A level Computer Science

MAGHULL HIGH SCHOOL – CURRICULUM MAP

HALF TERM 1.1 SEPT - OCT	**Week 1 - 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**
TOPIC (S)	2.1 Thinking abstractly	2.2 Thinking ahead	2.3 Thinking procedurally	2.4 Thinking logically	2.5 Thinking concurrently	Project
Knowledge & Skills development	What is abstraction and why is it needed? What are some examples of abstraction in computer science? What is meant by an abstract model?	What are the inputs and outputs of a real-world system? What are preconditions for devising a solution to a problem? What are the benefits and drawbacks of reusable program components? What is caching in programming and what are the limitations?	How can a system diagram be used to represent a computing problem? How are flowcharts used to define algorithms? How is pseudocode used as an alternative to flowcharts? What are sub-procedures, and how do they help to construct a complete solution to a problem?	What is meant by the term "decision points" in a program? How do decisions affect the flow of a program?	What are the benefits and limitations of concurrent processing How can concurrency be used to speed up an execution of an algorithm?	Students will independently work on their project – they should have begun the development at this stage
Assessment / Feedback Opportunities	Classroom activity - Class Discussion - Questioning pupils – verbal feedback – exam questions	Classroom activity - Class Discussion - Questioning pupils – verbal feedback – exam questions	Classroom activity - Class Discussion - Questioning pupils – verbal feedback – exam questions	Classroom activity - Class Discussion - Questioning pupils – verbal feedback – exam questions	Classroom activity - Class Discussion - Questioning pupils – verbal feedback – exam questions	Questioning pupils – verbal feedback
Cultural Capital	Problem solving Impact of technology on the world					
SMSC / Promoting British Values (Democracy, Liberty, Rule of Law, Tolerance & Respect)	• Listening to others • Responding suitable in discussions • Taking part in group activates					

Reading opportunities	Key word Identification Decomposition and Abstraction Computational Thinking				
Key Vocabulary	Thinking abstractly, Abstraction, Abstract model	Thinking ahead, System inputs, System outputs, Solution preconditions	Thinking procedurally	Thinking logically	Thinking concurrently, Concurrent processing
Digital Literacy	Use of technology Understanding of how technology works				
Careers	Software Engineer – Cyber Security – Multimedia programmer – Systems analyst – Games developer				