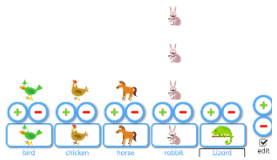
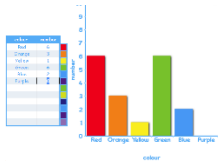
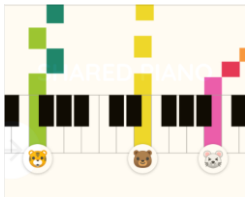
Long Term Plan – Computing Year 1 September 2025

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computing	**1. Computing systems and networks – Technology around us** -To identify technology -To identify a computer and its main parts -To use a mouse in different ways -To use a keyboard to type on a computer -To use the keyboard to edit text -To create rules for using technology responsibly.	**2. Creating media – Digital painting**  -To describe what different freehand tools do -To use the shape tool and the line tools -To make careful choices when painting a digital picture -To explain why I chose the tools I used -To use a computer on my own to paint a picture -To compare painting a picture on a computer and on paper	**3. Programming A – Moving a robot**  -To explain what a given command will do - To understand that an algorithm is a series of instructions - To understand that digital devices work using programs. to make something happen. -To enter single commands into an electronic device to make something happen. - To combine forwards and backwards commands to make a sequence -To combine four direction commands to make sequences -To plan a simple program -To find more than one solution to a problem	**4.Data and information – Grouping data**  -To label objects -To identify that objects can be counted -To describe objects in different ways -To count objects with the same properties -To compare groups of objects -To answer questions about groups of objects	**5. Creating media – Digital writing**  -To use a computer to write -To add and remove text on a computer -To identify that the look of text can be changed on a computer -To make careful choices when changing text -To explain why I used the tools that I chose -To compare typing on a computer to writing on paper	**6. Programming B - Programming animations**  -To choose a command for a given purpose -To show that a series of commands can be joined together -To identify the effect of changing a value -To explain that each sprite has its own instructions -To design the parts of a project -To use algorithms to create a program - To check an algorithm to see if it works as planned.
		Programme or APP **JIT5 Paint**	**Programme or APP** **BeeBots**	**Programme or APP** **JIT5 Pictogram**	**Programme or APP** **JIT5 Write**	**Programme or APP** **Scratch Junior**
	Why? This unit develops children's understanding of technology and how it can help them. They will become more familiar with the different components of a computer	**Why?** This unit will introduce the children to the field of digital art and its exciting range of creative tools. It will empower them to create their own paintings, while	**Why?** This unit will develop the children's understanding of the early concepts of programming. They will understand that following a sequence of logical	**Why?** Children will understand data (information) can be collected about things by sorting and grouping like objects. They will learn how	**Why?** This will develop the children's computer literacy, editing, formatting, critical thinking, and communication skills. They will understand the differences between	**Why?** This unit will develop basic programming skills, logical thinking, sequencing, problem-solving, and creativity. It will build upon their understanding of

	by developing their keyboard and mouse skills, and also start to consider how to use technology responsibly.	getting inspiration from a range of other artists and allow them to make comparisons between digital and non-digital art.	commands can result in a specific outcome and explore these.	asking and answering questions about this data .	typing and writing and say which they will prefer.	commands, algorithms, and introduce how changes affect outcomes in computing.
	Why now? This unit introduces the technology that the children will use throughout the year.	**Why now?** This unit introduces the children to the concept that digital technology can be used to create media that we can keep and enjoy. Young children can explore their creativity and express their ideas visually - immediate feedback, allows children to see the results of their actions right away. Using a stylus or finger to paint on a digital device helps develop fine motor skills and hand-eye coordination. Introducing these digital tools at an early age helps children become comfortable with technology. This familiarity is important as digital literacy becomes increasingly essential in education and everyday life.	**Why now?** This unit introduces learners to early programming concepts and sets up the ground work for future coding across school. Bee-Bots provide a simple and engaging way to introduce young children to basic coding concepts. Bee-Bots are tangible and interactive, making learning fun and engaging. Children can physically see the results of their commands, which helps reinforce their understanding.	**Why now?** This unit makes link with early maths and data collection and shows that technology can be used to create a range of a different digital outcomes. Understanding these concepts early on lays a foundation for more complex data handling skills in the future. Children learn to categorize objects based on different properties, which enhances their analytical abilities.	**Why now?** This unit embeds the concept that digital creations can be made using technology. It is later in the year so that the children have the English skills to be able to write in more depth. Introducing digital writing at an early age helps children become comfortable with using computers and keyboards. This familiarity is important as digital literacy becomes increasingly essential in education and everyday life. Typing on a keyboard helps develop fine motor skills and hand-eye coordination, which are important for writing and other tasks.	**Why now?** This unit build upon Programming A, and introduces a block based program ready for year 2. Programming requires patience and attention to detail. Teaching this in the summer term means children are more likely to have the focus needed to write and troubleshoot code. Children will have developed stronger logical thinking and programming skills needed to understand and apply basic programming concepts.

