EYFS: Understanding the World

- ✓ Introducing children to computing in a playful, hands-on exploratory manner which introduces technology in a safe and engaging way
- ✓ Encouraging confidence in using digital tools by becoming familiar with basic technology such as tablets, computers and interactive whiteboards
- ✓ Integrating learning into every day learning experiences
- ✓ Supporting children through guided play, storytelling, and problem-solving activities that encourage creativity, communication, and logical thinking
- ✓ Supporting the children to understand responsible technology use, including online safety and balanced screen time

KS1

Technology Around Us (sequential)

- ✓ Developing an understanding of technology and how it can help us in our everyday lives (Y1)
- ✓ Identifying Information Technology (IT) in school and beyond and how to use it responsibly (Y2)

Creating Media (non-sequential)

- ✓ Use a range of tools for digital painting (Y1)
- ✓ Develop an understanding of the various aspects of using a computer to create and manipulate text (Y1)
- ✓ Recognise that different devices can be used to capture photographs and gain experience capturing, editing and improving photos (Y2)
- ✓ Use a computer to create music (Y2)

Programming (sequential)

- ✓ Introducing early programming concepts to move robots (Y1)
- ✓ Introducing on-screen programming for animations (Y1)
- ✓ Design algorithms and then test those algorithms as programs and debug them (Y2)
- ✓ Use and modify designs to make quizzes (Y2)

Data (non-sequential)

- ✓ Labelling, grouping and searching using data and information (Y1)
- ✓ Begin to understand what the term data means and how data can be collected; presenting data in the form of pictograms and block diagrams (Y2)

LKS2

Connecting Computers (sequential)

- ✓ Focus on inputs, processes and outputs; introduction to computer networks (Y3)
- ✓ Learn about, and explore, the World Wide Web, evaluating content for reliability (Y4)

Creating Media (non-sequential)

- ✓ Use a range of techniques to create a stop-frame animation (Y3)
- ✓ Use desktop publishing software considering choices of font size, colour and type (Y3)
- ✓ Learn about digital audio, create a podcast and evaluate the work of others (Y4)
- ✓ Develop understanding of how digital images can be changed and edited; consider the impact of editing images (Y4)

Programming (sequential)

- ✓ Explore the concept of sequencing sounds in programming (Y3)
- ✓ Explore the links between events and actions, while consolidating prior learning relating to sequencing (Y3)
- ✓ Create programs by planning, modifying and testing commands to create shapes and patterns (Y4)
- ✓ Explore the concept of repetition in programming (Y4)

Data (non-sequential)

- ✓ Develop an understanding of what a branching database is and how to create one (Y3)
- ✓ Learn how and why data is collected over time; collect and review data over a period of time (Y4)

UKS2

Systems and searching (sequential)

- ✓ Develop an understanding of computer systems and how information is transferred between systems and devices; explore how search engines work (Y5)
- ✓ Explore how data is transmitted over the internet, including responsible online communication (Y6)

Creating Media (non-sequential)

- ✓ Learn how to create short videos (Y5)
- ✓ Start to create vector drawings (Y5)
- ✓ Create websites for a chosen purpose (Y6)
- ✓ Develop knowledge and understanding of using a computer to produce 3D models (Y6)

Programming (sequential)

- ✓ Use physical computing to explore the concept of selection in programming (Y5)
- ✓ Develop knowledge of 'selection' in programming by learning how 'if… then… else…' structures can be used (Y5)
- ✓ Explore the concept of variables in programming games (Y6)
- ✓ Revisit sequencing, repetition, selection and variables in an online arena and utilising a physical device (Y6)

Data (non-sequential)

- ✓ Explore how a flat-file database can be used to organise data in records (Y5)
- ✓ Introduction to spreadsheets (Y6)

Recognising technology and how we can use it

Using different programs, beginning to understand how programs work and use data

Develop knowledge of the internet and communicating information and data to others

Use search engines, create more demanding types of media and combine programming skills

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

EYFS	**Computing INTENT: Children understand a range of technology is used in places such as homes and schools and can select and use technology for particular purposes**
**The ELG is an assessment checkpoint and should not be used as a curriculum. The curriculum should be broad and balanced with a range of experiences and opportunities not limited to teaching to the ELG.* *EYFS Curriculum Objectives*	**INTENT: *Inspire*** **Pupils will learn the following knowledge and skills** In Reception, we understand the importance of equipping children with the knowledge to build their early digital literacy skills, preparing them for the increasingly technology-driven world by: ✓ Introducing children to computing in a playful, hands-on exploratory manner which introduces technology in a safe and engaging way ✓ Encouraging confidence in using digital tools by becoming familiar with basic technology such as tablets, computers and interactive whiteboards ✓ Integrating learning into every day learning experiences ✓ Supporting children through guided play, storytelling, and problem-solving activities that encourage creativity, communication, and logical thinking ✓ Supporting the children to understand responsible technology use, including online safety and balanced screen time **IMPLEMENTATION: *Care*** **Core activities to deliver learning**:

Technology: Birth to Five Matters (Non-Statutory)

Children require access to a range of technologies, both digital and non-digital in their early lives. Exploring with different technologies through play provides opportunities to develop skills that children will go on to develop in their lifetimes. Investigations, scientific inquiry and exploration are essential components of learning about and with technology both digitally and in the natural world. Through technology children have additional opportunities to learn across all areas in both formal and informal ways. Technologies should be seen as tools to learn both from and with, in order to integrate technology effectively within early years practice

Computing is valued and promoted through direct teaching and purposeful adult supported and child led learning opportunities across different themes throughout the year.

We used planned themes and capitalise on unplanned moments that present themselves to support the children to develop their skills in digital literacy, computer science and information technology.

For each theme we have identified the knowledge and skills that we will teach ensuring that knowledge and skills are regularly revisited. We cover the following themes:

Term	Theme	Knowledge and Skills
Autumn 1	Marvellous Me	Children will explore smartboard and ipads; learn how navigate basic features using a finger; use some pretend ICT play equipment; learn how to use ipads to take photos of creations within the provision.
Autumn 2	Special Times Special Places	Children will understand that technology can be used in a range of places/ purposes; learn that information can be retrieved from the internet; learn how to stay safe online; continue to learn how to use ICT equipment – Ipad, smartboard
Spring 1	Far Far Away	Children will learn how to independently use educational apps on an ipad; begin to explore using video and sound recording features on an ipad, becoming familiar with the control buttons, e.g., using play, stop and pause.
Spring 2	Twinkle Twinkle Little Star	Children will explore the commands needed to control a range of electronic toys – Beebots
Summer 1	All Creatures Great and Small	Children will begin to learn how to use the features of a chromebook incl: logging in, using a mouse, drag and drop.
Summer 2	The Deep Blue Sea	Children will continue to use the features of a chromebook; open apps independently and control and manipulate objects confidently - talk about how to do this using the words 'scroll', 'drag' 'click' 'open' and 'close.

