



Vision and Intent
At St Mary's Catholic College we empower our students to be responsible digital citizens who are competent users and creators of digital technology. We strive to inspire their curiosity, fuel their passion for computer science. Through a carefully structured curriculum, our aim is to prepare our students for the challenges and opportunities presented by the digital world.

Year	Unit 1: Digital Literacy	Unit 2: Computational thinking	Unit 3: Small basic	Unit 4: Spreadsheet modelling	Unit 5: App development
Year 7	Pupils will be able to: - Identify issues surrounding... - Use advanced features of word processing software	Pupils will be able to: - Explain the four methods of computational thinking... - Solve problems using computational thinking methods... - Evaluate the effectiveness of algorithms	Pupils will be able to: - plan a programming project using pseudocode or flowcharts... - Construct a functioning computer program (in a text based language)... - Use debugging methods to spot and correct errors in code	Pupils will be able to: - apply and understand a range of formatting techniques... - Understand and use the following functions (COUNT, COUNTIF, SUM, MAX, MIN, AVERAGE, IF)... - Be able to collate and display data	Pupils will be able to: - Decompose problems into logical steps... - Create a functional app that meets given success criteria... - Add additional individualised features to their app
Year 8	Pupils will be able to: - Ask logical questions using a range of techniques... - Create and refine algorithms... - Demonstrate the use of computational thinking in the real world	Pupils will be able to: - Create and run programs containing a range of statements... - Identify and correct code constructs... - Use selection and iteration	Pupils will be able to: - Identify and explain the main characteristics of spreadsheets... - Apply formulas and functions to spreadsheets to carry out calculations... - Organise data through a range of techniques and methods (formatting, filtering, sorting, graphs)	Pupils will be able to: - Explore the potential of AI (and give their own opinion)... - Evaluate the impacts of AI and machine learning... - Understand how bias can impact AI	Pupils will be able to: - Use modelling tools effectively (to create and combine shapes)... - Create a functional app that meets given success criteria... - Create effective animations using keyframes on multiple objects
Year 9	Pupils will be able to: - Explain the role of hardware in computer systems... - Understand the roles of the key internal components of computer systems... - Explain the purpose of selected software	Pupils will be able to: - Run a Python program using computational thinking methods... - Create a functional program that meets given success criteria... - Extend a program to include advanced constructs	Pupils will be able to: - Identify the purpose and importance of binary within computer systems... - Convert between number systems... - Perform calculations on binary numbers	Pupils will be able to: - Identify the purpose and features of a database... - Competently use the features and functions of a database... - Form a database effectively	Pupils will be able to: - Plan a multimedia advert... - Create multimedia content (logs, multimedia video and voiceover sound file for the advert)... - Construct a multimedia advert

Year	Unit 1: Understanding computers	Unit 2: Introduction to Python	Unit 3: Data Representation	Unit 4: Databases	Unit 5: Theme park advert
Year 10	Pupils will be able to: - Explain the role of hardware in computer systems... - Understand the roles of the key internal components of computer systems... - Explain the purpose of selected software	Pupils will be able to: - Run a Python program using computational thinking methods... - Create a functional program that meets given success criteria... - Extend a program to include advanced constructs	Pupils will be able to: - Identify the purpose and importance of binary within computer systems... - Convert between number systems... - Perform calculations on binary numbers	Pupils will be able to: - Identify the purpose and features of a database... - Competently use the features and functions of a database... - Form a database effectively	Pupils will be able to: - Plan a multimedia advert... - Create multimedia content (logs, multimedia video and voiceover sound file for the advert)... - Construct a multimedia advert

Year	Unit 1: Learning to program in python	Unit 2: Computational Thinking	Unit 3: Data representation	Unit 4: Issues and impact	Unit 5: Computers	Unit 6: Networks	Unit 7: Revision	Unit 8: Mock Exams	
GCSE Comp Sci Year 10	Pupils will know: - The function of and be able to identify the structural components of programs... - The need for and be able to write programs that implement validation (length checks, presence check, range check, pattern check)... - The difference between and be able to write programs that make appropriate use of global and local variables	Pupils will know: - What abstraction and distribution is... - Why program structure is important... - Three types of error: syntax, logic and runtime	Pupils will know: - The different types of data... - How to create and modify an image using appropriate tools and techniques... - How to test and debug a program	Pupils will know: - The ethical and legal issues surrounding personal data... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of computer programs... - The role of main memory... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing

