

Key Stage 3 Long Term Planning

Year 7 SYLLABUS: Computer Science

Curriculum Area: Mathematics, Enterprise and Computing

Year 7	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Syllabus	(Transitional Unit) Introduction to the Moor Park school Network & E-Safety → Understand a range of ways to use technology safely, respectfully, responsibly and securely...	Using Media: Gaining Support for a Cause → Undertake creative projects that involve selecting, using, and combining multiple applications... to achieve challenging goals.	Data Representation – Binary, Denary, Hexadecimal and Binary Addition → understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers → Understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming	Computational Thinking – Decomposition, Abstraction, Flowcharts and Pseudocode → Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems → Understand several key algorithms that reflect computational thinking	Programming – Scratch → Use two or more programming languages, at least one of which is textual, to solve a variety of computational problems... design and develop modular programs that use procedures or functions → Design, use and evaluate computational abstractions...	Networking → Understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems. → Understand a range of ways to use technology safely, respectfully, responsibly and securely
Knowledge	Students will be introduced to the Moor Park school network and will learn how to log on, save work and access shared areas safely. Students will also learn about e-safety, including how to stay safe online, protect personal information and use technology responsibly.	Students will learn how media can be used to influence an audience and gain support for a cause. They will explore how to combine text, images and design features to create effective digital products, while considering audience, purpose and clear communication.	Students will learn how data is represented in computers using binary. They will explore how to read and convert binary and denary numbers, perform simple binary addition, and develop an understanding of Boolean logic and how it is used in computing.	Students will learn about computational thinking and how problems can be solved using decomposition and abstraction. They will also be introduced to flowcharts and pseudocode and will learn how these can be used to plan, design and communicate algorithms clearly.	Students will be introduced to Scratch and will learn how to create simple programs using block-based code. They will explore key programming concepts such as sequence, selection, iteration, variables and data types, and will develop an understanding of how these are used to control digital systems.	Students will be introduced to networking and how devices communicate with one another. They will learn about different types of networks, including LAN, WAN and PAN, explore common network topologies, and develop an understanding of network threats such as malware and viruses and how these risks can be reduced.
Skills	Students will be able to log on independently, save and retrieve work correctly and follow school procedures when using the network. Students will also develop safe and responsible online behaviour.	Students will be able to combine text and images effectively to create a digital product for a chosen audience. Students will also develop skills in planning, designing and evaluating their work.	Students will be able to convert Denary to Binary and vice versa. In addition to this, students will perform calculations with binary numbers.	Students will be able to break problems down into smaller parts and identify the important information needed to solve them. Students will also be able to use flowcharts and pseudocode to plan simple algorithms.	Students will be able to create simple programs using block-based code and apply key programming concepts such as sequence, selection and iteration. Students will also develop skills that support progression to high-level programming languages.	Students will be able to explain how networks operate and how devices connect to them. Students will also develop skills in describing the benefits of networking and how data is transmitted using protocols.
Connections to previous learning	This unit will build on pupils' prior experience of using computers in primary school, including logging on, using basic software and understanding simple rules for staying safe online.	This unit will build on pupils' prior experience of creating digital content in primary school, such as combining text and images in presentations, posters or simple multimedia projects.	This unit will build on prior mathematical knowledge of place value and number systems. It also links to any previous primary learning where pupils have been introduced to simple coding or patterns.	This unit builds on the data representation topic from Spring Term 1 and introduces pupils to planning solutions before programming. It also links to problem-solving approaches used across maths and science.	This unit builds on prior experience of block-based programming in primary school and supports progression to more advanced programming. It also links to Year 7 work on computational thinking and problem-solving.	This unit builds on learning from Autumn Term 1 about the school network and e-safety. It also links pupils' everyday experience of using the internet, Wi-Fi and connected devices at home and school.