Within the provision, computing is integrated into child-initiated learning through play-based and exploratory activities that encourage problem-solving, creativity, and early computational thinking. Opportunities for computing are woven into continuous provision, allowing children to engage with technology and digital resources in meaningful ways. This might include role-play areas with pretend technology, exploring simple coding toys like Bee-Bots, using interactive screens to support learning, or creating patterns and sequences through physical activities. By embedding computing within child-led play, children develop key skills such as logical thinking, sequencing, and digital awareness in a natural and engaging way.

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

	IMPACT: *Grow* **When assessed, children will demonstrate the following knowledge:** ✓ Complete a simple program on electronic devices ✓ Use ICT hardware to interact with age-appropriate computer software ✓ Create content such as a video recording, stories, and/or draw a picture on screen ✓ Develop digital literacy skills by being able to access, understand and interact with a range of technologies ✓ Use the internet with adult supervision to find and retrieve information of interest to them

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

YEAR 1 & 2	COMPUTING INTENT: Children can find, explore, analyse, exchange and present information.		
	INTENT ***Inspire*** **Pupils will learn the following knowledge and skills:** Year 1 skills Year 2 skills	**IMPLEMENTATION** ***Care*** **Core activities to deliver learning**:	**IMPACT** ***Grow*** **When assessed, children will demonstrate the following knowledge:**
Year A **Technology Around Us (two separate units of learning that can be taught concurrently)** **Year A (completed Y1 unit)**	✓ Recognise technology ✓ Use technology ✓ Develop mouse skills ✓ Use a computer keyboard ✓ Use a computer responsibly ✓ Identify examples of Information Technology (IT) ✓ Identify the purpose of different IT ✓ Explain the benefits of IT ✓ Use IT safely in different ways	https://teachcomputing.org/curriculum/key-stage-1/computing-systems-and-networks-technology-around-us ✓ Classify what is and is not technology in the school and in the classroom ✓ Demonstrate how technology helps us in different ways ✓ Learn the names of the main parts of a desktop or laptop computer ✓ Turn on and log on a computer ✓ Learn that different computers use different types of mice but they perform the same function ✓ Use a computer keyboard for a purpose ✓ Learning that writing on a keyboard is called typing ✓ Open and save files ✓ Type and delete letters ✓ Navigate a document using cursor keys ✓ Know why we have rules for safer usage of computers https://teachcomputing.org/curriculum/key-stage-1/computing-systems-and-networks-it-around-us ✓ Identify devices that are computers and explain how they help them ✓ Explain the purpose of each piece of IT in the classroom ✓ Talk about how IT is used in different places, including home ✓ Learn about how IT works in shops ✓ Learn different rules for different pieces of IT	✓ Explain what is and is not technology ✓ Locate examples of technology in the classroom ✓ Name the main parts of a computer ✓ Switch on and log into a computer ✓ Use a mouse to drag, click, open programs and create pictures ✓ Use a keyboard to type my own name ✓ Save my work to a file ✓ Open my work from a file ✓ Use letter, number, arrow and enter keys ✓ Identify and follow rules for safely using devices ✓ Identify and describe some uses of computers ✓ Sort IT in school by what it's used for ✓ Sort IT by where it is found ✓ Demonstrate how IT devices work together ✓ List different uses for IT ✓ Talk about different rules for using IT **Sequential learning:** EYFS Introducing children to computing in a playful, hands-on exploratory manner which introduces technology in a safe and engaging way Y3/4 Connecting Computers Y5/6 Systems and Searching
Key vocabulary	Computer, laptop, Chrome Book, monitor, keyboard, mouse, mousepad, technology, key, document, save, open, file, drag, click	**Key questions**	**Can I log into a computer using a password?** **Can I create, save, open and close a word-processing document?** **Can I create, save, open and close picture documents?** **Can I explain what different IT devices are used for?**
Year A **Programming 1 (four separate units of learning that can be taught concurrently)**	Unit 1A ✓ How to use command buttons on devices ✓ The language used to give directions ✓ Programming floor robots to move forwards, backwards and turn ✓ Create programs for floor robots ✓ Plan routes	https://teachcomputing.org/curriculum/key-stage-1/programming-a-moving-a-robot ✓ Try out floor robots ✓ Link outcomes to the press of a button ✓ Give and follow instructions (unplugged opportunity) ✓ Follow instructions with floor robots ✓ Predict where instructions will lead ✓ Design and create programs for floor robots ✓ Debug programs where needed ✓ Plan routes around mats ✓ Explore varieties of ways the same end point can be reached	✓ Run commands ✓ Predict the outcome of commands ✓ Match commands to outcomes ✓ Follow instructions ✓ Compare forward and backward movements ✓ Predict the outcome of a sequence ✓ Use all directions on floor robots ✓ Explain what programs should do ✓ Debug a program ✓ Identify several possible solutions **Sequential learning:**

