Computing
Curriculum Rationale

Year	Term	Rationale	Prior Knowledge/ Connections
Early Years	**N/A**	Although Computing is not explicitly named within the EYFS statutory framework, there are significant opportunities for children to develop the foundational skills that underpin the subject. Through play-based and exploratory learning, children engage with technology to solve problems, create content, and develop early computational thinking skills. Areas such as *Understanding the World*, *Expressive Arts and Design*, and *Personal, Social and Emotional Development* provide meaningful contexts for children to explore cause and effect, follow instructions, and use digital devices purposefully. Activities such as programming Bee-Bots, using tablets, and engaging with interactive apps introduce key concepts such as sequencing, control, and logical thinking in an age-appropriate way. Embedding computing across the EYFS provision ensures children develop confidence and familiarity with technology from an early age. This is particularly important as the standalone "Technology" strand has been removed from the framework, placing greater emphasis on integrating digital learning across all areas. Early exposure to technology supports children in becoming confident and capable learners, ready to access the Key Stage 1 computing curriculum. At Ribbon Academy, the intent is for children to leave Year 6 as confident, independent, and inquisitive users of technology who can apply their skills across contexts. Beginning this journey in EYFS is essential to building strong foundations in digital literacy, computational thinking, and safe technology use.	Children enter Reception having already experienced a range of technology in their everyday lives, such as household devices (e.g. washing machines, tablets, or electronic toys). While they may not recognise these as technological systems, these experiences provide a valuable starting point for understanding how technology supports daily life. Through structured and exploratory activities, children begin to: • Recognise that devices have a purpose • Understand simple cause-and-effect relationships • Follow and give instructions (early algorithms) • Use devices to create simple outcomes • Develop awareness of safety when using technology Children also practise following verbal instructions and routines, which form the foundation of algorithmic thinking. Although not explicitly linked to computing at this stage, these experiences are essential precursors to programming and logical reasoning in later years.

Computing
Curriculum Rationale

Year	Term	Rationale	Prior Knowledge/ Connections
Year 1	Autumn 1	**Technology all around us** Following on from their Computing exploration in EYFS, children develop a deeper awareness of digital devices in the world around them. They are introduced to a computer and its main components, using a mouse and keyboard to begin building the foundational skills needed for future use at school and at home. Identifying technology and understanding its uses helps children begin to make informed choices about technology as they progress through school.	**EYFS Links:** • Introduction to digital devices • Exploration of Bee-Bots (early cause and effect) • Use of iPads and simple apps • Awareness of online safety • Basic navigation of devices (not keyboards
	Autumn 2 & Spring 1	**Programming Beebots and iPad apps** Building on EYFS experiences, children are introduced to Bee-Bots in a more structured way. They learn to program Bee-Bots using simple instructions to reach a destination, developing an understanding of sequencing and control. This early understanding of how instructions control outcomes provides the foundation for all future programming learning, progressing towards more complex algorithms in later years.	**EYFS Links:** • Early exploration of Bee-Bots • Understanding cause and effect • Following instructions (early algorithms)
	Spring 2	**Keyboard and mouse skills** Children are introduced to the basic components of a computer, with a focus on developing control when using a mouse and keyboard. They learn how to click, drag, and type simple text. These essential skills support their ability to use computers effectively and independently across the curriculum as they progress through school.	**EYFS Links:** • Use of iPads and apps • Basic device navigation • Awareness of safety • No prior keyboard experience
	Summer 1	**Digital ART j2e** Following on from EYFS and early keyboard skills, children learn that computers can be used as creative tools. They explore digital art programmes with increasing control, using different tools, colours, and backgrounds to create purposeful artwork. This unit lays the foundation for future creative computing, including animation, media creation, and digital design.	**EYFS Links:** • Simple digital mark-making • Use of drawing apps • Exploration of creative tools