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Assessment	<i>Point 1:</i> Students will complete regular formative assessment at the end of each lesson in the form of interactive quizzes, exit tickets and quick questioning, in line with PLCs. <i>Point 2:</i> Students will complete a summative assessment at the end of the topic which will assess the key concepts learned in this unit.	<i>Point 1:</i> Students will complete regular formative assessment at the end of each lesson in the form of interactive quizzes, exit tickets and quick questioning, in line with PLCs. <i>Point 2:</i> Students will complete a summative assessment at the end of the topic which will assess the key concepts learned in this unit.	<i>Point 1:</i> Students will complete regular formative assessment at the end of each lesson in the form of interactive quizzes, exit tickets and quick questioning, in line with PLCs. <i>Point 2:</i> Students will complete a summative assessment at the end of the topic which will assess the key concepts learned in this unit.	<i>Point 1:</i> Students will complete regular formative assessment at the end of each lesson in the form of interactive quizzes, exit tickets and quick questioning, in line with PLCs. <i>Point 2:</i> Students will complete a summative assessment at the end of the topic which will assess the key concepts learned in this unit.	<i>Point 1:</i> Students will complete regular formative assessment at the end of each lesson in the form of interactive quizzes, exit tickets and quick questioning, in line with PLCs. <i>Point 2:</i> Students will complete a summative assessment at the end of the topic which will assess the key concepts learned in this unit.	<i>Point 1:</i> Students will complete regular formative assessment at the end of each lesson in the form of interactive quizzes, exit tickets and quick questioning, in line with PLCs. <i>Point 2:</i> Students will complete an end-of-year examination covering the key knowledge and skills developed in Year 7.
Homework	Homework will include creative consolidation and independent research tasks. Homework will be set in line with the homework rotation.	Homework will include creative consolidation and independent research tasks. Homework will be set in line with the homework rotation.	Homework will include creative consolidation and independent research tasks. Homework will be set in line with the homework rotation.	Homework will include creative consolidation and independent research tasks. Homework will be set in line with the homework rotation.	Homework will include creative consolidation and independent research tasks. Homework will be set in line with the homework rotation.	Homework will include creative consolidation and independent research tasks. Homework will be set in line with the homework rotation.
Culture Capital	Safer Internet Day activities; CEOP Think U Know resources; discussion of real news stories about online safety	Explore real-world charity campaigns (e.g. Comic Relief, WWF); link to local creative and marketing industries GCHQ Christmas Card	CS Unplugged binary activities; explore how Alan Turing and early computing pioneers used binary	Bebras Computational Thinking Challenge; explore how NASA engineers use decomposition to solve real problems	Virtual tour of a robotics or engineering company; explore Boston Dynamics and real-world robotics in industry	Explore how undersea internet cables connect the world; link to careers at companies like Cisco or BT
Numeracy	Students will use numeracy skills when following step-by-step instructions, sequencing tasks and understanding basic numbering and organisation within the school network.	Students will use numeracy when considering layout, spacing, sizing and proportion in their digital designs to make products clear and visually effective.	Students will apply numeracy skills through place value, number conversion and binary addition. They will also use logic when working with Boolean expressions.	Students will use numeracy when identifying patterns, ordering steps logically and breaking problems into smaller parts when planning algorithms and solutions.	Students will use numeracy skills when programming, including counting repetitions, using variables and recognising patterns in sequences and outcomes.	Students will use numeracy when comparing network sizes, understanding data transfer and identifying patterns in how devices connect and communicate.
Literacy	Students will develop literacy by learning and using key computing vocabulary linked to the school network and e-safety. They will also read and follow written instructions carefully.	Students will develop literacy by planning and writing content for a specific audience and purpose. They will use appropriate language, persuasive techniques and subject-specific vocabulary.	Students will develop literacy through reading and using subject-specific terminology such as binary, denary and Boolean logic. They will also explain methods and calculations using clear written communication.	Students will develop literacy by using key terms such as decomposition, abstraction, algorithm, flowchart and pseudocode. They will explain their thinking clearly when planning solutions to problems.	Students will develop literacy by reading and interpreting programming tasks and using key vocabulary such as variable, sequence, selection and iteration. They will also describe how their code works.	Students will develop literacy by learning and using key vocabulary linked to networking, such as LAN, WAN, topology and protocol. They will also explain ideas clearly through discussion and written work.
CEIAG	Students will understand that using networks safely and responsibly is important in all workplaces. This links to careers in IT support,	Students will understand how digital media is used in careers such as marketing, advertising, graphic design and social media management to influence and inform audiences.	Students will understand that data representation is important in computing careers such as software development, cyber security and computer engineering.	Students will understand that computational thinking is used in many careers, including software development, engineering, game design and data analysis.	Students will understand that programming and robotics link to careers such as software development, robotics engineering, game design and automation.	Students will understand that networking knowledge supports careers in IT support, network engineering, cyber security and systems administration.

