YEAR 6 6.3 - Programming a Game

Computing Area	Computer Science
National Curriculum Strands	• 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
Skills Progression Points	• Understand the importance of planning, testing and correcting algorithms. • Demonstrate a range of different strategies to solve a problem including: abstraction, decomposition, logic & evaluation. • Understand why sequence & patterns are important when creating simple algorithms that are part of a more complex program. • Gives reasoning for each step within algorithms and applying them to a program. • Use a variable to increase programming possibilities. • Use variable and relational operators (e.g. < = >) within a loop to stop a program. • Evaluate the effectiveness and efficiency of an algorithm while continually testing the programming. • Use logical reasoning to predict and debug more complex programs e.g. selection, variables and operators.
Hardware	Laptops/Desktop PC / iPads (PCs or Laptops preferable)
Software/App	Scratch 3.0
Unit Objective	To create an interactive, playable game using conditionals, variables and operators.
Unit Vocabulary	Algorithm, abstraction, decomposition, logic, sequence, variable, input, output, debug, operators, loops