IT Curriculum Overview

This overview document details what students will be studying in this subject area over the course of their time with us and the skills and knowledge they will be covering. Students will be formally assessed across the year and their progress and ATL (Attitude to Learning) will be reported home at the end of each term. Assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, including the curriculum covered in the previous year/s.

Half term	02.09.25 - 23.10.25	03.11.25 - 19.12.25	05.01.26 - 13.02.26	23.02.26 - 26.03.26	13.04.26 - 22.05.26	01.06.26 - 17.07.26
	Autumn 1 - 8 weeks	Autumn 2 - 7 weeks	Spring 1 - 6 weeks	Spring 2 - 5 weeks	Summer 1 - 5 weeks	Summer 2 - 7 weeks
Year 7	***Cybersafety*** • *Using systems* • *Digital footprint* • *Viruses* This theme introduces students to the fundamentals of using school ICT systems and becoming safe, responsible digital users. Students will learn how to access their accounts, use worksheets, and understand how ICT lessons are structured, alongside developing basic skills in Word and PowerPoint for creating documents and presentations in real-life scenarios. The unit also explores how to navigate the internet effectively, including using web browsers and search engines, evaluating trustworthy sources, and collecting digital content. Key aspects of online safety are covered, such as understanding computer viruses, managing a digital footprint, staying safe online, and recognising and	***Cybersafety*** • *Using systems* • *Digital footprint* • *Viruses* This theme introduces students to the fundamentals of using school ICT systems and becoming safe, responsible digital users. Students will learn how to access their accounts, use worksheets, and understand how ICT lessons are structured, alongside developing basic skills in Word and PowerPoint for creating documents and presentations in real-life scenarios. The unit also explores how to navigate the internet effectively, including using web browsers and search engines, evaluating trustworthy sources, and collecting digital content. Key aspects of online safety are covered, such as understanding computer viruses, managing a digital footprint, staying safe online, and recognising and	***Data representation*** • *Images* • *Sound* • *Character sets* This theme explores how different types of data are represented and processed by computers, helping students understand how digital media is created and stored. Students will learn how images are formed on a computer, how image quality can be improved, and how file sizes are calculated, alongside exploring file compression methods such as lossy and lossless and their impact on quality and storage. The unit also examines the differences between bitmap and vector graphics and why vector images often have smaller file sizes. Students will develop an understanding of how sound is recorded, converted into digital form, and compressed, as well as how sound quality can be evaluated. Finally, the theme introduces character sets, including how text and symbols are represented using systems such as ASCII, and how the number	***Data representation*** • *Images* • *Sound* • *Character sets* This theme explores how different types of data are represented and processed by computers, helping students understand how digital media is created and stored. Students will learn how images are formed on a computer, how image quality can be improved, and how file sizes are calculated, alongside exploring file compression methods such as lossy and lossless and their impact on quality and storage. The unit also examines the differences between bitmap and vector graphics and why vector images often have smaller file sizes. Students will develop an understanding of how sound is recorded, converted into digital form, and compressed, as well as how sound quality can be evaluated. Finally,	***Programming - Scratch*** • *Variables* • *Lists* • *Loops* This theme introduces students to the foundations of programming using Scratch's drag-and-drop, block-based coding environment. Students will learn how instructions are written and sequenced, and how variables are used to store and change information within simple programs. They will develop their understanding of data structures through the use of lists and learn how loops are used to repeat actions efficiently, applying these concepts within practical projects such as the Shark Game. The unit then builds students' coding skills through a series of programming challenges, including developing and refining a Maze Game, allowing them to combine and apply their knowledge to solve problems and debug programs. The theme	***Programming - Scratch*** • *Variables* • *Lists* • *Loops* This theme introduces students to the foundations of programming using Scratch's drag-and-drop, block-based coding environment. Students will learn how instructions are written and sequenced, and how variables are used to store and change information within simple programs. They will develop their understanding of data structures through the use of lists and learn how loops are used to repeat actions efficiently, applying these concepts within practical projects such as the Shark Game. The unit then builds students' coding skills through a series of programming challenges, including developing and refining a Maze Game, allowing them to combine and apply their knowledge to solve problems and debug programs. The theme concludes with an

	responding to cyberbullying. The theme concludes with an assessment lesson, enabling students to demonstrate their knowledge, reflect on feedback, and consolidate their learning.	responding to cyberbullying. The theme concludes with an assessment lesson, enabling students to demonstrate their knowledge, reflect on feedback, and consolidate their learning.	of characters used can affect file size.	the theme introduces character sets, including how text and symbols are represented using systems such as ASCII, and how the number of characters used can affect file size.	concludes with an assessment, enabling students to demonstrate their programming skills and reflect on their progress.	assessment, enabling students to demonstrate their programming skills and reflect on their progress.