Computing
Curriculum Rationale

Year	Term	Rationale	Prior Knowledge/ Connections
	Summer 2	**Microsoft Word** Building on keyboard and mouse skills, children are introduced to Microsoft Word as a tool for presenting their work. They learn to type text, insert simple shapes, and begin to structure their ideas digitally. This unit establishes key digital literacy skills that support future learning, including document creation, presentations, and multimedia work.	**EYFS Links:** • Introduction to digital devices and apps • Early mark-making and text exploration • Basic navigation skills
Year 2	Autumn 1	**IT all Around us** Following on from their Computing learning in EYFS and Year 1, pupils develop a deeper understanding of digital devices and their role in everyday life. They begin to explore how computers work, including how information is shared and communicated, for example through barcodes and simple data transfer systems. This unit builds the foundation for future learning about networks and how devices connect and communicate over wider distances. It supports the National Curriculum aims for pupils to *recognise common uses of information technology beyond school* and begin to understand how digital systems are connected.	**Progression:** • **EYFS:** Exploration of devices, cause and effect, early safety awareness • **Year 1:** Identification of devices and their functions • **Year 2:** Understanding how devices communicate and share information
	Autumn 2 & Spring 2	**Programming (Scratch Jnr)** Building on their experience with Bee-Bots and simple programs, pupils are introduced to ScratchJr. They begin to create programs using block-based coding, learning how to sequence instructions to control a sprite. A key focus is debugging, where pupils identify and fix simple errors in their programs. This prepares pupils for more advanced programming in KS2 and meets the National Curriculum requirements to *understand algorithms*, *create and debug simple programs*, and *use logical reasoning to predict program behaviour*.	**Progression:** • **Year 1:** Simple algorithms using Bee-Bots • **Year 2:** Block-based coding and debugging using ScratchJr • **Future:** More complex programming using Scratch in KS2

Computing
Curriculum Rationale

Year	Term	Rationale	Prior Knowledge/ Connections
	Spring 2	**Microsoft Word** Pupils build on their early experience of Microsoft Word by developing additional skills such as changing fonts and using copy and paste. They begin to understand that digital tools can be used flexibly to create, edit, and present their work. This supports the National Curriculum aim for pupils to *use technology purposefully to create, organise, store, manipulate and retrieve digital content*, while encouraging independence and transferable digital skills.	**Progression:** • **Year 1:** Basic typing and simple document creation • **Year 2:** Editing tools and formatting • **Future:** More complex document design and multimedia integration
	Summer 1	**Data Handling** Pupils are introduced to handling data digitally. They learn to collect information, organise it into simple tables, and present it using pictograms and bar charts. They also begin to interpret the data they create. This unit provides an essential foundation for understanding how data is used in computing and aligns with the National Curriculum requirement to *use technology purposefully to organise and present data*.	**Progression:** • **EYFS:** Sorting and categorising information • **Year 1:** Basic keyboard and digital interaction • **Year 2:** Creating and interpreting charts • **Future:** Use of spreadsheets and data analysis tools
	Summer 2	**Animation (J2E)** Building on digital art learning in Year 1, pupils are introduced to animation. They explore how sequences of images create movement and use digital tools to design their own simple animations using characters and backgrounds. This unit reinforces the concept of sequencing from computing and supports the National Curriculum aim to *use technology purposefully to create digital content*, while also encouraging creativity.	**Progression:** • **Year 1:** Creating digital artwork • **Year 2:** Creating simple animations • **Future:** More advanced animation and media production