Year	Unit 1: Computational Thinking	Unit 2: Programming in python	Unit 3: Networks	Unit 4: Revision	Unit 5: Mock Exams	
GCSE Comp Sci Year 11	Pupils will know: - The function of and be able to identify the structural components of programs... - The need for and be able to write programs that implement validation (length checks, presence check, range check, pattern check)... - The difference between and be able to write programs that make appropriate use of global and local variables	Pupils will know: - What abstraction and distribution is... - Why program structure is important... - Three types of error: syntax, logic and runtime	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing

Year	Unit 1: Networks	Unit 2: Revision & Exam Prep	Unit 3: Post Paper questions and practical exam prep
GCSE Comp Sci Year 11	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing

Year	Unit 1: ICT IN CONTEXT	Unit 2: ICT IN SOCIETY	Unit 3: Database Development 1	Unit 4: The Online World
WJEC IT 10	Pupils will know: - How to create and design an image in response to the client brief... - How to test and debug a program	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing

Year	Unit 1: ICT IN SOCIETY	Unit 2: Database Development 1	Unit 3: The Online World
WJEC IT 11	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing

Year	Unit 1: A Digital Portfolio	Unit 2: Database Development 1	Unit 3: Database Development 2	Unit 4: The Online World
Year 12 Level 2	Pupils will know: - How to create and design an image in response to the client brief... - How to test and debug a program	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing

Year	Unit 1: Information Technology Systems	Unit 2: Creating systems to manage information	Unit 3: Using Social Media in Business	Unit 4: The Online World
Year 12 Level 3 Single IT	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing

Year	Unit 1: Information Technology Systems	Unit 2: Programming & Theory	Unit 3: Programming and unit 9 Project management	Unit 4: The Online World
Year 12 Level 3 Double IT	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing

Year	Unit 1: Cyber security and incident management	Unit 2: Mobile App Development
Year 13 Level 3 Double IT	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing	Pupils will know: - The different types of network... - The role of network protocols (Ethernet, WiFi, TCP/IP, HTTP, HTTPS, FTP) and email... - The impact of digital devices on the environment... - The ethical and legal issues surrounding intellectual property protection including copyright, patents, trademarks and licensing

Global 3: Find a friend using a Data/Data project

Pupils will know:
- How to use data to investigate problems
- How data is stored locally and globally
- Pupils will be able to:
- Analyse data to identify patterns and trends
- Work through the investigative cycle to solve a problem

Exams and study leave

Exams and study leave

Exam resit preparation (if necessary)

