

Year 3 Unit Medium Term – Programming and Algorithms

N.C POS

- Design, write and debug programs that accomplish specific goals. Including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- Use sequence, selection and repetition in programs; work with variables and various forms of input and output
- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

Strand/s of Computing in this Unit: Computer Science & Digital Literacy

Concept: cause and effect, change, information, communication, technology, patterns, invention

Key Vocabulary: algorithm, decomposition, sequence, input, selection, simple program, debug

Prior Learning: instructions as algorithms, instructional language, understanding 'debug' as correcting mistakes in programming,

Core Knowledge- non-negotiable- specific knowledge must be identified here

- break down tasks into a sequence of steps
- predict outcomes of an algorithm
- use basic flow diagrams
- understand what it means to decompose an algorithm
- decompose a game into smaller parts
- demonstrate and understanding of what an input is and how it can trigger events

Wider Influences

- **Position and direction (maths)**

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Enduring Understanding

- **Algorithms are a sequenced structure of instructions that can be changed.**
- **To break down problems into smaller parts (decomposing).**