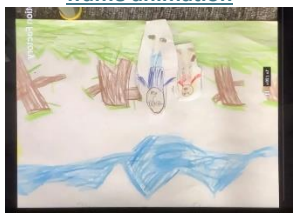
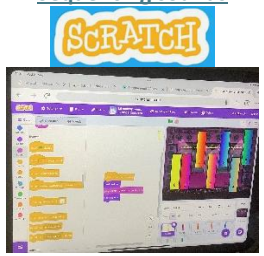
Long Term Plan – Computing Year 2 September 2025

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computing	**1. Computing systems and networks – IT around us** - To recognise the uses and features of information technology -To identify the uses of information technology in the school -To identify information technology beyond school -To explain how information technology helps us -To explain how to use information technology safely -To recognise that choices are made when using information technology	**2. Creating media – Digital photography**  -To use a digital device to take a photograph -To make choices when taking a photograph -To describe what makes a good photograph -To decide how photographs can be improved -To use tools to change an image -To recognise that photos can be changed	**3. Programming A – Robot algorithms**  -To describe a series of instructions as a sequence -To explain what happens when we change the order of instructions -To use logical reasoning to predict the outcome of a program -To explain that programming projects can have code and artwork -To design an algorithm -To create and debug a program that I have written	**4. Data and information – Pictograms and charts**  -To recognise that we can count and compare objects using tally charts -To recognise that objects can be represented as pictures -To create a pictogram and graph -To select objects by attribute and make comparisons -To recognise that people can be described by attributes -To explain that we can present information using a computer	**5. Creating media - Digital music**  -To say how music can make us feel -To identify that there are patterns in music -To experiment with sound using a computer -To use a computer to create a musical pattern -To create music for a purpose -To review and refine our computer work	**6. Programming B - programming quizzes**  -To explain that a sequence of commands has a start -To explain that a sequence of commands has an outcome -To create a program using a given design -To change a given design -To create a program using my own design -To decide how my project can be improved
		Programme or APP **Ipad camera & Photos App**	**Programme or APP** **BeeBots**	**Programme or APP** **JIT5 / JIT5 Pictogram & Chart**	**Programme or APP** **Shared Piano - Chrome Music Lab**	**Programme or APP** **Scratch Junior**
	Why? This units explores how is information technology (IT) being used for good in our lives? With an initial focus on IT in the home, children will explore how IT benefits society in places such as shops, libraries, and hospitals. Whilst discussing	**Why?** This unit will introduce the role of a photographer & children to recognise that different devices can be used to capture photographs. They will gain experience in the skills of capturing, editing, and improving photos. They will use this	**Why?** This unit develops the children's understanding of instructions in sequences and the use of logical reasoning to predict outcomes. They will use given commands in different orders to investigate how the order affects the outcome.	**Why?** This unit introduces the children to the term 'data'. They will begin to understand what data means and how this can be collected in the form of a tally chart to answer questions. They will then progress onto presenting	**Why?** This unit explores how both digital and non digital music can make the children think and feel. As digital musicians, they will make patterns and use those patterns to make music with both percussion instruments and digital tools. They will also create different	**Why?** In this unit children begin to understand that sequences of commands have an outcome and make predictions based on their learning. As programmers, they use and modify designs to create their own quiz questions in ScratchJr and