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

			EYFS Encouraging confidence in using digital tools by becoming familiar with basic technology such as tablets, computers and interactive whiteboards Y3/4 Programming Units 5-8 Y5/6 Programming Units 9-12
Key vocabulary	Forward, backwards, left, right, turn, robot, instructions, directions, program, route, debug, algorithm, sequence	**Key questions**	**Can I create and evaluate a simple program?** **Can I debug a simple program?**
Year A **Programming 2 (four separate units of learning that can be taught concurrently)**	Unit 1B ✓ Compare tools ✓ Join blocks ✓ Make changes ✓ Add sprites ✓ Design a project	https://teachcomputing.org/curriculum/key-stage-1/programming-b-introduction-to-animation ✓ Become accustomed to Scratch Jr; compare Scratch jr to Beebots ✓ Join blocks in Scratch Jr ✓ Add backgrounds ✓ Delete Sprites ✓ Follow given algorithms to create simple programs ✓ Change values in blocks ✓ Identify the effect of changing block values ✓ Add programming blocks to give instructions to Sprites	✓ Choose a command for a given purpose ✓ Find and use commands to move a sprite ✓ Compare different programming tools ✓ Use more than one block by joining together ✓ Use a START block ✓ Run my own program ✓ Find blocks that have values ✓ Change values ✓ Say what happens when values are changed ✓ Add and delete sprites ✓ Create algorithms for multiple sprites ✓ Choose artwork for a project ✓ Test and debug my programs **Sequential learning:** EYFS Encouraging confidence in using digital tools by becoming familiar with basic technology such as tablets, computers and interactive whiteboards Y3/4 Programming Units 5-8 Y5/6 Programming Units 9-12
Key Vocabulary	Block, sprite, background, delete, value, algorithm	**Key questions**	**Key questions** • Can I add and delete sprites that have different instructions? • Can I change block values and explain what will happen? • Can I complete a project and evaluate it?
Year A **Programming 3 (four separate units of learning that can be taught concurrently)**	Unit 2A Give instructions Understand the importance of the sequence of instructions Make predictions Follow routes on mats Design algorithms Break down larger tasks into smaller chunks	https://teachcomputing.org/curriculum/key-stage-1/programming-a-robot-algorithms ✓ Follow instructions given to them; give instructions to others ✓ Consider the language of instructions – is it clear and precise ✓ Consider the importance of the order of instructions within a sequence ✓ Create sequences using the same instructions in different orders ✓ Test sequences to see how the order affects the outcome ✓ Use logical reasoning to make predictions ✓ Follow programs step-by-step and predict the outcome ✓ Design, create and test a mat for a floor robot ✓ Design an algorithm to move a robot around a mat ✓ Outline a task and explain what they want to achieve before beginning	✓ Describe a series of instructions as a sentence ✓ Follow instructions given by someone else ✓ Choose a series of words that can be acted out as a sequence ✓ Give clear instructions ✓ Use the same instructions to create different algorithms ✓ Use an algorithm to program a sequence on a floor robot ✓ Show the difference in outcomes between two sequences that consist of the same instructions ✓ Follow a sequence ✓ Predict the outcome of a sequence ✓ Compare my prediction to the program outcome ✓ Explain mat design choices ✓ Identify different routes around my mat ✓ Test my mat to see if it is usable ✓ Explain what my algorithm should achieve ✓ Create an algorithm to meet a goal ✓ Use my algorithm to create a program

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

		✓ Create smaller chunks of algorithms for a larger programming task	✓ Test and debug each part of a program ✓ Plan algorithms for different parts of the task ✓ Put together the different parts of a program **Sequential learning:** EYFS Encouraging confidence in using digital tools by becoming familiar with basic technology such as tablets, computers and interactive whiteboards Y3/4 Programming Units 5-8 Y5/6 Programming Units 9-12
Key vocabulary	Instructions, sequences, debugging, decomposition	Key questions	Can I give, follow and evaluate sequences of instructions? Can I design and evaluate a floor mat? Can I decompose a program and design different algorithms that work together?
Year A **Programming 4 (four separate units of learning that can be taught concurrently)**	Unit 2B Explain that a sequence of commands has a beginning and an outcome Create a program using a given design Change a given design Create a program using my own design Decide how my project can be improved	https://teachcomputing.org/curriculum/key-stage-1/programming-b-an-introduction-to-quizzes ✓ Identify the starts of sequences in real life ✓ Predict the outcomes of real-life scenarios ✓ Match programs to outcomes ✓ Use blocks to create programs with different outcomes ✓ Use a predefined design to create animations ✓ Predict what algorithms might mean ✓ Evaluate an existing quiz design ✓ Create their own quiz questions ✓ Increase the number of blocks they use in a sequence ✓ Compare projects to designs ✓ Modify designs ✓ Find and correct errors in programs	✓ Identify the start of a sequence ✓ Identify that a program needs to be started ✓ Show how to run my program ✓ Predict the outcome of a sequence of commands ✓ Match two sequences with the same outcome ✓ Change the outcome of a sequence of commands ✓ Work out the actions of a sprite in an algorithm ✓ Decide which blocks to use to meet a design ✓ Build the sequences of blocks that I need ✓ Choose backgrounds for the design ✓ Choose characters for a design ✓ Create a new program ✓ Build sequences of blocks to match my design ✓ Compare my project to my design ✓ Improve my project by adding features ✓ Debug my program **Sequential learning:** EYFS Encouraging confidence in using digital tools by becoming familiar with basic technology such as tablets, computers and interactive whiteboards Y3/4 Programming Units 5-8 Y5/6 Programming Units 9-12
Key Vocabulary	**Program, design, project, begin, start, quiz, modify**	**Key questions**	**• Can I predict the outcomes of sequences?** **• Can I alter sequences to change the outcome?** **• Can I design and build a quiz program?**
Year B (Y1 Unit) **Creating Media – Digital painting**	✓ To describe what different freehand tools do ✓ To use shape and line tools ✓ To make careful choices when painting a digital picture ✓ To explain why I chose the tools I used ✓ To use a computer independently to paint a picture	https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-painting ✓ Explore different freehand tools available for digital painting ✓ Explore line, shape, fill and undo tools ✓ Create digital paintings in the style of an artist	✓ Make marks and draw lines on a screen and explain which tools were used ✓ Use paint tools to draw ✓ Use square, shape and line tools ✓ Recreate the work on an artist ✓ Choose appropriate shapes and colours

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

	✓ To compare painting a picture on a computer and on paper	✓ Select the best tools to replicate the style of an artist – such as Kandinsky ✓ Select appropriate colours, brush sizes and brush tools ✓ Compare preferences between digital art and paper art	✓ Create a picture in the style of an artist ✓ Explain the different jobs done by different paint tools ✓ Make dots of colour ✓ Change the colour and brush size ✓ Discuss the differences between digital and paper art **Sequential learning:** EYFS Encouraging confidence in using digital tools by becoming familiar with basic technology such as tablets, computers and interactive whiteboards Y3/4 Stop-frame animation Y5/6 Creating short videos
Key Vocabulary	**Digital art, mark, dot, line, shape, tool, brush, fill, undo**	**Key Questions**	• **Can I use the different paint tools in a controlled way?** • **Can I recreate the work of a famous artist using digital painting?** • **Can I use the style of a famous artist in digital painting?**
Year B (Y1 Unit) **Data - Grouping Data**	✓ To label objects ✓ To identify objects that 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	https://teachcomputing.org/curriculum/key-stage-1/data-and-information-grouping-data ✓ Name objects and sort them into different groups ✓ Label groups ✓ Link counting small groups to labelling ✓ Learn different ways of describing objects and groups of objects ✓ Link variety of labels to the need for labels on computers	✓ Describe objects using labels ✓ Match objects to groups ✓ Identify the label for a group ✓ Count and group objects ✓ Describe properties of objects ✓ Group similar objects ✓ Choose how to group objects **Sequential learning:** EYFS Encouraging confidence in using digital tools by becoming familiar with basic technology such as tablets, computers and interactive whiteboards Y3/4 Branch databases Y5/6 Flat-files databases
Key Vocabulary	**Object, label, count, group, similar, different**	**Key Questions**	• **Can I label and group objects?** • **Can I explain why digital objects need labels?** • **Can I drag and drop?**
Year B (Y1 Unit) **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 choice when changing text ✓ To explain why specific tools have been chosen ✓ To compare typing on a computer to writing on paper	https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-writing ✓ Identify how they might use word processing software ✓ Find the location of keys on the keyboard ✓ Add text ✓ Use the backspace key to remove text ✓ Explore Caps Lock	✓ Open word processing software ✓ Recognise, identify and find keys on a keyboard ✓ Enter text ✓ Use letter, number and space keys ✓ Use backspace ✓ Type capital letters ✓ Use bold, italic and underline

