Global Challenge

Love Heart

Lesson 3
Your challenge

- Design a prototype heart rate monitor using micro:bit
Learning objectives:

● To follow an algorithm accurately to code a prototype using micro:bit
● to use iteration, selection, variables and effective coding techniques to create efficient code
● to present a prototype effectively
● to evaluate a prototype and the design approach taken
Paired programming

- 2 programmers working together to code
  - One types the code (driver)
  - One watched the driver, checks the code, makes suggestions (navigator)
  - work collaboratively, talking through problems

- Why might this be helpful?
  - more accurate code written in shorter time
  - can collaboratively work through problems
Testing and debugging

- bugs are a normal part of programming, especially in complex code
- it is important to test regularly to remove the bugs as you go
- testing as you go helps to ensure code is accurate and saves time
- when you find a problem, think logically about where the bug is & look at that part of the code
- help each other
Sample algorithm

REPEAT FOREVER
  INPUT sense IF moving
    IF moving, then
      OUTPUT ‘heartbeat’ sound
      OUTPUT ‘heartbeat’ visual
    ELSE, OUTPUT ‘on’ visual

On START
  OUTPUT ‘on’ visual
Sample code
Presenting your prototypes

• present your prototype
• 2 minutes only
• 3 slides maximum (or use alternative to slides)
• be concise and clear
• make effective use of images
Evaluation

Name ________________________________

Evaluating your prototype
What are you most pleased with about your heart rate monitor?

What would you like to improve?

What problems did you encounter when creating your heart rate monitor prototype and how did you deal with them?

Evaluating your presentation
How pleased were you with your presentation and why?

What would you improve next time?
micro:bit global challenge competition

- Design and create an original innovation using micro:bit to help to improve safety for children.
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