Half term	**02.09.25 - 23.10.25**	**03.11.25 - 19.12.25**	**05.01.26 - 13.02.26**	**23.02.26 - 26.03.26**	**13.04.26 - 22.05.26**	**01.06.26 - 17.07.26**
	Autumn 1 - 8 weeks	**Autumn 2 - 7 weeks**	**Spring 1 - 6 weeks**	**Spring 2 - 5 weeks**	**Summer 1 - 5 weeks**	**Summer 2 - 7 weeks**
Year 8	***Computational Thinking & Python*** • *Decomposition* • *Abstraction* • *Python Turtle* This theme introduces students to computational thinking and the foundations of text-based programming using Python. Students will develop problem-solving skills through decomposition, pattern recognition, and abstraction, learning how to break down problems, identify key information, and relate these concepts to computing. The unit also introduces flow diagrams, enabling students to plan and represent algorithms using standard symbols before coding. Students will then apply these skills using Python Turtle, writing code to create images and patterns on screen. Through this, they will learn to use variables to control behaviour and loops to repeat actions, before combining their Python skills to design and create their own digital images, demonstrating their understanding of	***Computational Thinking & Python*** • *Decomposition* • *Abstraction* • *Python Turtle* This theme introduces students to computational thinking and the foundations of text-based programming using Python. Students will develop problem-solving skills through decomposition, pattern recognition, and abstraction, learning how to break down problems, identify key information, and relate these concepts to computing. The unit also introduces flow diagrams, enabling students to plan and represent algorithms using standard symbols before coding. Students will then apply these skills using Python Turtle, writing code to create images and patterns on screen. Through this, they will learn to use variables to control behaviour and loops to repeat actions, before combining their Python skills to design and create their own digital images, demonstrating their understanding of	***Computer Hardware*** • *Input & output devices* • *Components* • *Storage & memory* This theme explores the fundamental hardware components of a computer system and how they work together to perform tasks. Students will learn to distinguish between input and output devices and identify a range of common examples used in everyday computing. The unit also examines key computer components, including their functions and how they interact within a system. Students will develop an understanding of different types of memory and storage, learning to compare their characteristics and explain the differences between them. The theme concludes with an assessment, allowing students to demonstrate their understanding of hardware, memory, and storage concepts and reflect on their learning.	***Computer Hardware*** • *Input & output devices* • *Components* • *Storage & memory* This theme explores the fundamental hardware components of a computer system and how they work together to perform tasks. Students will learn to distinguish between input and output devices and identify a range of common examples used in everyday computing. The unit also examines key computer components, including their functions and how they interact within a system. Students will develop an understanding of different types of memory and storage, learning to compare their characteristics and explain the differences between them. The theme concludes with an assessment, allowing students to demonstrate their understanding of hardware, memory, and storage concepts and reflect on their learning.	***Data Representation*** • *Boolean* • *Logic Gates* • *Binary* This theme introduces students to how computers represent and process data using binary and logical operations. Students will learn how binary is used to represent information in computing systems and develop an understanding of Boolean logic to support decision-making within programs and digital systems. The unit also explores how logical operations are implemented using logic gates, helping students to understand how hardware can perform simple decision processes. The theme concludes with an assessment, enabling students to demonstrate their understanding of binary representation and logical reasoning within computing contexts.	***Data Representation*** • *Boolean* • *Logic Gates* • *Binary* This theme introduces students to how computers represent and process data using binary and logical operations. Students will learn how binary is used to represent information in computing systems and develop an understanding of Boolean logic to support decision-making within programs and digital systems. The unit also explores how logical operations are implemented using logic gates, helping students to understand how hardware can perform simple decision processes. The theme concludes with an assessment, enabling students to demonstrate their understanding of binary representation and logical reasoning within computing contexts.