	the responsible use of technology, and how to make smart choices when using it.	knowledge to recognise that images they see may not be real.	They will also learn about design in programming and how these algorithms must be tested as programs and then debugged.	data in the form of pictograms and finally block diagrams.	rhythms and tunes, using the movement of animals for inspirations, sharing their creations.	realise these designs in ScratchJr using blocks of code, evaluate their work and make improvements as they progress.
	Why now? This unit builds upon the technology explored in year 1 but branches out to technology the children may encounter in the day to day lives at home and their local area.	**Why now?** In EYFS children were introduced to taking simple pictures using a range of devices. This unit build upon and refines these skills allow the children to take more precise photos for a purpose. In year 2 children have developed better observational and analytical skills, which are essential for understanding the basics of photography, such as framing, focus, and composition. At this age, children are generally more comfortable using digital devices, such as cameras or tablets. They can handle the basic functions of these devices more effectively. Operating a camera requires fine motor skills, such as pressing buttons and holding the device steady. By Year 2, children have better-developed fine motor skills, making it easier for them to manage these tasks	**Why now?** This unit builds upon the concepts of sequencing commands in the correct order from year 1. It introduces the children to predicting and debugging code, a skill that is essential when designing more complex code within KS2. Teaching this in year 2 ensures that children have the necessary skills and maturity to fully benefit from the learning experience. The unit involves understanding instructions in sequences and using logical reasoning to predict outcomes and year 2 children are better equipped to grasp these concepts and apply them in programming tasks	**Why now?** This unit builds upon simple data collection using grouping within year 1 and uses data to collect and present this data in a range of different ways. This unit also is vital in support the initial analysis of simple data and make links with the year 2 Maths curriculum.	**Why now?** This unit introduces the children to a new style of digital artefact widening their knowledge that artefacts can be things other than pictures and writing. It provides the groundwork for creating multimedia products within KS2. This is taught in year 2 as children have better auditory discrimination and memory skills and they are Comfortable using digital tools and software. They have a more developed sense of creativity for meaningful musical pieces.	**Why now?** This unit initially recaps on learning from the Year 1 Scratch Junior unit 'Programming B and allows the children to develop more complex sequences of code. At this stage of the year children have Stronger problem-solving skills which they can apply to the programming. They are comfortable using programming software and tools and have a better grasp of creating sequences and commands.

Long Term Plan – Computing Year 3 September 2025

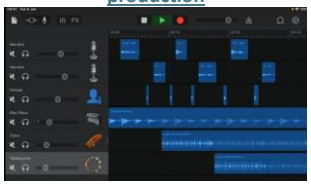
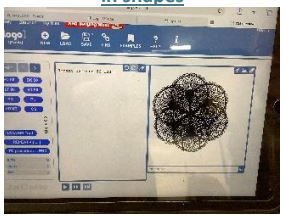
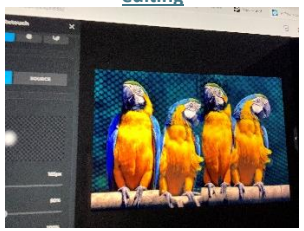
Cottingley Village Primary School

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computing	**1. Computing systems and networks – Connecting computers** -To explain how digital devices function -To identify input and output devices -To recognise how digital devices can change the way we work -To explain how a computer network can be used to share information -To explore how digital devices can be connected -To recognise the physical components of a network	**2. Creating media - Stop-frame animation**  - To explain that animation is a sequence of drawings and photographs -To relate animated movement with a sequence of images -To plan an animation -To identify the need to work consistently and carefully -To review and improve an animation -To evaluate the impact of adding other media to an animation	**3. Programming A - Sequencing sounds**  -To explore a new programming environment -To identify that commands have an outcome -To explain that a program has a start -To recognise that a sequence of commands can have an order -To change the appearance of my project -To create a project from a task description	**4. Data and information – Branching databases**  -To create questions with yes/no answers -To identify the attributes needed to collect data about an object -To create a branching database -To explain why it is helpful for a database to be well structured -To plan the structure of a branching database -To independently create an identification tool	**5. Creating media – Desktop publishing**  -To recognise how text and images convey information -To recognise that text and layout can be edited -To choose appropriate page settings -To add content to a desktop publishing publication -To consider how different layouts can suit different purposes -To consider the benefits of desktop publishing	**6. Programming B - Events and actions in programs**  -To explain how a sprite moves in an existing project -To create a program to move a sprite in four directions -To adapt a program to a new context -To develop my program by adding features -To identify and fix bugs in a program -To design and create a maze-based challenge
		Programme or APP **Stop Motion Factory Ipads APP**	**Programme or APP** **Scratch (full version)** **Scratch - Imagine, Program, Share**	**Programme or APP** **JIT5 Branch**	**Programme or APP** **Ipads – Pages**	**Programme or APP** **Scratch (full version)** **Scratch - Imagine, Program, Share** **or PictoBlox Ipads APP**
	Why? This unit allows children to develop their understanding of digital devices, with an initial focus on inputs, processes, and outputs. They will also compare digital and non-digital devices. Children will be introduced to computer networks, including devices	**Why?** This unit introduces children to the job of a film animator. They will then use range of techniques to create a stop-frame animation using tablets. They will apply those skills to create a story-based animation and also add other types of media to their	**Why?** This unit explores the concept of sequencing in programming through Scratch. Children will be introduced to a selection of motion, sound, and event blocks which they will use to create their own programs, featuring sequences which	**Why?** This units develops the children's understanding of what a branching database is and how to create both physical and on-screen ones using yes and no questions. They will also consider real-world applications for branching databases.	**Why?** This unit familiarises the children with how technology is used in the real word to communicate messages and to create still visual content through magazines, newspapers, reports etc. As digital publishers, children will use software to create content	**Why?** This unit introduces the children to how game creators use code to create simple maze games. Deconstructing a game allows them to see the code used and provides a scaffold for the children to use to build their own games.

