Content - Big ideas

Huge Question: What is a computer and how do they work?

Big question: *What is a computer?*

Learning outcome:

Students will be able to identify the main features of what makes a computer a computer.
They will be able to identify and describe the attributes of general purpose and embedded computers.
They will have a basic understanding of the role of different items of hardware in the operation of a computer.

   1.1 Types of computers
   1.2 Role of Hardware

Input Devices
- Keyboard
- Mouse
- Scanners
- Microphones

Output Devices
- Monitors
- Speakers/Headphones
- Projectors
- Printers

Big question: **How do computers work?**

Learning outcome:

Students will be able to write simple program that will control a physical computer. They will be able to sequence instructions to make things happen. They will be able to write programs that respond to inputs, and output new information. They will be able to make use of loops and variables to write efficient code.

   2. Physical Programming (micro:bit)
- Inputs and Outputs
- Loops
- Variables
- Selection
- Random Values

Prior learning

Prior learning required
- Has used a computer before
- Can log into RAN and Google
- Basic ICT skills

Global/IOM/Subject Links

Links to other subjects
Maths - algebra

Links to Global picture
Computers and Algorithms make much of our modern life operate, from Netflix recommendations to what we buy or the news we see.

Links to IOM
The Isle of Man has a thriving and growing Computing sector

Subject specific skills development

Problem Solving
Breaking down problems to identify a solution when programming

Algorithmic Design
Designing Sequences of Instructions when programming

Application of Skills
Using ICT skills to record and communicate there progress and understanding

Evaluating
Through considering the suitability of different peripherals for different tasks.