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

		✓ Use the toolbar to change the look of text ✓ Use mouse to select text and change it ✓ Explore and change fonts ✓ Use the Undo key ✓ Learn how to double-click and 'click and drag' within text ✓ Compare similarities and differences between electronic and paper writing		✓ Select a word by double-clicking ✓ Select all of the text by clicking and dragging ✓ Change the font ✓ Use 'undo' to remove something ✓ Explain how I have done all of the above **Sequential learning:** EYFS Supporting children through guided play, storytelling, and problem-solving activities that encourage creativity, communication, and logical thinking Y3/4 Desktop Publishing Y5/6 Creating websites
Key Vocabulary	**Word processing, type, key, keyboard, key names**	**Key Questions**	• **Can I create, type into and save a word processing document?** • **Can I change the look of the text?** • **Can I undo changes?**	
Year B (Y2 Unit) **Creating media – Digital Photography**	✓ To take photographs ✓ To orient photographs ✓ To understand how light affects photographs ✓ To use digital effects on photographs ✓ To understand how some photographs show altered images	https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-photography ✓ Identify different devices to take photographs ✓ Take photographs with different devices ✓ Explore landscape and portrait orientations ✓ Explore photograph composition ✓ Investigate how good lighting affects photographs ✓ Learn about autofocus ✓ Use editing tools ✓ Adjust the colour of a photograph		✓ Recognise and use the devices that can take photographs ✓ Take photographs in landscape and portrait ✓ Explain when a photograph is good or bad ✓ Re-take a photograph ✓ Use a tool to create an effect ✓ Identify where photographs have been changed **Sequential learning:** EYFS Supporting children through guided play, storytelling, and problem-solving activities that encourage creativity, communication, and logical thinking Y3/4 Manipulating digital images Y5/6 Producing 3D models
Key Vocabulary	**Camera, photograph, portrait, landscape, focus, autofocus**	**Key Questions**		• **Can I create a digital photograph?** • **Can I edit a digital photograph?** • **Can I explain how I created a digital image?**
Year B (Y2 Unit) **Data - Pictograms**	✓ Understand what 'data' is ✓ Collect data in the form of a tally chart ✓ Organise data using attributes ✓ Present data as pictograms and block diagrams ✓ Use data to answer questions	https://teachcomputing.org/curriculum/key-stage-1/data-and-information-pictograms ✓ Create tally charts and present the tally count as a total ✓ Compare totals ✓ Create pictograms manually before recreating using a computer ✓ Learn to group objects by attribute ✓ Use pre-made tally charts to create block diagrams		✓ Create and complete a tally chart ✓ Enter data onto a computer ✓ Create a pictogram ✓ Arrange objects by attribute ✓ Draw conclusions from pictograms ✓ Use a computer to represent information in different ways **Sequential learning:** EYFS Supporting children through guided play, storytelling, and problem-solving activities that encourage creativity, communication, and logical thinking Y3/4 Data logging Y5/6 Introduction to spreadsheets

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Key Vocabulary	**Data, tally, pictogram, attribute**	**Key Questions**	• **Can I create a pictogram using a computer?** • **Can I create a block diagram using a computer?**
Year B (Y2 Unit) **Creating Media - Making music**	✓ Use a computer to create music ✓ Consider how music makes them feel ✓ Create music digitally and non-digitally ✓ Explore patterns and create purposeful music	https://teachcomputing.org/curriculum/key-stage-1/creating-media-making-music ✓ Compare two pieces of music ✓ Use musical description word bank ✓ Explore rhythm ✓ Create patterns ✓ Use untuned percussion instruments and computers to hear different rhythms ✓ Explore how music creates emotion ✓ Experiment with pitch ✓ Create music to associate with an animal ✓ Use a computer to create and refine music patterns ✓ Create rhythmic patterns	✓ Describe music and describe differences ✓ Create rhythm patterns ✓ Play instruments to follow a rhythm pattern ✓ Use a computer to experiment with pitch ✓ Create and refine a musical pattern on a computer ✓ Create a rhythm for an animal on a computer ✓ Add notes to my rhythm **Sequential learning:** EYFS Supporting children through guided play, storytelling, and problem-solving activities that encourage creativity, communication, and logical thinking Y3/4 Podcast creation Y5/6 Creating short videos
Key Vocabulary	**Rhythm, pattern, emotion**	**Key Questions**	• **Can I create a rhythmic pattern digitally?** • **Can I add notes to a rhythmic pattern?**

