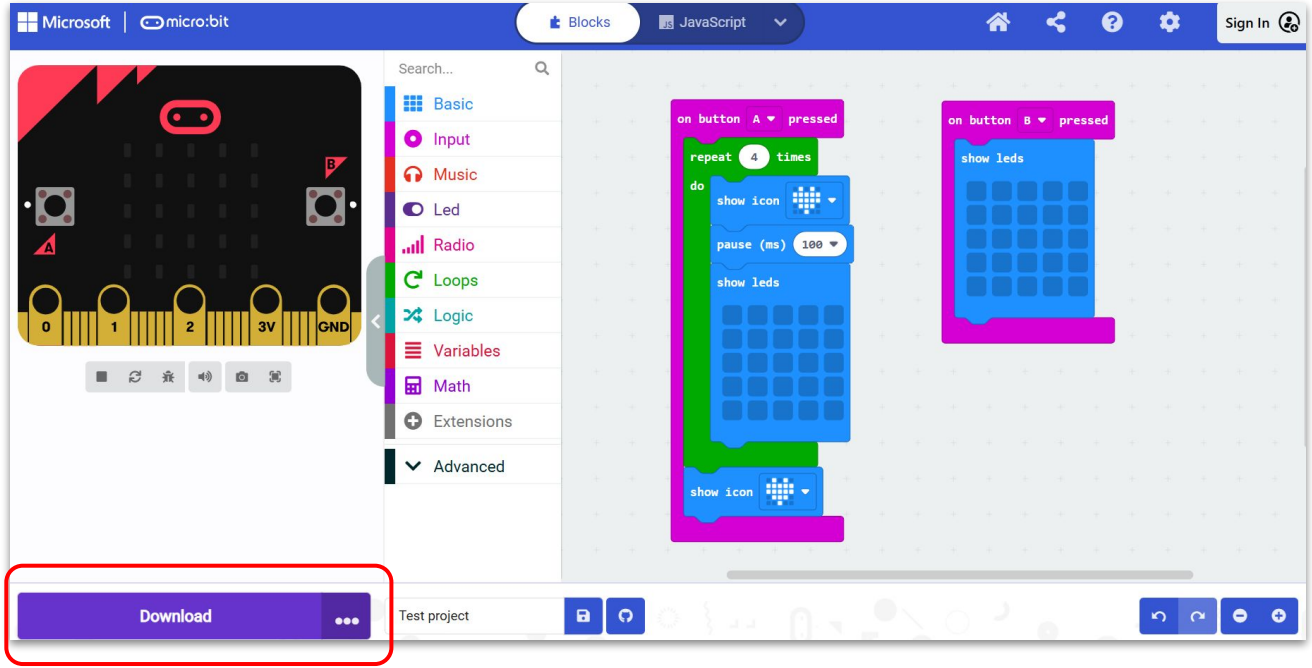
- Flashing heart



Code along

[Makecode editor]

- Downloading
- Store in browser
- Saving a .hex file
- Import



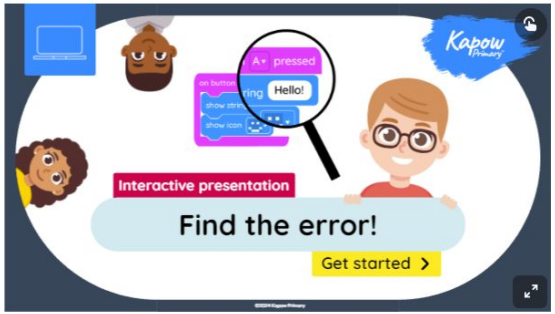
Computing- unit showcase

New

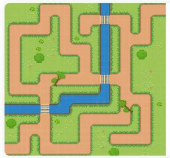
[Year 2 MakeCode unit]

Presentation: Escape from the maze

Presentation: Find the error?



Lessons



Lesson 1: Tinkering with code

To explore programming in games.

Get started

Lesson 2: Tinkering with MakeCode

To explore the block code features of MakeCode.

Get started

Lesson 3: What does the code mean?

To interpret a MakeCode algorithm using paper chains.

Get started

Lesson 4: Building a program

To plan and build a program in MakeCode.

Get started

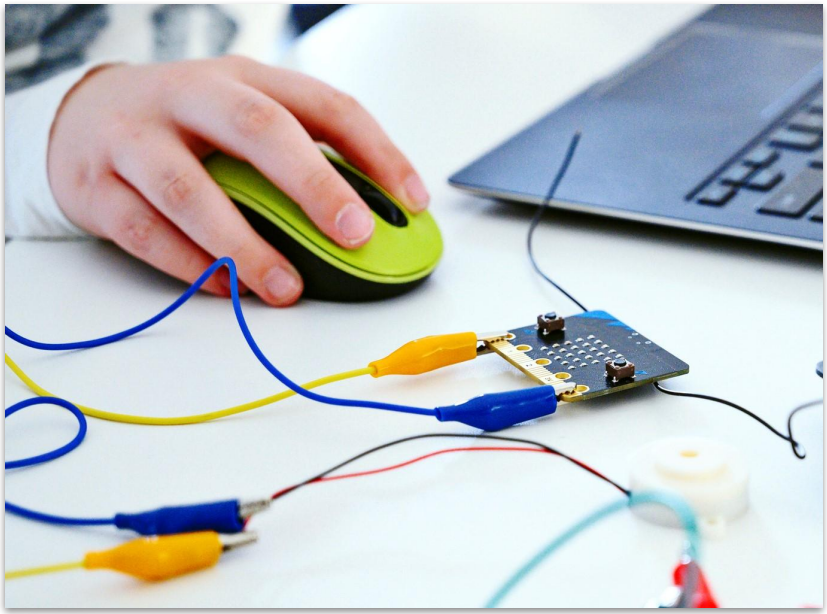
Lesson 5: Evaluating a program

To evaluate if a program is successful based on the MakeCode outcome.

Get started

Design and technology - Unit showcase

Year 3, Digital world: Wearable technology, Lesson 3: Programming wearable technology



Computing - Cross curricular opportunities

- Lesson 3: Polling program- create a poll for any area of the curriculum. This is a great tool for discussion around certain teaching points.
- Lesson 4: Programming a pedometer- PE, Wellbeing.
- Lesson 5: Programming a scoreboard- create a scoreboard for cross curricular games, plenaries etc.

Design and technology - Cross-curricular opportunities

Computing.

Year 4, Digital world: Mindful moments timer - Wellbeing.

Year 5, Digital world: Monitoring devices - Science, Maths.

Year 6, Digital world: Navigating the world - Geography, Maths.