Year 8 SYLLABUS: Computer Science

Curriculum Area: Mathematics, Enterprise and Computing

Year 8	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Syllabus	Cyber Security / Impacts of Future Technology (AI/AR/VR) → Understand a range of ways to use technology safely, respectfully, responsibly and securely... → Understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems	Computational Thinking and Python Programming 1 → Use two or more programming languages, at least one of which is textual, to solve a variety of computational problems... design and develop modular programs that use procedures or functions → Understand several key algorithms that reflect computational thinking... → Design, use and evaluate computational abstractions	Sound and Image Representation → Understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits	Hardware and Software → Understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems → Understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming	Searching and Sorting Algorithms → Understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem	Animation – Blender → Create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability → Undertake creative projects that involve selecting, using, and combining multiple applications
Knowledge	Students will learn about different types of cyber threats, including phishing, malware, Trojan horses and ransomware, and how these risks can be reduced. They will also be introduced to artificial intelligence, machine learning and other emerging technologies, and will explore the impact these may have on society. Students will also be introduced to the concept of encryption and how it is used to protect data during transmission and storage, including a basic understanding of how encryption keys work.	Students will be introduced to Python as a high-level, text-based programming language. They will learn how to use syntax, data types, operators, variables, sequence, selection and iteration to create simple programs, while developing their understanding with the support of structured resources and guided practice.	Students will learn how images and sounds are represented digitally and how media is stored using binary. They will explore concepts such as pixels, colour depth, sampling and resolution, and will develop an understanding of how digital media is created, stored and interpreted by computers.	Students will learn about the hardware and software components that make up a computer system and how these work together. They will explore factors that affect system performance, such as clock speed, cores and cache, and will also learn about primary and secondary storage, system software and utility software. They will also develop an understanding of how the CPU processes data through the fetch-decode-execute cycle, including the role of registers and the relationship between processor speed and performance.	Students will understand different types of searching and sorting algorithms and how they are used to organise and locate data efficiently. They will also be introduced to logic gates, including AND, OR and NOT, and how these are used in computing systems.	Students will be introduced to Blender as an industry-standard software package used to create 3D models and animations. They will learn the basics of modelling, texturing and animation, and will develop an understanding of how these skills are used to produce digital media and creative content.
Skills	Students will be able to identify different types of cyber threats and explain how to reduce risks online. Students will also develop skills in discussing the	Students will be able to write simple Python programs using variables, input, output, selection and iteration. Students will also develop	Students will be able to explain how images and sounds are represented digitally and describe how binary is used to store media. Students will also develop skills in analysing and	Students will be able to identify key hardware and software components and explain their purpose within a computer system. Students will also develop skills in comparing	Students will be able to follow and compare different searching and sorting algorithms. Students will also develop skills in using logic gates to solve simple problems and	Students will be able to use Blender to create simple 3D models and animations. Students will also develop skills in modelling, texturing, editing