	that make up a network's infrastructure, such as wireless access points and switches. Finally, learners will discover the benefits of connecting devices in a network.	animation, such as music and text	are built in a structured manner.		and consider careful choices of font size, colour and type to edit. They will be introduced to the terms 'templates', 'orientation', and 'placeholders'.	
	Why now? Children move beyond analysing what simple devices are and begin to understand how they work by exploring their features. Here they are first introduced to a computer network and begin to understand how the computers talk together.	**Why now?** Children build upon their photography skills from year 2 by taking a sequence of shots to create their own short animation. This builds up knowledge that will be drawn upon in UKS2 when they are making more complex videos and presentations. Creating animations requires patience and attention to detail when taking lots of shots and making only small movements so waiting till year 3 ensures children have the necessary skills. Year 3 children have a more developed sense of creativity and can use animation to express their ideas more clearly.	**Why now?** This unit builds upon the block based programme 'Scratch junior' that has been taught within KS1. It begins with an introduction to the full 'Scratch' programme and sets up the groundwork for development throughout the rest of KS2. Year 3 children are also more likely to have the focus needed to plan, create, and refine their algorithms to create musical sequences.	**Why now?** This unit build upon the data collection within KS1 and demonstrates to the children how data can be collected in different ways. Year 3 children can better grasp the concept of attributes and how to use them to sort groups of objects. This understanding is crucial for creating effective branching databases It provides the groundwork for classification of plants and animals within Science in year 4.	**Why now?** This unit introduces the terms 'text' and 'images' and builds upon the year 1 unit digital writing. It familiarises the children with the editing tools that are needed throughout kS2 and introduces the concept of digital design and its importance. Typically have developed the necessary cognitive and motor skills to handle the complexities of DTP software. They can better understand and apply concepts related to design and layout Desktop publishing allows children to explore their creativity by using different fonts, colours, and styles. They can express their ideas in a fun and engaging way. Year 3 are often more curious and eager to explore new subjects. This can lead to higher engagement and enthusiasm for DTP activities	**Why now?** This unit revisits the movement blocks that the children used in Scratch Junior in KS1. This is then developed by exploring the links between events and actions, whilst consolidating prior learning relating to sequencing. This unit is designed to build on the foundational skills acquired in earlier years. Introducing more complex programming concepts in Year 3 allows children to apply and expand their existing knowledge. Learning programming at this stage helps develop critical thinking, logical reasoning, and problem-solving skills that will be build upon across ks2 and into the future.

Long Term Plan – Computing Year 4 September 2025

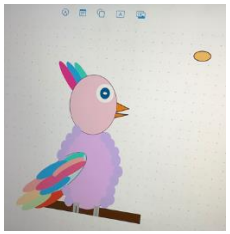
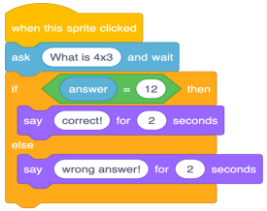
Cottingley Village Primary School