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

YEAR 3 & 4	COMPUTING INTENT: Children can find, explore, analyse, exchange and present information.		
	INTENT ***Inspire*** **Pupils will learn the following knowledge and skills:** Year 3 skills Year 4 skills	**IMPLEMENTATION** ***Care*** **Core activities to deliver learning**:	**IMPACT** ***Grow*** **When assessed, children will demonstrate the following knowledge:**
Year A and B **Connecting Computers (two separate units of learning that can be taught concurrently)**	✓ Focus on inputs, processes and outputs ✓ Compare digital and non-digital devices ✓ Explore computer networks, including wireless access points and switches ✓ Opportunities to explore the World Wide Web ✓ Explore content ownership ✓ Evaluate online content for reliability	https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-connecting-computers ✓ Introduce concepts of input, process and output ✓ Learn the relationship between input, process and output ✓ Create similar pieces of work with digital and non-digital means ✓ Learn how we move digital information between devices ✓ Learn how networks work ✓ Learn the components of a network – including server and wireless access points ✓ Link network infrastructure to real-world settings https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-the-internet ✓ Explore how networks share messages to form the internet ✓ Learn about the devices used to exchange messages between networks, such as routers ✓ Discuss what should be kept in and out of a network to keep it safe ✓ Explore what can be shared on the WWW and where websites are stored ✓ Explore how the WWW can be access on different devices ✓ Analyse a website and identify the key parts ✓ Create online content ✓ Explore who owns online content ✓ Explore what they can and cannot do with the content of certain websites ✓ Explore the reliability and ambiguity of search results	✓ Explain that digital devices can accept inputs and produce outputs ✓ Follow processes ✓ Classify input and output devices ✓ Design a digital device ✓ Explain how we use different digital devices for different activities ✓ Recognise differences and similarities between using digital and non-digital means ✓ Recognise connections ✓ Explain how messages pass through multiple connections ✓ Recognise how a network is made up ✓ Describe the intent as a network of networks ✓ Demonstrate how information is shared across the internet ✓ Discuss why a network needs protecting ✓ Describe network devices and how they connect ✓ Explain the types of media that can be shared on the WWW ✓ Describe where websites are stored when uploaded to the WWW ✓ Recognise who owns online content ✓ Explain the rules to protect online content ✓ Explain that not everything online is true **Sequential learning:** Y1/2 Technology around us Y5/6 Systems and searching
Key Vocabulary	**Input, process, output, device, World Wide Web, network, content**	**Key Questions**	• **Can I explain how data moves around the internet?** • **Can I explain who owns websites and online content?** • **Can I explain the reliability of specific online content?**
Year A and B **Programming 1 (four separate units of learning that can be taught concurrently)**	Unit 3A ✓ Learn about sequencing in programming using Scratch ✓ Introduce the programming environment ✓ Learn about 'blocks' of code ✓ Apply program design	https://teachcomputing.org/curriculum/key-stage-2/programming-a-sequence-in-music ✓ Introduce Scratch and compare to other programming environments ✓ Become familiar with the layout of the Scratch screen ✓ Create movement for more than one sprite ✓ Create code ✓ Experiment with motion blocks ✓ Join blocks to create sequences ✓ Explore how sequences are implemented in simple programs ✓ Combine motion and sound	✓ Identify objects in a Scratch project and explain their attributes ✓ Recognise that commands in Scratch are represented as blocks ✓ Identify that sprites are controlled by commands ✓ Create a program following a design ✓ Create a sequence of connected commands ✓ Explain that objects in my project will respond exactly to my code ✓ Explain what a sequence is ✓ Combine sound commands ✓ Order notes in a sequence ✓ Build a sequence of commands ✓ Decide different actions for different sprites

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

		✓ Change the appearance of sprites and backdrops ✓ Create a digital musical instrument ✓ Test projects	**Sequential learning:** Y1/2 Programming units 1-4 Y5/6 Programming units 9-12
Key Vocabulary	**Sequencing, programming, blocks, sprite, code, project**	**Key Questions**	• **Can I design, create and alter sprites and backgrounds?** • **Can I sequence blocks of code?** • **Can I implement a program?**
Year A and B **Programming 2 (four separate units of learning that can be taught concurrently)**	Unit 3B ✓ Consolidate sequencing learning ✓ Move sprites in four directions ✓ Explore movement through a maze ✓ Introduce programming extensions through Pen blocks ✓ Draw lines with sprites ✓ Design and code a maze program	https://teachcomputing.org/curriculum/key-stage-2/programming-b-events-and-actions ✓ Analyse and improve an existing project ✓ Control multiple sprites in the same project ✓ Program a sprite to move up, down, left and right ✓ Size a sprite to fit with a given background ✓ Create code to move a sprite in one direction before duplicating and modifying code to move in all four directions ✓ Use the pen down block to draw lines ✓ Predict the functions of new blocks ✓ Review and debug and existing project ✓ Correct errors	✓ Choose keys to use for actions and explain my choices ✓ Choose a suitably-sized character for a project ✓ Program movement ✓ Use a programming extension ✓ Choose blocks to set up a program ✓ Identify additional features ✓ Choose suitable keys build more sequences of design ✓ Test programs against a given design ✓ Match code to an outcome ✓ Modify a program **Sequential learning:** Y1/2 Programming units 1-4 Y5/6 Programming units 9-12
Key Vocabulary	**Programming extensions, design, duplicate, modify, function**	**Key Questions**	• **Can I move a sprite in different directions?** • **Can I use programming extensions?**
Year A and B **Programming 3 (four separate units of learning that can be taught concurrently)**	Unit 4A ✓ Plan, modify and test commands to create shapes and patterns ✓ Introduce Logo – a text-based programming language	https://teachcomputing.org/curriculum/key-stage-2/programming-a-repetition-in-shapes ✓ Learn basic Logo commands ✓ Create algorithms for initials ✓ Debug their own code ✓ Explore patterns of numbers, shapes and symbols in everyday life ✓ Use repeat commands ✓ Work with count-controlled loops in a range of contexts ✓ Break down everyday tasks into smaller parts and think about how code snippets can be broken down to make them easier to plan and work with ✓ Create, name and call procedures in Logo	✓ Program a computer by typing commands ✓ Explain the effect of changing the value of a command ✓ Create a code snippet for a given purpose ✓ Write an algorithm to produce a given outcome ✓ Test my own algorithm in a text-based language ✓ Identify repetition in everyday tasks ✓ Identify patterns in a sequence ✓ Use a count-controlled loop ✓ Identify the effect of changing the number of times a task is repeated ✓ Predict the outcome of a program containing a count-controlled loop ✓ Choose which values to change in a loop ✓ Use a procedure in a program ✓ Design a program that includes count-controlled loops ✓ Debug my program **Sequential learning:** Y1/2 Programming units 1-4 Y5/6 Programming units 9-12
Key Vocabulary	**Repetition, loops, commands, algorithms, repeat, decomposition, code snippets**	**Key Questions**	• **Can I create code snippets?** • **Can I use count-controlled loops?**

