

Year 8	Computing				Head of Department: Mr. J. Ng
Lesson Time:	One lesson a week				
Content Over-view :	Computational Thinking and Problem Solving, Data & Data Representation, Hardware & Processing,				
Assessment:	Homework peer- assessed, standardised assessment every half term				
Literacy;	Computational Thinking and Problem Solving, Data & Data Representation, Hardware & Processing,				
Numeracy:	Binary arithmetic, bits and bytes, compression and data types, programming				
SMSC (Incl. Catholicism & Britishness)	Impact of Technology on society				
Units:	Computational Thinking & Programming	Data & Data Representation	Hardware & Processing	Database Creation and Manipulation	
Content:	Students learn that programming bridges the gap between algorithmic solutions and computers. Students will develop practical experience of a high-level textual language, including using standard libraries when programming. Students will use a range of operators and expressions..	Students will learn that digital computers use binary to represent data. They will understand how bit patterns represent numbers and images. Students will learn that computers transfer data in binary. They will understand the relationship between binary and file size as well as how computers store and process sound and Image.	Students will recognise and understand the function of the main internal parts of basic computer architecture. They will understand the concepts behind the fetch-execute cycle. They will know that there is a range of operating systems and application software for the same hardware.	Capturing, storing and manipulating data is now a cornerstone of any modern business and economy. Students will learn the importance of data integrity and errors and how it could lead to poor decision making. Students will learn how to set up a database with one or more tables. Set validation rules for data integrity and use queries to extract meaningful data. Students will learn the difference between data and information and how to turn their extracted data into information.	
Delivery:	Autumn	Spring 1	Spring 2	Summer	
Learning:	Key Computational Thinking Concept includes the topics of: Abstraction; Decomposition; Algorithmic Thinking; Evaluation; Generalisation. Whole class teaching, individual work , group work projects				
Support (SEND):	Using the KS3 Computing Progression Pathways document to differentiate objectives and content.				
Challenge (Most Able):	Using the KS3 Computing Progression Pathways document to differentiate objectives and content.				
Work Related Learning:	Databases are a very common feature of the workplace. Understanding how to structure and present a database so an end user can carry out tasks is vitally important for the success of the database's role in the organisation.				
Equipment:					
Costs:					
Trips	Selected groups for the Amazon boot camp				
Extra-Curricular:	AWS Get IT DGS Apps Designer Club (Wednesday Lunch) Apps for Good - App Development National Competition. Robotics - Build and code a Robot for entry into a national competition.				