Lesson plan:

UN Sustainable Development Goals and the micro:bit

Overview

This introductory session will allow learners the opportunity to connect the micro:bit fundamentals to the United Nations Sustainable Development Goals (SDG's). They will look at how the micro:bit can be used in a Social Emotional Learning (SEL) activity to promote SDG #3, Good Health and Well-being.

60 minutes

Learning Outcomes

- Develop an understanding of the UN Sustainable Development Goals
- Review and refresh their knowledge of MakeCode and the micro:bit SEL activity that ties to UN SDG 3 – Good Health and Well-being

Disciplines

- Computer Science, Health and Physical Education, Social Emotional Learning, Social Studies/Geography

Transferable skills

- Critical Thinking
- Communication
- Collaboration
- Creative Thinking
- Computational Thinking
- Design Thinking.

Resources

- CodingChange_S1_teacher powerpoint
- Intro to the Global Goals Lesson plan and Activity slides https://microbit.org/do-your-bit/
- micro:bits, 1 per pair
- CodingChange_S1_SEL_images

Activities

Minds On – Introduction UN SDGS

- Slides 1 – 5 Introductory material and Learning Goals.
- Slide 6 - 1 Minute Introductory video to introduce all of the United Nations Sustainable Development Goals
  - Teachers may wish to facilitate a discussion about
    - which goals resonate with students
    - which goals they wonder about
    - which goals they have a hard time understanding
  - Note – before starting this lesson teachers may wish to access prior student knowledge through a MS form or Kahoot
- Follow the downloadable Intro to the Global Goals lesson plan, using the downloadable slides.
- Slides 7 – 10 - Teachers may wish to take their class on a deeper dive with the SDGs using the materials and links found on the hidden slide 10.

Action – Meet the micro:bit

- Slide 11 - Assess student prior knowledge and experience with the micro:bit and MakeCode.com
- Slide 12 – intro to the micro:bit
- Slide 13 – 16 - Follow the notes for a possible script to introduce the micro:bit.
- Slides 17 - 21 are hidden. Teachers may wish to go live to the MakeCode website to introduce the coding platform and SEL code or have students follow the slide deck.
  - Link to completed SEL code https://makecode.microbit.org/_gqchdwUvhbva
- Slide 22 – challenge your students to remix the code to better meet their own personal needs.
  - Note - Teachers are encouraged to edit this slide to better reflect their students as well as the availability of peripherals.
- Slide 23 offers teachers some design challenges to go further with SDG 3

Reflect and Extend

- Debrief the lesson by having students share their experiences with coding and flashing the micro:bit by responding to a prompt such as "I found the micro:bit and MakeCode easy to use."
    - Value line underline strategy (agree to disagree)
    - FlipGrid for digital sharing
- Teachers may wish to have students reflect on their learnings around the SDGs as well.
- You may wish to have your class take the eco-footprint test as homework or use as an additional resource https://www.footprintcalculator.org/
    - Possible discussion points:
        - Were you surprised by your footprint data?
        - What are some things we can do (with and without technology) to decrease our footprint?
        - What are you excited to learn in this course?

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