MAGHULL HIGH SCHOOL – CURRICULUM MAP

HALF TERM 2.1 Jan - Feb	Week 16 - 17	Week 17 – 18	Week 19	Week 20-21
TOPIC (S)	1.7 Types of programming language	1.9 Compression, encryption and hashing	Dedicated programming skills	1.10 Databases
Knowledge & Skills development	What do we mean by the term programming paradigm? What are the features of procedural languages? What are the features of assembly language? What are immediate, direct, indirect, indexed and relative memory addressing? What are the features of object-oriented languages?	What is the difference between lossy and lossless compression? How does run-length encoding work? How does dictionary encoding work? How does encryption work? What is hashing?	Gain experience in practical programming using TIME model	What are the key terms associated with databases? How can data be captured and exchanged for databases? What is the purpose of normalisation?
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	Classroom activity - Class Discussion - Questioning pupils – verbal feedback – exam questions
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 Practical SQL			
Key Vocabulary	Programming paradigm, Procedural language, Assembly language, Machine code, Low-level language, High-level language, LMC, Immediate addressing, Direct addressing, Indirect addressing, Indexed addressing, OO,	Lossy compression, Lossless compression, Length encoding, Dictionary coding, Symmetric encryption, Asymmetric encryption, Hashing		Relational database, Flat file, Primary key, Foreign key, Concatenated primary key, Secondary key, ERM, Normalisation, Indexing, 0NF, 1NF, 2NF, 3NF, Normal forms, SQL,

	OOP, Class, Object, Base class, Superclass, Subclass, Derived class, Instantiation, Overriding, Method, Attribute, Inheritance, Encapsulation, Polymorphism		Referential integrity, Transaction processing, ACID, Recording locking, Redundancy
Digital Literacy	Use of technology Understanding of how technology works		
Careers	Computer Scientist – Programmer – R&D – Processor coding – Database Administrator – SQL Analyst		