# Lesson 1 – What is a micro:bit?

|  |  |
| --- | --- |
| The Big Picture – Why Is This Relevant? | Learning Objectives |
| * Understanding the structure of the course * Setting ethos and environment of learning * Understanding the capability of the micro:bit device | * Understand the difference between the theory and project lessons * Identify the key features of a micro:bit * Apply sequence and iteration coding techniques using MakeCode * Understand how to upload resources to the micro:bit |
| Engagement – How Can I Engage Learners? | Assessment for Learning |
| * Encourage student to experiment * Inspire learners by explaining what can be   done with a micro:bit and how it can be used | **Expected progress:**   * Learners will edit and flash a program to put their name on the micro:bit   **Good progress:**   * Learners will attempt at least two of the Investigate Tasks   **Exceptional progress:**   * Learners will attempt most of the Investigative Tasks and the Stretch Task |
| Links to KS3 Programme of Study | |
| * use 2 or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions | |
| Key Concepts | Key Words |
| * Working with blocks * Using the micro:bit MakeCode website * What are the key features of the micro:bit? * Uploading resources to the micro:bit | * Blocks * Strings * Flash * micro:bit * Sensor |
| Differentiation | Resources |
| Use verbal scaffolding to support weaker students.  Ensure students have support with flashing files to the micro:bit. | * L1 Activity * micro:bit and cables * PC with internet access * Access to <https://makecode.microbit.org/> |
| Lesson Flow | |
| * Introduce the new course * Describe the difference between the ‘theory’ and ‘project’ lessons. Use the ppt to discuss the typical structure of the teams that students will work in for the project lessons. * Describe what ‘success criteria’ are and how important they are in the course, explain how every lesson has success criteria and these are very important in the projects as these are how your success is measured * Introduce the micro:bit and explain what it is * Describe the features of the micro:bit lead into a discussion of Internet of Things (IoT) and the importance of physical computing. Use examples such as intelligent fridges connected to our shopping lists; smart cities where data is collected automatically and shared with power stations, law enforcement, schools and libraries; and, of course, smart cars * Explain the concept of failing not being a bad thing * Explain the programming environment, make a point of explaining that it tries to stop you making mistakes by not allowing incompatible blocks to join – relate to any other programming students may have done i.e. Scratch, Logo, App Inventor etc * Ensure you have checked your firewall and the website [makecode.microbit.org](https://makecode.microbit.org/) is available * Demo the first app * Learners work through step-by-step – they can use the video on Slide 7 to support * Learner to complete the predict and investigate tasks * Encourage more advanced learners to attempt the Stretch Task once they complete main task | |
| Making | |
| There are no making activities in this lesson. | |