Lead Staff	Unit No.	Unit of Work	Unit Summary students.	National Curriculum Coverage	Arbor Assessment Statements	Key Skills	Key Words	Assessment	Lessons	Homework	Knowledge Organisers	Careers Link
									Part 1 - Part 2 - Google Form Assessment Academic Review Extension			
VDO	11	Understanding Computers	This is a theoretical unit covering the basic principles of computer architecture and use of binary. Pupils will revise some of the theory on input and output covered in previous learning and continue to look at the Input-Process-Output sequence and the Fetch-Decode-Execute cycle through practical activities. Pupils will then look at some simple binary to decimal conversion and vice versa, and learn how text characters are represented using the ASCII code. This will be followed by some simple binary addition. Pupils will look more in depth at how storage devices store or represent data using binary patterns. A final lesson covers the history and development of communication and technology, and some of its applications.		<ul style="list-style-type: none"> Explain the role of hardware and software in computer systems Understand the role of the CPU in the running of a computer system Understand the role of binary in computer systems and how to convert between binary and denary 		Input Process Output Device Hardware Software Fetch Decode Execute Binary Conversion Memory RAM ROM Binary Denary ASCII Operating System Application software Utility Software		Elements of a Computer The CPU Understanding Binary Operating Systems Convergence and new technologies Part 1 - Revision Part 2 - Google Form Assessment Academic Review Extension	Quizlet Key words Add Link here Google Form - Understanding Computers Revision - knowledge organiser	Pending Add Link here	
SLE	12	Python Programming Project			<ul style="list-style-type: none"> Plan a python program using computational thinking methods Create a functional program that meets given success criteria, uses subprograms, and runs without errors Extend program to include selection and iteration 		Algorithms Program Language Syntax Environment Abstraction Decomposition Interpreter IDE Error Logic Data Types Iteration Selection IF ELIF ELSE FOR WHILE		Part 1 - Part 2 - Google Form Assessment Academic Review Extension	Quizlet Key words Add Link here Revision - knowledge organiser	Pending Add Link here	https://www.youtube.com/watch?v=V72d05u10
VDO	13	Data Representation and Logic	Throughout this unit students will understand how computers represent and manipulate positive numbers and be able to convert between denary, binary and denary.	3.4 Understand simple Boolean logic (for example, AND, OR and NOT) and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers (for example, binary addition, and conversion between binary and decimal)	<ul style="list-style-type: none"> To be able to convert between denary and binary and vice versa To be able to convert between denary and hexadecimal To be able to add binary numbers 	Basic Maths skills - addition, subtraction, multiplication and division Applying Maths skills to convert between number systems	Binary Denary/Decimal Hexadecimal Conversions Addition Subtraction Multiplication Bit Nibble Byte Kilobyte Megabyte Gigabyte Terabyte Petabyte	https://docs.google.com/forms/d/1j_u8VvD0U7d0gn-Bh1_RseAWrFF5aDc8d0nq6W1C8/edit#responses	Key values, binary/denary conversions Hexadecimal/denary conversions Binary/hexadecimal conversions Binary Addition Assessment Academic Review Extension	Kahoot! Key words Google Form Homework Revision - knowledge organiser	https://drive.google.com/file/d/13e226u0WU3e1t12GcQnBy1hd0Iic8xwv/view?usp=share_link https://drive.google.com/file/d/13w92xv/cu4F0vF1cC6Qv1m9a6k4356/view?usp=share_link	
KBI	14	Database Development	This unit covers essential theory of databases in order to prepare pupils for GCSEs in either Computing or ICT. Supporting the basic theory, this unit has a practical focus, covering the creation and use of a single-table database and/or a simple relational database involving two tables in a one-to-many relationship using MS Access. The first lesson is designed to engage pupils in the concept of databases using a number of "Unsolved Crimes" and a database of suspects, from which pupils must use queries to find the culprit for each of the cases they have been allocated. In subsequent lessons pupils will create a flat-file or two-table relational database of their own, using suitable field types and adding in appropriate validations. They will create an input form, queries, a report and a front end menu for their own application.		<ul style="list-style-type: none"> To be able to set up a database table To be able to query data To be able to format database reports 		Flat-file database relational database table column record field query parameter criterion criteria primary key linked tables		Introduction to databases Creating a database table Queries Input forms Creating a report Part 1 - Part 2 - Google Form Assessment Academic Review Extension	Quizlet Key words Add Link here Revision - knowledge organiser	Pending Add Link here	
JLY	15	Theme Park Advert	This unit allows pupils to practically implement an interactive advert using a range of relevant industry standard software (Graphic design, Video editing, Audio editing). Pupils will methodically plan each stage of the advert, highlighting and relating the audience and purpose to their choice of assets and design choices. Career links throughout the unit should inspire pupils, whilst also allowing them an insight into how these skills can be transferable in the outside world. A strong theory element runs through the unit with pupils understanding design choices and the effect practical choices makes on the outcome of a media product The first lesson in this unit involves pupils working from a given design brief. Pupils will build knowledge to develop a logical plan for the advert through storyboards, and scripts, exploring media processes. The latter lessons will be practical lessons, where the pupils can use their creativity to produce a media product in line with the brief.	3.7 3.8	<ul style="list-style-type: none"> Use multiple planning techniques for a multimedia advert Create a logo, multimedia video and voiceover sound file for the advert Successfully use a range of editing techniques in multiple software packages and combine the finished elements into the multimedia product 	Planning and design Logo Theory Storyboard design Editing using graphic design software Editing using video creation software Presentation planning and pitching Computational thinking	Scenario Requirements Criteria Graphics Video Audio Editing software Logo Colour theory Suitability Iterative Voiceover Soundtrack Advert Element Tweak Transitions Planning	1. What could we plan for when aiming a multimedia product towards a young target audience (5-10 year olds)? 2. What features would you include in a storyboard? 3. Look at the design brief above. What are the main requirements? 4. Which of the following make successful logo criteria? 5. What is narration called within an advert? 6. What could we add to a video to provide information to the audience? 7. Which editing technique would you use to shorten the length of a video clip? 8. Which of the following is a suitable file type for storing audio files? 9. Which is an appropriate file type for saving a video file	Understanding and planning from a brief Logo theory and creation Media planning through storyboards Video creation and editing Voiceover creation using audio editing software Part 1 - Part 2 - Google Form Assessment Academic Review Extension	Quizlet Key words Google forms knowledge test Revision - knowledge organiser	Pending Add Link here	



