Year 4Unit Medium Term – Computing – Programming

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, repetition, function, variable, duplicate

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

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

- To know that algorithms have to follow a logical sequence.
- Work with variables and adjust these depending on the effect they wish to create.
- Understand the concept and advantages of using a REPEAT command (or LOOP).
- Understand and use the duplicate function.
- Design an algorithm to simulate a real-life situation.
- Solve an open ended problem by breaking it into smaller parts (decomposition).
- Test existing programs to see how they could be improved.

Wider Influences

Enduring Understanding

- **To use logical reasoning to explain how some simple algorithms work.**
- **Understand that prediction, trial and error are important when controlling devices to achieve a specific outcome.**