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	impact of future technologies such as AI, AR and VR.	skills in debugging, testing and improving their code.	interpreting digital representation.	storage devices and describing how system performance can be improved.	explain how logic is used in computing systems.	and presenting digital creative work.
Connections to previous learning	This unit builds on Year 7 learning about e-safety and networking. It also links to pupils' prior experience of using online services and understanding how to stay safe when using technology.	This unit builds on Year 7 work on computational thinking, flowcharts and pseudocode. It also links to any prior block-based programming experience from primary school and Year 7 robotics.	This unit builds on Year 7 data representation, where pupils learned how binary is used in computing. It extends this by applying binary knowledge to the representation of sound and images.	This unit builds on Year 7 networking knowledge and helps pupils develop a broader understanding of how computer systems function. It also links to their everyday experience of using different digital devices.	This unit builds on Year 7 computational thinking and problem-solving skills. It extends pupils' understanding of algorithms by exploring how different methods can be used to search, sort and process data.	This unit builds on Year 7 work on using media and creating digital products for an audience. It also links to pupils' prior experience of animation, design and visual creativity in computing and art.
Assessment	<i>Point 1:</i> Students will complete regular formative assessments at the end of each lesson. This will be in the form of interactive quizzes, exit tickets and quick questioning. In line with PLCs. <i>Point 2:</i> Students will complete a summative assessment at the end of this topic which will cover key concepts learnt within this unit.	<i>Point 1:</i> Students will complete regular formative assessments at the end of each lesson. This will be in the form of interactive quizzes, exit tickets and quick questioning. In line with PLCs. <i>Point 2:</i> Students will complete a summative assessment at the end of this topic which will cover key concepts learnt within this unit.	<i>Point 1:</i> Students will complete regular formative assessments at the end of each lesson. This will be in the form of interactive quizzes, exit tickets and quick questioning. In line with PLCs. <i>Point 2:</i> Students will complete a summative assessment at the end of this topic which will cover key concepts learnt within this unit.	<i>Point 1:</i> Students will complete regular formative assessments at the end of each lesson. This will be in the form of interactive quizzes, exit tickets and quick questioning. In line with PLCs. <i>Point 2:</i> Students will complete a summative assessment at the end of this topic which will cover key concepts learnt within this unit.	<i>Point 1:</i> Students will complete regular formative assessments at the end of each lesson. This will be in the form of interactive quizzes, exit tickets and quick questioning. In line with PLCs. <i>Point 2:</i> Students will complete a summative assessment at the end of this topic which will cover key concepts learnt within this unit.	<i>Point 1:</i> Students will complete regular formative assessments at the end of each lesson. This will be in the form of interactive quizzes, exit tickets and quick questioning. In line with PLCs. <i>Point 2:</i> Students will complete an end of year exam which will cover all learning that has been completed within year 8.
Homework	Homework will involve creative consolidation tasks and independent research tasks. Homework will be provided as per the homework rotation	Homework will involve creative consolidation tasks and independent research tasks. Homework will be provided as per the homework rotation	Homework will involve creative consolidation tasks and independent research tasks. Homework will be provided as per the homework rotation	Homework will involve creative consolidation tasks and independent research tasks. Homework will be provided as per the homework rotation	Homework will involve creative consolidation tasks and independent research tasks. Homework will be provided as per the homework rotation	Homework will involve creative consolidation tasks and independent research tasks. Homework will be provided as per the homework rotation
Culture Capital	National Cyber Security Centre Cyber Explorers platform; explore ethical debates around AI in the news	Raspberry Pi Foundation coding challenges; explore stories of influential programmers (e.g. Guido van Rossum, Grace Hopper)	Explore how streaming platforms like Spotify and Netflix compress media; link to careers in audio and visual engineering	Virtual tour of a data centre (e.g. Google or AWS); explore how computer hardware has evolved from early machines to today	Explore algorithmic bias in real-world examples (e.g. facial recognition); UKMT-style logic and reasoning challenges	Explore how 3D animation is used in film and game studios (e.g. Pixar, Rockstar Games); link to local creative industry careers
Numeracy	Students will use numeracy when interpreting data, identifying patterns in cyber threats and considering how technology can process information and make decisions.	Students will use numeracy when working with program logic, variables, data types and sequences. They will also apply logical thinking when tracing and debugging code.	Students will use numeracy through binary values, pixel dimensions, sampling and file size. They will also interpret how numerical data affects the quality of digital images and sound.	Students will use numeracy when comparing storage capacity, processing speed and system performance. They will also interpret numerical measures such as clock speed, cache and memory size.	Students will use numeracy when comparing the efficiency of algorithms, counting steps and identifying patterns in sorted and unsorted data.	Students will use numeracy when positioning objects, adjusting scale and working with coordinates, dimensions and timing in animation.
Literacy	Students will develop literacy by learning and using key vocabulary linked to cyber security and emerging technologies. They will also explain ideas clearly through discussion and written responses.	Students will develop literacy by reading and writing code and using key programming vocabulary such as syntax, variable, input, output, selection and iteration.	Students will develop literacy by using subject-specific terms such as pixel, resolution, sample rate and colour depth. They will also explain how media is represented digitally.	Students will develop literacy by learning and using key vocabulary linked to hardware, software and storage. They will also explain the role of components clearly in speech and writing.	Students will develop literacy by using terms such as algorithm, search, sort and logic gate. They will also justify which methods are most effective using clear written explanation.	Students will develop literacy by learning and using vocabulary linked to 3D modelling and animation. They will also evaluate and describe their creative choices clearly.

