

Activity: First Steps With Micro:bit

Subject/s: Computing	
Focus: <ul style="list-style-type: none"> • Instructions within a computer system • Undertake creative programming • Use of a software emulator of a device (micro:bit onscreen) • Making programs respond to events – e.g. button presses • Change the content of a computer display • Make a program repeat an action a set number of times • Downloading programs to micro:bit devices to test and use 	
Ages: 11-14	Time: 45 minutes
Prior Learning: <ul style="list-style-type: none"> • Some understanding of computer coding using a blocks type system such as Scratch • Familiarity with making USB and battery connections and dragging and dropping files. 	
Lesson Objectives: <p>Students will understand how to create a program for micro:bit that will display customisable messages on the screen and respond to button presses and other user events.</p> <p>Students will use a repeat block to make a micro:bit do something a set number of times.</p>	
Resources: Worksheets, Micro:bits (+battery packs and USB connections), Laptops or PCs with internet access	Vocabulary: code, program, input, button, if-then, loops & repeats, compile, download, screen, pixel, event, block
Activities: <ul style="list-style-type: none"> • Discuss how a micro:bit needs a program downloaded to work and that until a new program is downloaded, the micro:bit will keep using the last program that was downloaded to it. • Share the image of the micro:bit and ensure students can identify and make a USB connection • Have the students follow the instruction to complete and download a program to their micro:bits • Have the students modify their programs – e.g. displays other messages, do other things in response to different button presses, etc. • 	
Assessment opportunities: Demonstration, discussion and application in project work	
Extension ideas: Create team badges and display sponsor messages, have different button presses display text, numbers and basic drawings, change the speed of scrolling, etc.	