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computing	**1. Computing systems and networks – The Internet** -To describe how networks physically connect to other networks -To recognise how networked devices make up the internet -To outline how websites can be shared via the World Wide Web (WWW) -To describe how content can be added and accessed on the World Wide Web (WWW) -To recognise how the content of the WWW is created by people -To evaluate the consequences of unreliable content	**2. Creating media - Audio production**  - To identify that sound can be recorded -To explain that audio recordings can be edited -To recognise the different parts of creating a podcast project -To apply audio editing skills independently -To combine audio to enhance my podcast project -To evaluate the effective use of audio	**3. Programming A – Repetition in shapes**  -To identify that accuracy in programming is important -To create a program in a text-based language -To explain what 'repeat' means -To modify a count-controlled loop to produce a given outcome -To decompose a task into small steps -To create a program that uses count-controlled loops to produce a given outcome.	**4. Data and information – Data logging**  -To explain that data gathered over time can be used to answer questions -To use a digital device to collect data automatically -To explain that a data logger collects 'data points' from sensors over time -To recognise how a computer can help us analyse data -To identify the data needed to answer questions -To use data from sensors to answer questions	**5. Creating media – Photo editing**  -To explain that the composition of digital images can be changed -To explain that colours can be changed in digital images -To explain how cloning can be used in photo editing -To explain that images can be combined -To combine images for a purpose -To evaluate how changes can improve an image	**6. Programming B – Repetition in games**  -To develop the use of count-controlled loops in a different programming environment -To explain that in programming there are infinite loops and count controlled loops -To develop a design that includes two or more loops which run at the same time -To modify an infinite loop in a given program -To design a project that includes repetition -To create a project that includes repetition
		Programme or APP **Ipads - Garageband APP**	**Programme or APP** **Logo J2Code**	**Programme or APP** **TTS LogBOX software**	**Programme or APP** **Ipads – Pixlr APP**	**Programme or APP** **Scratch (full version)** **Scratch - Imagine, Program, Share** **or PictoBlox Ipads APP**
	Why? This unit allows children to apply their knowledge and understanding of networks, to appreciate the internet as a network of networks which need to be kept secure. Children learn that the World Wide Web is part of the internet, and will be given opportunities	**Why?** This unit allows children, as content creators, to identify the input device (microphone) and output devices (speaker or headphones) required to work with sound digitally. They will understand that all digital content is owned by someone and are introduced to copyright implications of duplicating the	**Why?** This unit is the first of the two programming units in Year 4, and looks at repetition and loops within programming. Children will create programs by planning, modifying, and testing commands to create shapes and patterns using Logo, a text-based programming	**Why?** In this unit, children, as data collectors, will consider how and why data is collected over time. They will consider the senses that humans use to experience the environment and how computers can use special input devices called sensors to monitor the environment.	**Why?** In this unit children will develop their understanding of a photographers role, an how the digital images they take can be changed and edited, and how they can then be resaved and reused. They will consider the impact that editing images can have,	**Why?** This unit explores the concept of repetition in programming using the Scratch environment. It will allow the children to look at the difference between count-controlled and infinite loops. They will understand how game creators use these loops

	to explore the World Wide Web for themselves in order to learn about who owns content and what they can access, add, and create. They will begin to decide how honest, accurate, or reliable the information is, and understand the consequences of false information.	work of others. Children will understand how content creators make podcasts and use a program to create and edit their own podcast.	language. They will understand that code can be lengthy and using repetition and loops helps to reduce this length and makes the more complex code easier to understand and write.	They will collect and analyse data looking for patterns and use their data to answer questions or draw conclusions.	and evaluate the effectiveness of their choices.	within the games to achieve specific outcomes and use their knowledge to modify existing animations and games using repetition.
	Why now? This unit builds upon the concept of a network from year 3. Children in year 4 will be using the internet and WWW within other curriculum areas and it is important that they are taught how to use it effectively.	**Why now?** In year 2 children used technology to create digital music. Here they build upon this skill to record two layered tracks incorporating voice and music. This still can be used in UKS2 when the children are creating their own multimedia work. By year 4 children have developed stronger communication and storytelling skills, which are essential for creating engaging and coherent podcasts. Creating a podcast requires planning, recording, and editing, which can be time-consuming. Year 4 children are more likely to have the patience and focus needed for these tasks. Podcasting often involves teamwork. By Year 4, children have better social and communication skills, which are essential for collaborating on podcast projects.	**Why now?** This unit introduces the concept of repetition in real life scenarios e.g. shapes, introduces the concepts of simple codes to write a procedure with an outcome. Logo programming involves geometric concepts and basic math operations. At this age, students have a stronger foundation in math, making it easier for them to grasp these ideas. Using logo means the focus is clear before applying the knowledge to a block-based program.	**Why now?** This unit build upon the data collection from year 2 and 3 but develops the understanding that other forms of data can be collected using different senses e.g. temperature, light & sound. It links with the year 4 Science units of Sound and changes of state. Data logging is often used in scientific experiments. By Year 4, children have a better understanding of the scientific method and can design and conduct experiments that involve data collection. Data logging requires careful observation and accurate recording of information. Year 4 children are more likely to have the patience and attention to detail needed for these tasks.	**Why now?** This unit builds upon the year 2 and 3 units where children take still photographic images. Photo editing software can be complex and may be challenging for younger children to navigate. By Year 4, children are generally more comfortable using computers and can handle the tools and interfaces more effectively. Teaching photo editing also involves discussions about digital citizenship, including the ethical use of images and respecting copyright. Older children are better equipped to understand and appreciate these important concepts. Children are also beginning to become more aware of content created and posted online and its important to explain that not everything they see is real, linking with term 1.	**Why now?** Earlier in the year children were introduced to repetition/loops. This unit embeds this concept by allowing the children to use this within the block-based program scratch. This still is one that will be needed in UKS2 when the children move onto creating more complex code. Year 4 children have a better grasp of basic math concepts, such as counting, addition, and multiplication, which are fundamental to understanding how loops work Older students can appreciate the real-world applications of programming and are often more motivated to learn how to create efficient and dynamic projects using loops. They are more likely to have the focus needed to write and troubleshoot code involving loops.