Vision and Intent:

Subject Long Term Plan

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16	Week 17	Week 18	Week 19	Week 20	Week 21	Week 22	Week 23	Week 24	Week 25	Week 26	Week 27	Week 28	Week 29	Week 30	Week 31	Week 32	Week 33	Week 34	Week 35	Week 36	Week 37	Week 38	Week 39	Week 40								
	Unit # and Title (links to ???)																																															
Year 7	Overview and Purpose		Crests		Cont Events in Medieval E		War of The Roses		Reign of Henry VII and the Reformation		Elizabethan England																																					
	<p>Outcomes This should be the main 5 compatible statements for this unit (should be the other statements)</p> <p>Pupils will know:</p> <ul style="list-style-type: none"> Describe how England changed under the Norman conquest Assess the significance of key events such as The Black Death and Peasants Revolt and evaluate their impact on Medieval England Develop key historical skills such as chronology, source analysis and debating significance 																																															
Year 8	Discovery in the New World										Civil Rights in the USA																																					
	<p>Pupils will know:</p> <ul style="list-style-type: none"> What the slave trade was How Black people were discriminated against What the Civil Rights Movement is Explain how the lives of Black people have changed in America <p>Pupils will be able to:</p>																																															
Year 9	Britain and Empire																																															
	<p>Pupils will know:</p> <ul style="list-style-type: none"> How Britain became an Empire What impact the Empire had on it's people How Britain lost it's Empire <p>Pupils will be able to:</p> <ul style="list-style-type: none"> Explain how the British control of India was similar to that of America 																																															
Year 10	Early Civil Rights Movement										Impact of the Civil Rights Movement																																					
	<p>Pupils will know:</p> <ul style="list-style-type: none"> Why the Civil Rights Movement (CRM) accelerated after WW2 What organisations were apart of the CRM How significant events made or hindered progress Explain how the CRM was a forerunner to the 1960s CRM <p>Pupils will be able to:</p>																																															
Year 11	Problems Elizabeth faced 1558-1568																																															
	<p>Pupils will know:</p> <ul style="list-style-type: none"> What challenges Elizabeth faced when she came to the throne in 1558 What impact Elizabeth's religious settlement had on England How Elizabeth's foreign policy created conflict with Spain 																																															
Year 12	Creation and destabilization of the Second Spanish Republic																																															
	<p>Pupils will know:</p> <ul style="list-style-type: none"> What factors led to the creation of the Spanish Second Republic What factors led to the division and destabilization of the Second Republic Why there was a military coup in 1936 <p>Pupils will be able to:</p>																																															
Year 13	Weimar Germany																																															
	<p>Pupils will know:</p> <ul style="list-style-type: none"> What factors led to the creation of the Weimar Republic Who opposed/supporter the Weimar and why The impact of social reform by 1933 <p>Pupils will be able to:</p>																																															

