



Content - Big ideas

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

Big question: How do computers Store Data?

Learning outcome: *Students will be able to*

1.1 Understand why computers use binary

Convert Decimal numbers to Binary

Convert Binary numbers to Decimal

1.2 Understand how text and images are stored as binary

Convert ASCII text characters to binary

Convery binary numbers to ASCII text characters

Convert (2 and 4 colour) bitmap images to binary

Big question: How do computers work?

Learning outcome: *Students will be able to write simple programs using a visual (block) programming language. 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 (Scratch)

- Inputs and Outputs
- Loops
- Variables
- Selection
- Random Values
- Moving Sprites

Prior learning

Prior learning required

Experience of Block Programming (using the micro: bit)
Understanding of what a computer is.

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