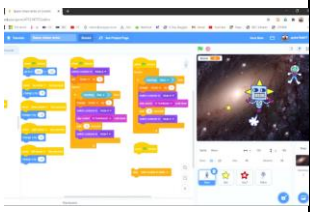
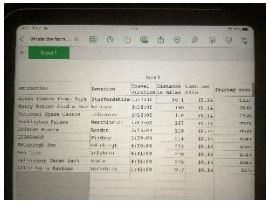
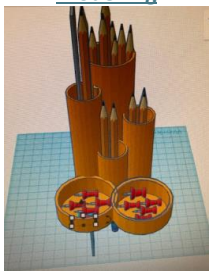
Long Term Plan – Computing Year 5 September 2025

Cottingley Village Primary School

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computing	**1. Computing systems and networks - systems and searching** -To explain that computers can be connected together to form systems -To recognise the role of computer systems in our lives -To experiment with search engines -To describe how search engines select results -To explain how search results are ranked -To recognise why the order of results is important, and to whom	**2. Creating media - Video production**  -To explain what makes a video effective -To identify digital devices that can record video -To capture video using a range of techniques -To create a storyboard -To identify that video can be improved through reshooting and editing -To consider the impact of the choices made when making and sharing a video	**3. Programming A – Selection in physical computing**  -To control a simple circuit connected to a computer -To write a program that includes count-controlled loops -To explain that a loop can stop when a condition is met -To explain that a loop can be used to repeatedly check whether a condition has been met -To design a physical project that includes selection -To create a program that controls a physical computing project	**4. Data and information – Flat-file databases**  -To use a form to record information -To compare paper and computer-based databases -To outline how you can answer questions by grouping and then sorting data -To explain that tools can be used to select specific data -To explain that computer programs can be used to compare data visually -To use a real-world database to answer questions	**5. Creating media - Introduction to vector graphics**  -To identify that drawing tools can be used to produce different outcomes -To create a vector drawing by combining shapes -To use tools to achieve a desired effect -To recognise that vector drawings consist of layers -To group objects to make them easier to work with -To apply what I have learned about vector drawings	**6. Programming B – Selection in quizzes**  -To explain how selection is used in computer programs -To relate that a conditional statement connects a condition to an outcome -To explain how selection directs the flow of a program -To design a program which uses selection -To create a program which uses selection -To evaluate my program
		Programme or APP **Ipads - I-Movie APP**	**Programme or APP** **Microbits - MakeCode for micro:bit**	**Programme or APP** **J2E - database**	**Programme or APP** **Ipads – FreeForm APP**	**Programme or APP** **Scratch (full version)** **Scratch - Imagine, Program, Share** **or PictoBlox Ipads APP**
	Why? In this unit, children will develop their understanding of computer systems and how information is transferred between systems and devices considering both small-scale systems as well as large-scale real life systems. Children will	**Why?** This unit supports children, as content creators, to understand what makes an effective video and how to use digital devices to record. They will learn how t capturing, editing, and manipulating video can improve the quality	**Why?** In this unit, children will be introduced to physical computing to explore the concept of selection in programming using the Microbit programming environment. They will understand how software can control hardware, preparing	**Why?** This unit helps children understand how to record information using forms and compare paper-based and computer-based databases. They learn to group and sort data to answer questions and use tools to select specific data. Students also discover how computer programs can	**Why?** This unit helps children understand how designers use drawing tools to create vector drawings by combining shapes. They learn to use tools to achieve desired effects and recognize that vector drawings consist of layers. Grouping	**Why?** This unit helps children develop their knowledge of selection by revisiting how conditions can be used in programs. Many real-world applications rely on conditional logic and teaching selection helps