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Year A and B **Programming 4 (four separate units of learning that can be taught concurrently)**	Unit 4B ✓ Explore the difference between count-controlled loops and infinite loops ✓ Modify existing games and animations using repetition ✓ Design and create a game which uses repetition as part of the program	https://teachcomputing.org/curriculum/key-stage-2/programming-b-repetition-in-games ✓ Look at real-life examples of repetition and identify which parts of instructions are repeated ✓ Create shapes using count-controlled loops ✓ Match different values in each loop to their significance ✓ Explore infinite loops alongside count-controlled and be able to explain the difference ✓ Practise both types of loop ✓ Create designs for animations of names ✓ Evaluate work ✓ Match parts of an existing game with the design ✓ Change a sprite in an existing game ✓ Add a sprite to an existing game, re-using and modifying code blocks within loops where possible ✓ Design own game based on the model project ✓ Build own games ✓ Follow the algorithm, fix mistakes and refine designs	✓ Recognise repetition in everyday tasks and instructions ✓ Predict the outcome of snippets of code ✓ Modify snippets of code, and loops, to create a given outcome ✓ Choose when to use count-controlled loops and infinite loops ✓ Recognise that some programming languages enable more than one process to be run at once ✓ Choose actions to repeat ✓ Explain what the outcome of repeated actions should be ✓ Evaluate the effectiveness of repeated sequences ✓ Identify which parts of a loop can be changed ✓ Re-use existing code snippets on new sprites ✓ Refine the algorithm of my own design ✓ Build a program that follows my design **Sequential learning:** Y1/2 Programming units 1-4 Y5/6 Programming units 9-12
Key Vocabulary	**Count-controlled loops, infinite loops, repetition, modify, algorithm**	**Key Questions**	• **Can I use different types of loops in a program?** • **Can I use repeated actions in a program?**
Year A or B (Y3 Unit) **Creating Media - Stop-motion animation**	✓ Create stop-frame animation ✓ Create story-based animation ✓ Add media, such as music or text, to animations	https://teachcomputing.org/curriculum/key-stage-2/creating-media-animation ✓ Create flip book animations using post-its ✓ Use a device to make a stop-motion animation ✓ Create storyboards ✓ Plan out a stop-frame story ✓ Record photographs for animations ✓ Evaluate animations ✓ Add other media into animations	✓ Draw a sequence of pictures ✓ Explain how animation and flip-books are similar ✓ Explain why small changes are needed for each frame ✓ Break stories down into settings, characters and events ✓ Create a storyboard ✓ Use onion skinning to make small changes to each frame ✓ Evaluate the quality of my work ✓ Explain how to improve an animation ✓ Add music ✓ Add text **Sequential learning:** Y1/2 Digital painting Y5/6 Creating short videos
Key Vocabulary	**Animation, stop-frame, storyboard, onion skinning**	**Key Questions**	• **Can I create a useful storyboard?** • **Can I make small changes to each frame?**
Year A or B (Y3 Unit) **Creating Media - Desktop publishing**	✓ Edit and improve pre-made documents by editing font sizes, colours and types ✓ Make a template magazine front cover ✓ Create own pieces of work using desktop publishing software	https://teachcomputing.org/curriculum/key-stage-2/creating-media-desktop-publishing ✓ Give advantages and disadvantages of using text, images or both to communicate clearly ✓ Create invitations, considering text size, colour and type ✓ Use Return, Backspace and Shift keys ✓ Include age-appropriate punctuation7 ✓ Add content to templates ✓ Copy and paste into templates ✓ Add images	✓ Recognise that text and images can communicate messages ✓ Change font style, size and colours for a given purpose ✓ Edit text ✓ Change text to communicate clearly ✓ Explain the key vocabulary ✓ Recognise placeholders and explain their importance ✓ Create a template for a purpose ✓ Choose the best locations for my content ✓ Paste text and images ✓ Choose suitable layouts **Sequential learning:** Y1/2 Creating and manipulating text Y5/6 Creating websites

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Key Vocabulary	**Text, images, font size, font type, Return, Backspace, Shift, templates, orientation, placeholders, desktop publishing software**	**Key Questions**	• **Can I create and use a template document?** • **Can I choose appropriate text for a given purpose?**
Year A or B (Y3 Unit) **Data – Branching databases**	✓ Use Yes/No questions to gain an understanding of attributes and how to use them ✓ Create physical and on-screen branching databases ✓ Create an identification tool and test it	https://teachcomputing.org/curriculum/key-stage-2/data-and-information-branching-databases ✓ Explore questions with yes or no answers and create their own to split groups into objects ✓ Group objects in different ways ✓ Arrange objects into a tree structure ✓ Use an online database tool to arrange objects into a branching database ✓ Test whether the databases work ✓ Explore the importance of the order of questions ✓ Create a paper database then a computer version of the same database before testing and evaluating with a partner	✓ Make up yes/no questions ✓ Create groups by attributes ✓ Split an existing group into sub-groups ✓ Arrange objects into a tree structure ✓ Arrange objects into a branching database ✓ Test a branching database ✓ Explain the order of questions **Sequential learning:** ⇦ Y1/2 Labelling data ⇨ Y5/6 Flat-files databases
Key Vocabulary	**Branching database, tree structure, sub-groups**	**Key Questions**	• **Can I create a branching database using paper and then a device?** • **Can I test and evaluate a branching database?**
Year A or B (Y4 Unit) **Creating Media – Audio production**	✓ Identify input and output devices required to work with sound digitally ✓ Ownership of digital audio ✓ Copyright implications ✓ Record audio ✓ Produce a podcast ✓ Open, save and evaluate work	https://teachcomputing.org/curriculum/key-stage-2/creating-media-audio-editing ✓ Identify microphones, speakers and headphones on devices ✓ Record voice using a computer ✓ Re-record to improve recordings ✓ Edit recordings – remove long pauses and mistakes ✓ Listen to podcasts ✓ Identify features of podcasts ✓ Align sound effects with voices to create layers in recordings ✓ Record (and re-record if necessary) voice tracks for a podcast ✓ Edit, trim and align voice recordings ✓ Add additional content such as sound effects and background music	✓ Use a computer to record audio ✓ Explain copyright ✓ Re-record to improve ✓ Save a project so that it remains editable ✓ Plan content for a podcast ✓ Arrange and combine voice tracks, effects and background music **Sequential learning:** ⇦ Y1/2 Creating music digitally ⇨ Y5/6 Creating short videos
Key Vocabulary	**Ownership, copyright, digital sound, podcast, layers**	**Key Questions**	• **Can I use a computer to create and manipulate sound files?** • **Can I create and evaluate a podcast?**
Year A or B (Y4 Unit) **Creating Media – Photo editing**	✓ How to change and edit digital photographs ✓ How digital photographs can be resaved and reused	https://teachcomputing.org/curriculum/key-stage-2/creating-media-photo-editing ✓ Rotate and crop images ✓ Use image editors ✓ Choose different colours and filters for images ✓ Use a cloning tool ✓ Remove parts of a photo ✓ Duplicate parts of a photo by cloning ✓ Learn techniques to retouch a photograph ✓ Combine two images to make a single image ✓ Discuss the ethics of retouching photographs	✓ Improve images and explain choices ✓ Use photo editing software ✓ Explain how different colour and filter effects make you think and feel different things ✓ Add to the composition of a photograph ✓ Remove parts of an image **Sequential learning:** ⇦ Y1/2 Digital painting ⇨ Y5/6 Produce 3D models
Key Vocabulary	**Rotate, crop, filter, cloning, retouch, ethics**	**Key Questions**	• **Can I edit a digital photograph?** • **Can I discuss the ethics of editing a photograph?**