Computing
Curriculum Rationale

Year	Term	Rationale	Prior Knowledge/ Connections
Year 3	Autumn 1	**Connecting Computers** Building on pupils' understanding of digital devices in KS1, this unit introduces how computers are connected in networks. Pupils explore how information is sent and received between devices, and are introduced to key concepts such as inputs, processes and outputs. This unit lays the foundation for understanding computer networks and how communication happens across multiple devices. It supports the National Curriculum aim for pupils to *understand computer networks, including the internet, and how they provide multiple services*, while also reinforcing that information shared online does not remain in one place.	**Progression:** • **KS1:** Understanding digital devices and their uses • **Year 2:** Awareness of communication (e.g. barcodes, scanners) • **Year 3:** Understanding how devices connect and share information
	Autumn 2 & Spring 1	**Programming (Scratch)** Building on their experience of ScratchJr, pupils transition to Scratch, where they create more complex programs using a wider range of blocks such as movement, timing (wait), and conditions (if). They design algorithms to control sprites and focus on debugging to improve their programs. This aligns with the National Curriculum requirement to *design, write and debug programs that accomplish specific goals*, and to *use sequence, selection and repetition in programs*.	**Progression:** • **Year 2:** Simple block-based coding (ScratchJr) • **Year 3:** More advanced programming structures and debugging • **Future:** Increasing complexity in algorithms and control
	Spring 2	**Pages** Pupils use Pages to create and publish digital documents, building on their prior experience with Microsoft Word. They develop skills in formatting text, adjusting layout, and considering how presentation affects the effectiveness of their work. This supports the National Curriculum aim to *use technology purposefully to create, organise, store, manipulate and retrieve digital content*, with an increased focus on audience and presentation.	**Progression:** • **Year 1:** Basic typing and simple documents • **Year 2:** Editing tools (fonts, copy and paste) • **Year 3:** Layout, design, and presentation choices

Computing
Curriculum Rationale

Year	Term	Rationale	Prior Knowledge/ Connections
	Summer 1	**Stop-Motion Animation** Building on their introduction to animation in Year 2, pupils explore stop-motion animation. They learn how sequences of still images can be combined to create movement and plan their own animations using simple storyboards. This develops creativity while reinforcing sequencing and logical thinking, supporting the National Curriculum aim to *use technology purposefully to create digital content*	**Progression:** • **Year 2:** Simple digital animations • **Year 3:** Stop-motion animation and planning • **Future:** More complex animation techniques and editing
	Summer 2	**PowerPoint** Pupils are introduced to PowerPoint to create digital presentations. They apply previously learned skills such as inserting text boxes and images, while also learning to add slides, backgrounds, and simple animations. This unit consolidates prior learning and supports the National Curriculum goal to *use technology purposefully to create, organise and present digital content*, enabling pupils to select appropriate tools for presenting their work.	**Progression:** • **Year 1:** Basic document creation • **Year 2:** Editing and formatting in Word • **Year 3:** Creating structured presentations • **Future:** Advanced multimedia presentations
Year 4	Autumn 1	**The Internet** Building on pupils' understanding of connecting computers in Year 3, this unit develops their knowledge of how networks link together to form the internet. Pupils explore how information is shared across the World Wide Web, how content is created and accessed, and the role the internet plays in daily life. They also consider the advantages and risks of using the internet, including reliability of information and the concept of a digital footprint. This supports the National Curriculum aim for pupils to *understand computer networks, including the internet and the services they provide*, and to *use technology safely, respectfully and responsibly*.	**Progression:** • **Year 3:** Understanding how devices connect in networks • **Year 4:** Understanding how networks form the internet and share information • **Future:** Deeper exploration of networks, data transfer, and online safety

Computing
Curriculum Rationale

Year	Term	Rationale	Prior Knowledge/ Connections
	Autumn 2 & Spring 1	**Programming (Scratch)** Pupils build on their prior experience of Scratch to design and create more complex programs, including games with multiple sprites, backgrounds, and interactions. They develop their ability to debug independently and refine their programs. They also begin to document their work by capturing screenshots and reflecting on their coding in a digital journal, supporting a deeper understanding of their programming process. This aligns with the National Curriculum requirement to *design, write and debug programs that accomplish specific goals* and to *use sequence, selection, and repetition effectively*.	**Progression:** • **Year 3:** Creating simple programs and debugging • **Year 4:** Designing more complex, multi-element programs • **Future:** Advanced programming concepts and problem-solving
	Spring 2	**Handling Data** Pupils are introduced to spreadsheets as a new way of organising and analysing data. They learn to enter data into rows and columns and create simple charts and graphs to represent their findings. This unit acts as a bridge between earlier work on pictograms and future work with more complex data handling tools. It supports the National Curriculum aim to *use technology purposefully to organise, store, manipulate and retrieve digital content*.	**Progression:** • **Year 2:** Simple charts and pictograms • **Year 4:** Introduction to spreadsheets • **Year 5+:** Advanced data handling and analysis
	Summer 1	**Video - Green Screen** Building on prior work in animation, pupils are introduced to green screen technology to create more complex and engaging video content. They learn how digital backgrounds and effects can be used to enhance meaning and presentation. This unit encourages creativity while supporting the National Curriculum aim to *use technology purposefully to create digital content*, and helps pupils understand how media is created for a specific audience and purpose.	**Progression:** • **Year 3:** Stop-motion animation • **Year 4:** Green screen video creation • **Future:** More advanced video editing and production

