



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 Can I identify inputs, processes and outputs? Lesson 3 What is a structure diagram?	Lesson 4 What are flowcharts? Lesson 5 Can I create a flow chart applying the correct symbols?	Lesson 6 How can flow diagrams be written as pseudocode? Lesson 8 What are the gaps in my knowledge?	Lesson 9 What is reference language? Lesson 10 What is the difference between syntax errors and logic errors in code?	Lesson 11 What are trace tables? Lesson 12 What are the gaps in my knowledge? Lesson 13 Address misconceptions	Lesson 14 Recall week – Paper 1 Lesson 15 What gaps in my knowledge do I have for Paper 1	Lesson 16 (2.1.3 searching and sorting algorithms) How do programs ‘search’? Lesson 17 What is a binary search?
Knowledge & Skills development	<u>Theory Knowledge</u> <i>Basic programming constructs</i> <i>Flow diagram symbols</i> <i>Abstraction</i> <i>Decomposition</i> <i>Algorithmic Thinking</i> <i>Pseudocode – reading and writing</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, syntax error, logic error, binary search, reference language						
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						

	<p><u>Website for technology news</u></p> <p>https://newsforkids.net/category/all_news/science/technology/</p> <p>https://www.dogonews.com/category/technology</p>
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 – programmer – data analyst