Secondary Teacher Webinar

March 2022

CODING IRELAND

Agenda

1. Introduction
2. Best device to use for coding (PC v Laptop v Chromebook v iPad)
3. Introduction to Microbits
4. Open teacher chat ☕

Introduction

- Meet once a month online. We will send invites to all teachers on the list.
- Coding Ireland present a new coding/STEM topic each month.
- Open teacher chat at the end to discuss common issues and ideas.
- Help each other to become better at teaching coding & STEM.
- Webinar is being recorded for teachers that can’t make it.

Best device to use for coding

PC v Laptop v Chromebook v iPad

- **Usability** - how student friendly is it to use?
- **Cost** - how expensive are they?
- **Durability** - how durable is it?
- **Portability** - how portable is it?
- **Coding Suitability** - how suitable is it for coding and programming?

PC
Personal Computer

Personal computers, also known as “desktops” or “tower computers”, are computers with large box-like cases that hold the computer’s hardware components.

Desktop computers have an external monitor with a display screen, an external keyboard and mouse, which are plugged into ports on the computer case.

They do not normally come with a webcam, microphone or speakers so these usually need to be purchased and plugged into the PC.

PC
Personal Computer

Overall

The good

- Have a physical keyboard and mouse
- Very usable once setup

The bad

- Not very portable
- Webcam, microphone and speakers need to be purchased and installed

Laptops/MacBooks

Laptops/MacBooks are portable computers that contain all the necessary components, input and output devices such as the display screen, keyboard and trackpad.

Most modern laptops will also come with a webcam, microphone and speakers though some older laptop models don’t but they can be purchased separately and plugged into the laptop.

Laptops/MacBooks

Overall

The good

- Have a physical keyboard and mouse
- Very usable and portable
- Relatively inexpensive

The bad

- Not the most durable
- Need to be charged

Chromebooks

A Chromebook is a laptop like device running the Linux-based Chrome OS as its operating system.

Initially designed to heavily rely on web applications for tasks using the Google Chrome browser, Chromebooks have since expanded to be able to run Android and full-fledged Linux apps since 2018. All supported apps can be installed and launched alongside each other.

Chromebooks

Overall

The good

- Have a physical keyboard and mouse
- Very usable and portable
- Relatively inexpensive

The bad

- Not the most durable
- Need to be charged
- Some applications may not be available

iPads/Tablets

iPads and tablet computers are mobile devices, typically with a mobile operating system, touchscreen display and a rechargeable battery in a single, thin and flat package.

Tablets, being computers, do what other personal computers do, but lack some input/output abilities that others have as they don't have physical keyboards or mice. They generally come with a webcam, microphone and speakers.

They largely resemble modern smartphones, the only differences being that tablets are relatively larger than smartphones, with screens 7 inches (18 cm) or larger.

iPads/Tablets

Overall

The good

- Very usable and portable

The bad

- Don’t have a physical keyboard and mouse/trackpad
- Small screen

Device Scoring Breakdown

	PC	Laptop/Macbook	Chromebook	iPad/Tablet
Usability	8	9	8	6
Cost	6	9	9	6
Durability	9	6	6	8
Portability	2	10	10	10
Coding Suitability	10	10	9	3
Total	**35**	**44**	**42**	**33**

Laptops/MacBooks /Chromebooks

What we recommend

When purchasing a device for students to learn coding we recommend getting a **Laptop or MacBook or Chromebook**.

In our opinion the most important factors are having a **physical keyboard with a mouse/trackpad** and a **good sized screen** that will be easy for the students to see and use the code editors.

Laptops/MacBooks/Chromebooks have these and are also **portable and not too expensive**, making them our number 1 recommendation.

Introduction to Microbits

What is a Microbit?

A Microbit is tiny programmable computer, designed especially for learning and teaching coding.

It has a processor inside it (like the brain of the computer) and has the following:

- an accelerometer (for sensing movement).
- a compass (for sensing direction).
- a microphone.
- a speaker.
- Bluetooth and USB port for connectivity.
- a display consisting of 25 LEDs lights.
- two programmable buttons.
- and can be powered by either USB or an external battery pack.

What is a Microbit?

- Designed for ages 10+ but can be used by younger
- Various online sellers, costs about €18 each. Coding Ireland can provide them.
- Can connect to other accessories i.e. a line following car

Programming a Microbit

In a similar way to Scratch, you can create programs using a special website but you then need to download the program to your computer and then send the program to the Microbit.

1. Create your program using www.makecode.com
2. Download the program to your computer
3. Send the program to your Microbit by USB cable

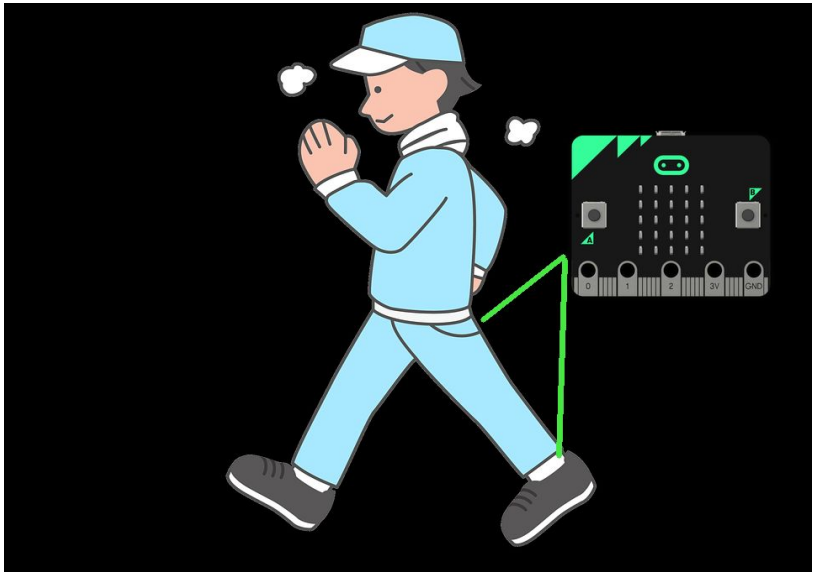
Step 1.) Create your Program

Step 2.) Download it to your computer

Step 3.) Send it to your Microbit

Microbit Demo

- Demonstration of coding a Microbit lesson
- Make a fit bit (step counter)
- See how a teacher would present and teach a Microbit coding lesson
- See how students would do a Microbit coding lesson



Teacher chat ☕