Computing
Curriculum Rationale

Year	Term	Rationale	Prior Knowledge/ Connections
	Summer 2	**PowerPoint/Keynote** Pupils continue to develop their presentation skills using PowerPoint or Keynote. They apply previously learned skills, such as text formatting and layout design, while also enhancing presentations with animations and visual elements to make them engaging for an audience. This unit consolidates prior learning and supports the National Curriculum aim to *use technology purposefully to create, organise and present digital content*, enabling pupils to choose appropriate tools and features for effective communication.	**Progression:** • **Year 3:** Creating structured presentations • **Year 4:** Enhancing presentations for audience and purpose • **Future:** Advanced multimedia presentations and design
Year 5	Autumn 1	**Sharing Information** Building on pupils' understanding of networks and the internet, this unit develops their knowledge of how data is shared across networks. Pupils explore how information is broken into packets and transmitted between devices, developing an understanding of how online communication works. Although abstract, this concept is essential in helping pupils understand how networks function and why connections are required to share information. This aligns with the National Curriculum aim for pupils to *understand computer networks, including the internet and the services they provide*, and deepens their understanding of how data is transferred between devices.	**Progression:** • **Year 3:** Understanding how devices connect • **Year 4:** Understanding how the internet works and its uses • **Year 5:** Understanding how data is transmitted across networks • **Future:** More detailed exploration of systems and communication
	Autumn 2 & Spring 1	**Programming (Scratch)** Pupils continue to develop their programming skills using Scratch, building on their prior experience of creating games. They incorporate more advanced features such as timers, scoring systems, and user interaction to design a complete, functional game. Pupils also maintain a coding journal to document, reflect on, and refine their work, supporting independence and problem-solving. This aligns with the National Curriculum requirement to *design, write and debug programs that accomplish specific goals*, and to *use sequence, selection, and repetition effectively*.	**Progression:** • **Year 4:** Creating more complex games and debugging • **Year 5:** Designing complete, interactive games independently • **Year 6:** Applying skills to open-ended project challenges

Computing
Curriculum Rationale

Year	Term	Rationale	Prior Knowledge/ Connections
	Spring 2	**Apple Keynote (app design) / PowerPoint** This unit consolidates pupils' understanding of presentation software. Pupils apply their skills to design and present projects, using slides effectively to showcase content and ideas. They learn how presentations can be structured for different purposes, including app design concepts. By this stage, pupils are expected to independently select appropriate tools and features. This supports the National Curriculum aim to *use technology purposefully to create, organise and present digital content*.	**Progression:** • **Year 3–4:** Developing presentation skills • **Year 5:** Applying presentation tools independently for purpose • **Year 6:** Combining multiple tools for project-based outcomes
	Summer 1	**Video Editing/Green Screen** Building on prior experience in animation and green screen, pupils refine their video production skills. They focus on editing techniques, improving accuracy, and enhancing the quality of their final products using available tools and effects. This unit encourages creativity and supports the National Curriculum aim to *use technology purposefully to create digital content*, while also preparing pupils for more advanced media production in future learning.	**Progression:** • **Year 3:** Stop-motion animation • **Year 4:** Green screen introduction • **Year 5:** Editing and refining video content • **Future:** Creating purposeful multimedia productions
	Summer 2	**Handling Data (Excel)** Pupils develop their understanding of spreadsheets using Excel. They learn to organise data into rows and columns, format data correctly, and use formulas to carry out calculations. They also create charts and graphs, and interpret the data to answer questions. This unit builds essential skills for analysing and presenting data and aligns with the National Curriculum requirement to *use technology purposefully to organise, store, manipulate and retrieve digital content*.	**Progression:** • **Year 2:** Pictograms and simple charts • **Year 4:** Introduction to spreadsheets • **Year 5:** Using formulas, calculations, and data analysis • **Future:** Applying spreadsheet skills to real-world problem solving