	discover how information is found on the World Wide Web, through learning how search engines work (including how they select and rank results) and what influences searching, and through comparing different search engines.	of the video. They will learn how film makers use the green screen to create a virtual background to edit and manipulate the video. They will understand that all these skills are essential for creating engaging and professional-looking videos.	them for more advanced projects in the future. It will allow children to create more complex and functional systems and develop the concept of conditional logic.	visually compare data, making analysis easier. Using real-world databases to answer questions gives them practical experience. These skills are essential for managing and analyzing data effectively, preparing them for future tasks in various fields.	objects makes them easier to work with, and applying what they've learned helps reinforce their skills.	students develop logical thinking and problem-solving skills. Selection is one of the core concepts in programming, along with sequence and iteration. It allows programs to make decisions based on conditions, which is essential for creating dynamic and responsive software. Selection allows for interactivity in programs. Students can create more engaging and interactive projects, such as quizzes, games, and simulations, which respond differently based on user input.
	Why now? This unit builds upon the year 4 unit on using WWW to find out information but allows the children to make more mature and informed decisions about the most efficient way to search and to explore outcomes to find the best answer they can.	**Why now?** This unit builds upon the Year 4 unit of photo editing and the y3 stop motion animation unit and takes the children into the world of real life video creation. At this age, children are generally more comfortable with using technology. Children generally have developed better cognitive skills, including critical thinking, problem-solving, and the ability to understand and follow more complex instructions. These skills are crucial for planning, shooting, and editing videos.	**Why now?** This unit builds upon the y3/4 scratch programming units but brings the learning into the physical world using a microbit. Year 5 children typically have a foundational understanding of basic science concepts, such as electricity, magnetism, and simple machines. This background knowledge is crucial for grasping how Microbots work. The projects Microbot projects often involve troubleshooting and iterative testing and these children are better equipped to handle these challenges and can engage more deeply in the problem-solving process. Microbot projects often require teamwork. Year 5 children have more developed social and communication skills, which are essential for effective collaboration.	**Why now?** This unit build upon the data collection taught throughout Ks2. By Year 5, students have developed basic math and organizational skills, which are essential for understanding how data is stored and managed. At this age, students are becoming more proficient with technology. Learning about flat-file databases helps them develop skills in data entry, manipulation, and retrieval, which are valuable in many areas of study and future careers. Teaching flat-file databases in at this point provides a solid foundation in data management and prepares students for more advanced topics in the future**.**	**Why now?** This unit progresses learners' knowledge and understanding of digital painting and has some links to the Year 3 'Creating media – Desktop publishing' unit, in which learners used digital images. By Year 5, students have developed better spatial reasoning and abstract thinking skills, which are essential for understanding the mathematical concepts behind vector graphics. Creating vector graphics requires precision and attention to detail so year 5 children are more likely to have the patience and focus needed for such tasks. Older students also have a more developed sense of creativity and can use vector graphics to express their ideas more clearly and effectively. They can create more complex and meaningful designs. At this age, students are generally more comfortable using computers and graphic design software. They can handle the tools and interfaces required to create and manipulate vector graphics more effectively.	**Why now?** This unit build upon the year 3 and 4 block based units using scratch. By year 5 children have developed stronger logical thinking and problem-solving skills, which are essential for understanding and applying conditional statements in programming. They have a better grasp of basic math concepts, such as comparisons and logical operations, which are fundamental to understanding how selection works in programming. Older children are generally more comfortable with using computers and programming environments. They can handle the syntax and debugging processes more effectively.

Long Term Plan – Computing Year 6 September 2025

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computing	**1. Computing systems and networks - Communication and collaboration** -To explain the importance of internet addresses -To recognise how data is transferred across the internet -To explain how sharing information online can help people to work together -To evaluate different ways of working together online -To recognise how we communicate using technology -To evaluate different methods of online communication	**2. Creating media – Web page creation**  -To review an existing website and consider its structure -To plan the features of a web page -To consider the ownership and use of images (copyright) -To recognise the need to preview pages -To outline the need for a navigation path -To recognise the implications of linking to content owned by other people	**3. Programming A – Variables in games**  -To define a 'variable' as something that is changeable -To explain why a variable is used in a program -To choose how to improve a game by using variables -To design a project that builds on a given example -To use my design to create a project -To evaluate my project	**4. Data and information - Introduction to Spreadsheets**  -To create a data set in a spreadsheet -To build a data set in a spreadsheet -To explain that formulas can be used to produce calculated data -To apply formulas to data -To create a spreadsheet to plan an event -To choose suitable ways to present data	**5. Creating media – 3D Modelling**  -To recognise that you can work in three dimensions on a computer -To identify that digital 3D objects can be modified -To recognise that objects can be combined in a 3D model -To create a 3D model for a given purpose -To plan my own 3D model -To create my own digital 3D model	**6. Programming B - Sensing movement**  -To create a program to run on a controllable device -To explain that selection can control the flow of a program -To update a variable with a user input -To use a conditional statement to compare a variable to a value -To design a project that uses inputs and outputs on a controllable device -To develop a program to use inputs and outputs on a controllable device
		Programme or APP **Ipads - Pages or online CANVA**	**Programme or APP** **Scratch (full version)** **Scratch - Imagine, Program, Share** **or PictoBlox Ipads APP**	**Programme or APP** **Ipads – Numbers APP**	**Programme or APP** **TinkerCAD**	**Programme or APP** **Microbits - MakeCode for micro:bit**
	Why? This unit emphasises how the internet facilitates online communication and collaboration through shared projects. Children will learn how data is	**Why?** This unit encourages creativity by allowing children to design and personalise their web pages. Children learn essential skills for creating and managing	**Why?** This unit explores the concept of variables in programming through games in Scratch. Children first learn what variables are and relate them to real-world examples.	**Why?** This unit introduces children to spreadsheets, teaching them how to organise data into columns and rows to create their own data sets. They learn the importance of	**Why?** The unit encourages creativity by allowing children to design and create their own 3D models using a computer. Children learn to work in a 3D space, including	**Why?** This unit covers sequence, repetition, selection, and variables, and introduces the use of a physical device, the micro:bit.

