



MAGHULL HIGH SCHOOL – CURRICULUM MAP

Unit: Topic 2.2 Algorithms	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
LESSON TOPIC QUESTION(S)	Lesson 1 What gaps are there in my knowledge? Lesson 2 How are programs constructed? Lesson 3 What operators can I use?	Lesson 4 How can languages manipulate strings? Lesson 5 What revision should I do for paper 1?	Lesson 6 How does selection help create programs? Lesson 7 How can you make code more efficient? Lesson 8 How do programs interact with different files?	Lesson 9 How can arrays be used? Lesson 10 What revision should I do for paper 1?	Lesson 11 What are the key commands of SQL? Lesson 12 How can I use blocks of code multiple times? Lesson 13 Can I show what I have learnt?	Lesson 14 How does abstraction help with program development? Lesson 15 What revision should I do for paper 1?	Lesson 16 How does decomposition help with program development? Lesson 17 What is algorithmic Thinking?
Knowledge & Skills development	<u>Theory Knowledge</u> <i>Basic programming constructs</i> <i>Data types, operators and string</i> <i>File handling</i> <i>Records & SQL</i> <i>Arrays & sub problems</i> <i>Random number generation</i> <i>Abstraction</i> <i>Decomposition and Structure diagrams</i> <i>Algorithmic Thinking</i>			<u>Digital Skills</u> <i>Be able to use text-based programming</i> <i>Be able to use different programming construct</i> <i>Be able to work with external files with text-based programming</i> <i>Be able to work with multiple windows</i> <i>Be able to access Teams and complete work</i> <i>Be able to access the MS365 suite of apps</i> <i>Use common shortcut keys</i>			
Assessment / Feedback Opportunities	Formative Assessment Workbook activity Class Discussion Questioning pupils Verbal Feedback Live Marking			Summative assessment Knowledge check Cumulative test			
Key Vocabulary	Variable, Constant, Operator, Assignment, Programming construct, Sequence, Selection, Count controlled iteration, Condition controlled iteration, Arithmetic operator, AND, OR, NOT, ==, !=, <, <=, >, >=, +, -, *, /, MOD, DIV, ^, Data type, Integer, Real, Boolean, Character, String, Casting, String manipulation, OPEN, READ, WRITE, CLOSE, Record, SQL, SELECT, FROM, WHERE, Array, Sub program, Procedure, Function, Random number generation , Computational Thinking, Abstraction, Decomposition, Algorithmic thinking, Problem inputs, Problem processes, Problem outputs, Structure diagram, Pseudocode,						

Literacy/Reading opportunities	<u>Books</u> The Coming Wave: AI, Power and Our Future Code: The Hidden Language of Computer Hardware and Software Python Challenge – PG online <u>Website for technology news</u> https://newsforkids.net/category/all_news/science/technology/ https://www.dogonews.com/category/technology
Cross Curricular Themes	Development of digital skills and use of online platforms
Personal Development (Including British Values, RSE, Citizenship)	Working with others Respectful communication
Career Opportunities	Computer Scientist – R&D – Software Engineer – Cyber Security