CEIAG	Students will understand that cyber security and future technology link to careers such as cyber security analyst, AI engineer, software developer and digital researcher.	Students will understand that programming skills are used in careers such as software development, app design, game design and data science.	Students will understand that knowledge of sound and image representation is important in careers such as media production, graphic design, photography and audio engineering.	Students will understand that hardware and software knowledge supports careers in IT support, computer engineering, systems administration and network management.	Students will understand that algorithms and logic are important in careers such as software engineering, data analysis, cyber security and computer science.	Students will understand that animation and 3D modelling are used in careers such as game design, film production, architecture and digital media.
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Year 9 SYLLABUS: Computer Science

Curriculum Area: Mathematics, Enterprise and Computing

Year 9	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Syllabus	Media – Vector Graphics → Create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability → Undertake creative projects that involve selecting, using, and combining multiple applications...	Computational Thinking and Python Programming 2 → Make appropriate use of data structures [for example, lists, tables or arrays] → Design and develop modular programs that use procedures or functions → Understand several key algorithms that reflect computational thinking; use logical reasoning to compare the utility of alternative algorithms for the same problem	Data Science → Undertake creative projects that involve selecting, using, and combining multiple applications... including collecting and analyzing data and meeting the needs of known users	Web Development → Create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability → Undertake creative projects that involve selecting, using, and combining multiple applications... to achieve challenging goals → 2 nd Programming Language	Photoshop → Create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability → Undertake creative projects that involve selecting, using, and combining multiple applications...	Summer Project: Digital Literacy → Understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy... → Create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability
Knowledge	Students will learn how vector graphics are created using shapes, lines, paths and layers. They will explore how vector images can be edited and scaled without losing quality and will develop an understanding of how these graphics are used to create logos, icons, illustrations and other digital products for a specific audience and purpose.	Students will build on their prior knowledge of Python by developing more complex programs using an IDE. They will learn how to trace and debug algorithms, use lists and iteration effectively, and develop an understanding of how these tools can be used to solve more challenging computational problems.	Students will be introduced to data science and will learn how data can be collected, analysed and visualised to answer questions and support decision-making. They will explore patterns and trends in data sets, consider how data can be used to investigate real-world issues, and develop an understanding of the importance of accuracy, bias and presentation when working with data.	Students will learn how websites are created using HTML and CSS and will explore the technologies that underpin the World Wide Web. They will develop an understanding of how web pages are structured, styled and published, and will consider how websites are organised and retrieved using search engines.	Students will be introduced to Adobe Photoshop and will learn how to use a range of tools to edit and manipulate digital images. They will explore techniques such as selection, layering, adjustment and enhancement, and will develop an understanding of how image-editing software is used to create effective digital media.	Students will draw together their digital literacy skills through a project based on a summer festival brief. They will develop an understanding of how to use Microsoft Office applications effectively, including word processing, presentation software and spreadsheets, to create purposeful digital products for a specific audience.