Computing
Curriculum Rationale

Year	Term	Rationale	Prior Knowledge/ Connections
Year 6	Autumn 1	**Internet Communication** Building on pupils' strong understanding of networks and data transfer, this unit explores how communication takes place across the internet. Pupils learn how search engines work, including how results are ranked, filtered, and optimised, and how information is retrieved from across the web. They also explore how online communication tools, such as messaging services, transmit information quickly between users. This unit is essential in preparing pupils to navigate the online world effectively. Pupils develop critical thinking skills to evaluate search results and understand that information may not always be reliable or unbiased. They also learn about the risks associated with online communication and how to stay safe. This aligns with the National Curriculum aims to *understand computer networks and the internet*, and to *use technology safely, respectfully and responsibly*.	**Progression:** • **Year 4:** Understanding how the internet works • **Year 5:** Understanding how data is transmitted (packets) • **Year 6:** Understanding how information is retrieved, ranked, and communicated
	Autumn 2 & Spring 1	**Programming (Swift Playgrounds - Challenge)** Pupils apply their programming knowledge through challenge-based learning. Some pupils are introduced to Swift Playgrounds, while others continue to extend their skills in Scratch. They use their understanding of algorithms, sequencing, selection, and repetition to solve increasingly complex problems independently. This unit consolidates all prior programming learning and prepares pupils for KS3 by developing independence, logical thinking, and problem-solving. It supports the National Curriculum requirement to *design, write and debug programs that accomplish specific goals* and to *use logical reasoning to explain how algorithms work*.	**Progression:** • **KS2:** Increasing complexity in Scratch programming • **Year 6:** Independent problem-solving and application • **Future:** Transition to text-based programming in KS3

Computing
Curriculum Rationale

Year	Term	Rationale	Prior Knowledge/ Connections
	Spring 2	**Project Work** This unit provides pupils with the opportunity to apply the full range of computing skills they have developed throughout primary school. Pupils create a comprehensive digital project, typically presented through PowerPoint or Keynote, incorporating elements such as spreadsheets, documents, images, and video content. This real-world application demonstrates how digital tools are combined to communicate ideas effectively. It supports the National Curriculum aim to *use technology purposefully to create, organise, store, manipulate and present digital content*.	**KS1–Year 5:** Developing individual digital skills **Year 6:** Combining multiple tools into a final outcome
	Summer 1	**Website** Pupils learn how websites are structured and how pages are connected using hyperlinks. They design and create their own websites, applying their knowledge of layout, content creation, and navigation. This unit gives pupils insight into how digital content is created and accessed in real-world contexts, while encouraging creativity and problem-solving. It supports the National Curriculum aim to *use technology purposefully to create and present content*, as well as developing understanding of how systems link together.	**Progression:** • **Year 4–5:** Creating and presenting digital content • **Year 6:** Designing structured digital systems (websites) • **Future:** Web development and digital design pathways
	Summer 2	**Project Work** This final unit allows pupils to further embed and refine the skills developed throughout their computing curriculum. Pupils complete a second project, demonstrating independence in selecting appropriate tools and techniques to achieve a purposeful outcome. This ensures pupils leave primary school as confident, capable users of technology who can apply their skills across a range of contexts, meeting the National Curriculum expectation to *use technology effectively, safely and responsibly*.	**Progression:** • **Year 6:** Independent application of all computing skills • **Outcome:** Prepared for secondary education and real-world use