

SUBJECT		YEAR	TERM
Computer Science		8	1
UNIT			
Programming Fundamentals			
INTENT			
PRIOR LEARNING (TOPIC) This unit follows on from the Problem-Solving Using Python unit done in year 7			
During year 7, pupils were exposed to their first text-based programming language, Python. This primarily focused upon sequencing instructions to solve problems. This unit builds upon this core knowledge by introducing the main concepts and constructs of programming including variables, inputs, sequence, selection and iteration.			
Pupils will learn about each of these and produce simple programs demonstrating their understanding.			
FUTURE LEARNING (TOPIC): Next Steps into Programming			
IMPLEMENTATION		IMPACT	
Throughout the unit pupils will learn how to: • Write simple instructions in Python. • Identify and solve syntax and logic errors. • Use variables and inputs. • Use and cast between different data types. • Use selection / if statements. • Use iteration.		Assessment: Each lesson will be consolidated with a short set of questions. The combination of which will give a total score for the unit out of 40. This mark will then be translated into a 9-1 style grading.	
HOW CAN PARENTS HELP AT HOME?			
The development environment we use for programming (replit) is freely available via the World Wide Web. If pupils enjoy programming in lessons, they can easily learn more at home. Parents can support this by learning along with them or helping them find suitable next steps (see reading/extra-learning).			
HELPFUL READING/FURTHER DISCUSSION			
READING/EXTRA-LEARNING There are an enormous number of online courses and tutorials to help pupils develop their programming skills further. Visit the Next Steps section of the Computing department’s Firefly page for more details.	CAREERS Programming skills can lead into a wide array of careers, including software development, data science and game design.	WIDER SKILLS Digital Literacy Problem Solving Resilience	
VOCABULARY			
Syntax, Instructions, Logic, Debugging, Sequence, Selection, IF ELSE, For, While, Condition, String, Integer, Real, Boolean, Casting, Input, Variable, Iteration			