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Year A or B (Y4 Unit) **Data – Data logging**	✓ How computers can use sensors to monitor the environment ✓ Collect data ✓ Access data captured over long periods of time ✓ Explore data points, data sets and logging intervals	https://teachcomputing.org/curriculum/key-stage-2/data-and-information-data-logging ✓ Identify the correct data needed to answer specific questions ✓ Collect data automatically using a computer ✓ Explain what sensors are ✓ Use data loggers and re-connect them to a computer ✓ Download data ✓ Open existing data files and extract data	✓ Choose a data set to answer a question ✓ Identify data that can be gathered over time ✓ Explain what data can be collected using sensors ✓ Use data from a sensor to answer a given question ✓ Identify that data from sensors can be recorded ✓ Explain how data loggers work ✓ Collect, use and interpret data from a data logger **Sequential learning:** Y1/2 Understanding data Y5/6 Introduction to spreadsheets
Key Vocabulary	**Data points, data sets, logging intervals, sensors**	**Key Questions**	• **Can I use a data logger to collect data?** • **Can I download and interpret data from a data logger?**

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

YEAR 5 & 6	COMPUTING INTENT: Children can find, explore, analyse, exchange and present information.		
	INTENT ***Inspire*** **Pupils will learn the following knowledge and skills:** Year 5 skills Year 6 skills	**IMPLEMENTATION** ***Care*** **Core activities to deliver learning**:	**IMPACT** ***Grow*** **When assessed, children will demonstrate the following knowledge:**
Year A & Year B **Computer systems and communication (two separate units of learning that can be taught concurrently)**	✓ Explain how computer systems work ✓ Identify how to use a search engine ✓ Explain how search engines select results and how they are ranked	https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-communication ✓ Learn about physical and electronic connections ✓ See how devices and processes are connected ✓ Explore how search engines work ✓ Investigate search engine rankings	✓ I can explain that systems are built using a number of parts ✓ I can describe the input, process, and output of a digital system ✓ I can explain that computer systems communicate with other devices ✓ I can identify tasks that are managed by computer systems ✓ I can identify the human elements of a computer system ✓ I can explain the benefits of a given computer system ✓ I can explain how to keep my personal information safe online ✓ I can make use of a web search to find specific information ✓ I can refine my web search ✓ I can compare results from different search engines ✓ I can recognise trustworthy websites ✓ I can explain why we need tools to find things online ✓ I can recognise the role of web crawlers in creating an index ✓ I can relate a search term to the search engine's index ✓ I can order a list by rank ✓ I can explain that a search engine follows rules to rank results ✓ I can give examples of criteria used by search engines to rank results ✓ I can describe some of the ways that search results can be influenced ✓ I can recognise some of the limitations of search engines ✓ I can explain how search engines make money
	✓ Learn about data packet and how data is transferred over the internet. ✓ How to communicate responsibly online ✓ How the internet facilitates online communication and collaboration	https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-communication ✓ Explore effective communication offline and online ✓ Discuss ways of working online ✓ Complete a collaborative project online ✓ Reuse and modify someone else's work	✓ Break ✓ I can recognise that data is transferred using agreed methods ✓ I can explain that internet devices have addresses ✓ I can describe how computers use addresses to access websites ✓ I can identify and explain the main parts of a data packet ✓ I can explain that data is transferred over networks in packets ✓ I can explain that all data transferred over the internet is in packets ✓ I can recognise how to access shared files stored online ✓ I can send information over the internet in different ways ✓ I can explain that the internet allows different media to be shared I can identify different ways of working together online ✓ I can recognise that working together on the internet can be public or private ✓ I can explain how the internet enables effective collaboration ✓ I can explain the different ways in which people communicate

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

			✓ I can identify that there are a variety of ways to communicate over the internet ✓ I can choose methods of communication to suit particular purposes ✓ I can compare different methods of communicating on the internet ✓ I can decide when I should and should not share information online ✓ I can explain that communication on the internet may not be private ✓ I can explain how to report inappropriate content online **Sequential learning:** Y3/4 *Connecting computers* KS3 Computing
Key Vocabulary	**Systems, search engines, IP address, Domain Name Servers, protocols**	**Key Questions**	**Can I explain how systems work?** **Can I explain how search engines work?** **Can I explain how search engine results are influenced by others?** **Can I communicate effectively online?** **Can I work collaboratively with others online?**
Year A and B **Programming 1 (three separate units of learning that can be taught concurrently)**	Unit 5 ✓ Learn how the 'if… then… else…' structure works with true/false conditions ✓ Write programs that ask questions where outcomes change dependent on the answer	https://teachcomputing.org/curriculum/key-stage-2/programming-b-selection-in-quizzes ✓ Explain how selection is used in quizzes ✓ Relate conditional statements to an outcome ✓ Explain how selection directs the flow of a program ✓ Design, create and evaluate a program that uses selection	✓ I can recall how conditions are used in selection ✓ I can identify and modify conditions in a program ✓ I can use selection in an infinite loop to check a condition ✓ I can identify the condition and outcomes in an 'if… then… else…' statement ✓ I can create a program that uses selection to produce different outcomes ✓ I can explain that program flow can branch according to a condition ✓ I can design the flow of a program that contains 'if… then… else…' ✓ I can show that a condition can direct program flow in one of two ways ✓ I can identify the outcome of user input in an algorithm ✓ I can implement my algorithm to create the first section of my program ✓ I can test my program ✓ I can share my program with others ✓ I can identify ways the program could be improved ✓ I can identify the setup code I need in my program ✓ I can extend my program further **Sequential learning:**