	computational thinking and programming concepts.	computational thinking and programming concepts.				
Half term	**02.09.25 - 23.10.25**	**03.11.25 - 19.12.25**	**05.01.26 - 13.02.26**	**23.02.26 - 26.03.26**	**13.04.26 - 22.05.26**	**01.06.26 - 17.07.26**
	Autumn 1 - 8 weeks	**Autumn 2 - 7 weeks**	**Spring 1 - 6 weeks**	**Spring 2 - 5 weeks**	**Summer 1 - 5 weeks**	**Summer 2 - 7 weeks**
Year 9	***Algorithms & Programming*** • *Search & Sort* • *Variables* • *Lists* • *Arrays* This theme develops students' understanding of algorithms and builds their skills in text-based programming using Python. Students will explore search and sort algorithms, learning how they work and evaluating their advantages and limitations in different computing contexts. The unit then focuses on practical programming skills, with students learning how to write, run, and modify Python programs, including using variables, inputs, and outputs. Students will also work with data structures such as lists and arrays, developing the ability to create and manipulate collections of data within their programs. The theme culminates in students combining their skills to design and build a complete Python program, demonstrating their understanding of algorithms and core programming concepts.	***Algorithms & Programming*** • *Search & Sort* • *Variables* • *Lists* • *Arrays* This theme develops students' understanding of algorithms and builds their skills in text-based programming using Python. Students will explore search and sort algorithms, learning how they work and evaluating their advantages and limitations in different computing contexts. The unit then focuses on practical programming skills, with students learning how to write, run, and modify Python programs, including using variables, inputs, and outputs. Students will also work with data structures such as lists and arrays, developing the ability to create and manipulate collections of data within their programs. The theme culminates in students combining their skills to design and build a complete Python program, demonstrating their understanding of algorithms and core programming concepts.	***Data Representation - Databases*** • *Formulas* • *Dashboard* • *Sort & Filter* This theme introduces students to the use of spreadsheets as a tool for organising, analysing, and presenting data. Students will learn the basics of Excel, including navigating the interface, entering and formatting data, and using spreadsheets for practical tasks. The unit develops students' skills in creating and applying formulas to perform calculations and automate processes within a spreadsheet. Students will then apply their knowledge through an Excel-based project, using a range of features and formulas to solve problems and present information effectively. The theme concludes with an assessment, allowing students to demonstrate their spreadsheet skills and understanding of data handling.	***Data Representation - Databases*** • *Formulas* • *Dashboard* • *Sort & Filter* This theme introduces students to the use of spreadsheets as a tool for organising, analysing, and presenting data. Students will learn the basics of Excel, including navigating the interface, entering and formatting data, and using spreadsheets for practical tasks. The unit develops students' skills in creating and applying formulas to perform calculations and automate processes within a spreadsheet. Students will then apply their knowledge through an Excel-based project, using a range of features and formulas to solve problems and present information effectively. The theme concludes with an assessment, allowing students to demonstrate their spreadsheet skills and understanding of data handling.	***Graphic Design Project*** • *Word Processor* • *PowerPoint* • *Graphic Design* This theme develops students' skills in using common productivity software to create and present digital content effectively. Students will learn how to use Word to create and format documents, incorporate images to enhance communication and visual impact, and design engaging presentations using PowerPoint. The unit culminates in a practical project based on a "Who Wants to Be a Millionaire?"-style quiz, where students apply their skills across different software tools to design, create, and refine a complete interactive presentation.	***Graphic Design Project*** • *Word Processor* • *PowerPoint* • *Graphic Design* This theme develops students' skills in using common productivity software to create and present digital content effectively. Students will learn how to use Word to create and format documents, incorporate images to enhance communication and visual impact, and design engaging presentations using PowerPoint. The unit culminates in a practical project based on a "Who Wants to Be a Millionaire?"-style quiz, where students apply their skills across different software tools to design, create, and refine a complete interactive presentation.