CANADA LEARNING CODE

I ♥ micro:bit

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Duration: 1 hour

LEVEL	SUBJECTS	PROVINCES / TERRITORIES	TOOL
Age 7+	Technology	Across Canada	Micro:bit

Overview

This is an introductory lesson to micro:bit. Students will learn the parts, functions and capabilities of micro:bit. They will also complete a beginners micro:bit challenge. In this challenge, students will understand that data can transfer between micro:bits using "packets" of data. Also, students will create a forever loop to send a packet of data.

Prep Work

- The instructor should have some knowledge of micro:bit
- micro:bit (one per student)
- Computers or a device capable of pairing to micro:bit
- Students should have had some previous experiences with coding (Scratch or Blockly)

Lesson

1. What is the micro:bit? Introducing the BBC micro:bit - BBC Make It Digital
   http://bit.ly/bbc-make-it-digital

Key Coding Concepts

- ✓ Algorithms
- ✓ Loops
- ✓ Debugging

Terminology

Algorithm Thinking: a step-by-step set of operations to be performed to help solve a problem

Loops: running the same sequence multiple times

Debugging: Finding problems in code and solving them

References

MakeCode Reference Guide:
https://makecode.microbit.org/reference

2. View introduction video: micro:bit Tutorial Series Part 1: Getting Started
   *note: watch first 3 minutes only
   http://bit.ly/microbit-tutorial-series
3. Discuss projects that other students have created (a web search of micro:bit will show many amazing projects)
4. Students will complete micro:bit Flashing Heart lesson (30 minute lesson). Instructor should demo lesson using Smart TV/ projector
   http://bit.ly/microbit-flashing-heart
5. Throughout the lesson, the Instructor should emphasis coding concepts (including algorithms, loops and debugging)
6. If time permits, students can complete one of the challenge activities.

Assessment

Formatively assess students to determine if they are able to use MakeCode program.

Extensions

Challenges:
★ Send a written message to a second micro bit. Check out starter project (writing your name) for tips: http://bit.ly/microbit-starter-project
★ Create another animation and send it to the other device.

micro:bit Educators Guide
https://www.slideshare.net/Microsofteduk/bbc-microbit-guide-from-hodder-education

The Official BBC micro:bit User Guide (2018) by Garteth Halfacree

Introducing the BBC micro:bit - BBC Make It Digital
https://www.youtube.com/watch?time_continue=78&v=Wuza5WXiMkc

micro:bit Tutorial Series Part 1: Getting Started
https://www.youtube.com/watch?v=ZIW_6rxYNBg

micro:bit by BBC - Creative Classroom Tips for Educators
https://www.youtube.com/watch?v=pR_AapxVudM

micro:bit Flashing Heart lesson
https://microbit.org/en/2017-03-07-flashing-heart/

Starter project (writing your name) for tips by Tech Grandma Deb:
http://tech.grandmadeb.com/wp-content/uploads/2018/09/Micro-bit-super-easy-lesson-plans-p1.pdf