	transferred over the internet, focusing on addressing and the structure of data packets. Children evaluate different methods of online communication to understand their effectiveness. The unit teaches also children how to communicate responsibly online, considering what should and should not be shared. Hands-on activities and projects help reinforce understanding and make learning engaging.	web pages, which are crucial in today's digital world. Children learn how to effectively communicate information through web design, considering layout, content, and audience. Designing a web page involves making numerous decisions about layout, content, and design, which helps develop critical thinking and problem-solving skills.	They then use variables to create a simulation of a scoreboard. Following the Use-Modify-Create model, children experiment with variables in existing projects, modify them, and create their own projects. The unit also focuses on game design, allowing children to apply their knowledge of variables to improve their games. Through these activities, children develop critical thinking, creativity, and technical proficiency.	formatting data to support calculations and are introduced to formulas, understanding how they can be used to produce calculated data. Children apply formulas to multiple cells by duplicating them, use spreadsheets to plan an event, and answer questions. Finally, they create charts and evaluate their results in comparison to the questions asked, developing essential skills in data management and analysis.	moving, resizing, and duplicating objects, which enhances spatial awareness and technical skills. They then create hollow objects using placeholders and combine multiple objects to design a desk tidy. Finally, they learn the benefits of grouping and ungrouping 3D objects, and plan, develop, and evaluate their own 3D model of a building. Children develop problem-solving skills by planning, developing, and evaluating their 3D models, learning to group and ungroup objects effectively.	Children start with a simple program and gradually take on more complex projects, enhancing their understanding of programming in a practical and engaging way.
	Why now? This unit builds on knowledge and skills acquired in earlier years, such as basic computer systems and internet safety, ensuring children have a solid foundation. In year 6 children have developed the cognitive abilities to understand complex concepts such as data transfer, addressing, and the structure of data packets. Older children are also better equipped to handle the responsibilities of online communication and collaboration, including understanding what should and should not be shared online.	**Why now?** This unit builds on knowledge and skills acquired in earlier years, ensuring children have a solid foundation in digital literacy and basic computing. By Year 6, children have developed the cognitive skills necessary to understand complex concepts such as HTML, CSS, and web design principles. Older children are also better equipped to handle the responsibilities of creating and managing web content, including understanding the importance of user experience and accessibility.	**Why now?** Teaching variables in Year 6, rather than earlier, is based on children's cognitive development and readiness for abstract thinking. By this age, they have the foundational arithmetic and problem-solving skills needed to understand variables. The curriculum progression ensures that concepts are introduced logically, building on prior knowledge. Additionally, older children are more engaged and interested in practical applications, such as programming, making the learning process more effective and enjoyable.	**Why now?** Teaching spreadsheets in Y6 is based on children's cognitive development and readiness for abstract reasoning. This unit builds on the foundational skills acquired in earlier years, ensuring children have a solid understanding of basic mathematical operations before tackling more complex spreadsheet tasks. Spreadsheets require abstract reasoning and the ability to work with data in a structured way. Year 6 students are generally more ready to handle these abstract concepts. By this age, they can understand and apply complex concepts such as formulas and data analysis.	**Why now?** 3D modelling requires abstract thinking and the ability to visualise objects in three dimensions. Year 6 children are generally more ready to handle these abstract concepts. Their cognitive abilities to understand and apply complex concepts involved in 3D modelling, such as spatial awareness and technical skills. Older children are also more likely to be engaged and interested in the practical applications of 3D modelling.	**Why now?** This unit, "Programming B - Sensing," is taught in Year 6 to bring together all the programming constructs learned throughout Key Stage 2. This unit helps develop critical thinking, problem-solving skills, and technical proficiency, preparing children for more advanced computing concepts into high school and into the future.

All Knowledge and skills have been taken from [Teach Computing Curriculum - Teach Computing]