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Skills	Students will be able to create and edit vector graphics using shapes, lines, paths and layers. Students will also develop skills in designing digital products for a specific audience and purpose.	Students will be able to write more complex Python programs using lists, iteration and an IDE. Students will also develop skills in tracing, debugging and improving code to solve computational problems.	Students will be able to collect, organise and analyse data to answer questions. Students will also develop skills in identifying patterns, creating visualisations and interpreting findings.	Students will be able to create and format simple web pages using HTML and CSS. Students will also develop skills in structuring content, applying style and designing for usability.	Students will be able to use Photoshop tools to edit and enhance digital images. Students will also develop skills in selecting, layering, adjusting and improving images for a specific purpose.	Students will be able to select and use appropriate Microsoft Office applications to create purposeful digital products. Students will also develop skills in presenting information clearly for a specific audience.
Connections to previous learning	This unit builds on Year 7 and Year 8 work on using media to create digital products for an audience. It also links to pupils' prior experience of combining text, images and design features in creative projects.	This unit builds on Year 8 Python programming and computational thinking. It extends pupils' understanding by introducing more advanced programming techniques, including lists, iteration and the use of an IDE.	This unit builds on prior work in data representation and extends pupils' understanding of how data can be collected, processed and interpreted. It also links to mathematical skills in tables, graphs and identifying patterns.	This unit builds on prior experience of creating digital content and extends pupils' understanding of how websites are structured and presented. It also links to Year 8 programming through the use of code and syntax.	This unit builds on earlier work in media and digital design from Key Stage 3. It extends pupils' understanding of how digital images can be edited and refined to meet the needs of a specific audience and purpose.	This unit draws together learning from across Key Stage 3, including digital safety, media creation, spreadsheets, presentations and word processing. It also links to pupils' wider use of digital tools across the curriculum.
Assessment	<i>Point 1:</i> Students will complete regular formative assessments at the end of each lesson. This will be in the form of interactive quizzes, exit tickets and quick questioning. In line with PLCs. <i>Point 2:</i> Students will complete a summative assessment at the end of this topic which will cover key concepts learnt within this unit.	<i>Point 1:</i> Students will complete regular formative assessments at the end of each lesson. This will be in the form of interactive quizzes, exit tickets and quick questioning. In line with PLCs. <i>Point 2:</i> Students will complete a summative assessment at the end of this topic which will cover key concepts learnt within this unit.	<i>Point 1:</i> Students will complete regular formative assessments at the end of each lesson. This will be in the form of interactive quizzes, exit tickets and quick questioning. In line with PLCs. <i>Point 2:</i> Students will complete a summative assessment at the end of this topic which will cover key concepts learnt within this unit.	<i>Point 1:</i> Students will complete regular formative assessments at the end of each lesson. This will be in the form of interactive quizzes, exit tickets and quick questioning. In line with PLCs. <i>Point 2:</i> Students will complete a summative assessment at the end of this topic which will cover key concepts learnt within this unit.	<i>Point 1:</i> Students will complete regular formative assessments at the end of each lesson. This will be in the form of interactive quizzes, exit tickets and quick questioning. In line with PLCs. <i>Point 2:</i> Students will complete a summative assessment at the end of this topic which will cover key concepts learnt within this unit.	<i>Point 1:</i> Students will complete regular formative assessments at the end of each lesson. This will be in the form of interactive quizzes, exit tickets and quick questioning. In line with PLCs. <i>Point 2:</i> Students will complete an end of year exam which will cover all learning that has been completed within year 9.
Homework	Homework will involve creative consolidation tasks and independent research tasks. Homework will be provided as per the homework rotation	Homework will involve creative consolidation tasks and independent research tasks. Homework will be provided as per the homework rotation	Homework will involve creative consolidation tasks and independent research tasks. Homework will be provided as per the homework rotation	Homework will involve creative consolidation tasks and independent research tasks. Homework will be provided as per the homework rotation	Homework will involve creative consolidation tasks and independent research tasks. Homework will be provided as per the homework rotation	Homework will involve creative consolidation tasks and independent research tasks. Homework will be provided as per the homework rotation
Culture Capital	Analyse real brand identities and logo design; explore careers at design agencies; link to tools used by professional designers	Enter a coding competition such as Bebras or Raspberry Pi; explore how Python is used in data science and AI industries	Explore open data sets from ONS or Our World in Data; discuss how data science is used in healthcare, sport and climate research	Explore accessibility standards (WCAG); analyse professional websites; link to web development careers and freelance opportunities	Explore ethical debates around image manipulation in advertising; link to careers in photography, media and graphic design	Explore digital skills frameworks (e.g. BCS, Microsoft certifications); discuss how digital literacy underpins careers across every sector
Numeracy	Students will use numeracy when positioning and aligning shapes, resizing objects and considering	Students will use numeracy when tracing algorithms, working with variables and	Students will use numeracy when reading tables, interpreting graphs and	Students will use numeracy when planning page layout, working with dimensions	Students will use numeracy when resizing images, adjusting proportions and considering resolution and dimensions in image editing.	Students will use numeracy when organising data in spreadsheets, creating charts

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	proportion when creating vector graphics.	using logical thinking to solve computational problems.	identifying patterns and trends in data sets.	and considering spacing and scale in web design.		and presenting information clearly and accurately.
Literacy	Students will develop literacy by learning and using subject-specific vocabulary linked to vector graphics, such as layer, path, node and alignment.	Students will develop literacy by reading, writing and interpreting code and using key programming terms such as list, iteration, function and debug.	Students will develop literacy by using vocabulary linked to data science, such as data set, variable, bias, trend and visualisation.	Students will develop literacy by learning and using key vocabulary linked to web development, such as HTML, CSS, tag, attribute and hyperlink.	Students will develop literacy by learning and using key terminology linked to image editing, such as layer, selection, adjustment and enhancement.	Students will develop literacy by selecting appropriate language and structure when creating digital products for different audiences and purposes.
CEIAG	Students will understand that vector graphics are used in careers such as graphic design, branding, illustration and digital marketing.	Students will understand that advanced programming skills support careers in software development, game design, app development and computer science.	Students will understand that data science is used in careers such as business analysis, research, marketing and data analytics.	Students will understand that web development skills are used in careers such as web design, software development and digital content creation.	Students will understand that image-editing skills are used in careers such as photography, graphic design, advertising and digital media.	Students will understand that digital literacy skills are important in all workplaces and support careers across business, education, media and technology.