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

			Y3/4 Programming units 5-8 KS3 Computing
Key Vocabulary	Program, selection, conditions	Key Questions	Can I explain how conditionals work in programs? Can I design a working quiz?
Year A and B **Programming 2 (three separate units of learning that can be taught concurrently)**	Unit 6A ✓ Explore the concept of variables in Scratch. ✓ Create a simulation of a scoreboard. ✓ Use and improve existing code.	https://teachcomputing.org/curriculum/key-stage-2/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 a design to create a project ✓ To evaluate a project	✓ I can identify examples of information that is variable ✓ I can explain that the way a variable changes can be defined ✓ I can identify that variables can hold numbers or letters ✓ I can identify a program variable as a placeholder in memory for a single value ✓ I can explain that a variable has a name and a value ✓ I can recognise that the value of a variable can be changed ✓ I can decide where in a program to change a variable ✓ I can make use of an event in a program to set a variable ✓ I can recognise that the value of a variable can be used by a program ✓ I can choose the artwork for my project ✓ I can create algorithms for my project ✓ I can explain my design choices ✓ I can create the artwork for my project ✓ I can choose a name that identifies the role of a variable ✓ I can test the code that I have written ✓ I can identify ways that my game could be improved ✓ I can use variables to extend my game ✓ I can share my game with others **Sequential learning:** Y3/4 Programming units 5-8 KS3 Computing
Key Vocabulary	Variable, simulation	Key Questions	Can I explain what variables are and how they work? Can I include a variable in a game?
Year A and B **Programming 3 (Sensing) (three separate units of learning that can be taught concurrently)**	Unit 6B ✓ Program a physical device – micro:bits ✓ Design code and refine existing designs	https://teachcomputing.org/curriculum/key-stage-2/programming-b-sensing ✓ 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	✓ I can apply my knowledge of programming to a new environment ✓ I can test my program on an emulator ✓ I can transfer my program to a controllable device ✓ I can identify examples of conditions in the real world ✓ I can use a variable in an if, then, else statement to select the flow of a program ✓ I can determine the flow of a program using selection ✓ I can use a condition to change a variable ✓ I can experiment with different physical inputs ✓ I can explain that checking a variable doesn't change its value

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

			✓ I can use an operand (e.g. <>=) in an if, then statement ✓ I can explain the importance of the order of conditions in else, if statements ✓ I can modify a program to achieve a different outcome ✓ I can decide what variables to include in a project ✓ I can design the algorithm for my project ✓ I can design the program flow for my project ✓ I can create a program based on my design ✓ I can test my program against my design ✓ I can use a range of approaches to find and fix bugs **Sequential learning:** Y3/4 Programming units 5-8 KS3 Computing
Key Vocabulary	Code, micro:bit	Key Questions	Can I apply my coding knowledge to program a micro:bit? Can I modify existing code? Can I create my own code?
Year A **Flat-file Databases (Year 5 Unit)**	✓ Explore how databases work ✓ Use tools within databases to answer questions ✓ Create graphs and charts from data	https://teachcomputing.org/curriculum/key-stage-2/data-and-information-flat-file-databases ✓ Use a form to record information ✓ Compare paper and computer-based databases ✓ Outline how you can answer questions by grouping and sorting data ✓ Explain that tools can be used to select specific data ✓ Explain that computer programs can be used to compare data visually ✓ Use a real-world database to answer questions	✓ I can create a database using cards ✓ I can explain how information can be recorded ✓ I can order, sort, and group my data cards ✓ I can explain what a field and a record is in a database ✓ I can navigate a flat-file database to compare different views of information ✓ I can choose which field to sort data by to answer a given question ✓ I can explain that data can be grouped using chosen values ✓ I can group information using a database ✓ I can combine grouping and sorting to answer specific questions ✓ I can choose which field and value are required to answer a given question ✓ I can outline how 'AND' and 'OR' can be used to refine data selection ✓ I can choose multiple criteria to answer a given question ✓ I can select an appropriate chart to visually compare data ✓ I can refine a chart by selecting a particular filter ✓ I can explain the benefits of using a computer to create charts ✓ I can ask questions that will need more than one field to answer ✓ I can refine a search in a real-world context ✓ I can present my findings to a group **Sequential learning:** Y3/4 Branching databases KS3 Computing
Key Vocabulary	✓ Flat-file, criteria	Key Questions	✓ Can I use data from a database? ✓ Can I create a chart and a graph using data from a database?
Year A **Vector Drawing – Year 5 unit**	✓ How to use different drawing tools to create images ✓ Recognise that images in vector drawings are created using shapes and lines	https://teachcomputing.org/curriculum/key-stage-2/creating-media-introduction-to-vector-graphics ✓ Identify that drawing tools can be used to produced different outcomes	✓ I can recognise that vector drawings are made using shapes ✓ I can experiment with the shape and line tools ✓ I can discuss how vector drawings are different from paper-based drawings

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

	✓ Layer objects and group/duplicate them to create more complex work	✓ Create a vector drawing by combining shapes ✓ Use tools to create a desired effect ✓ Recognise that vector drawings consist of layers ✓ Group objects to make them easier to work with ✓ Apply what they have learned about vector drawings	✓ I can identify the shapes used to make a vector drawing ✓ I can explain that each element added to a vector drawing is an object ✓ I can move, resize, and rotate objects I have duplicated ✓ I can use the zoom tool to help me add detail to my drawings ✓ I can explain how alignment grids and resize handles can be used to improve consistency ✓ I can modify objects to create a new image ✓ I can identify that each added object creates a new layer in the drawing ✓ I can change the order of layers in a vector drawing ✓ I can use layering to create an image ✓ I can copy part of a drawing by duplicating several objects ✓ I can recognise when I need to group and ungroup objects ✓ I can reuse a group of objects to further develop my vector drawing ✓ I can create a vector drawing for a specific purpose ✓ I can reflect on the skills I have used and why I have used them ✓ I can compare vector drawings to freehand paint drawings **Sequential learning:** ← Y3/4 Stop-frame animation → KS3 Computing
Key Vocabulary	✓ Vector, layer, object, combine	Key Questions	Can I create a simple vector drawing? Can I combine and layer different drawings?
Year A **3D Modelling – Year 6 unit**	✓ Familiarise themselves with working in a 3D online space ✓ Create given objects	https://teachcomputing.org/curriculum/key-stage-2/creating-media-3d-modelling ✓ Recognise that you can work in three dimensions on a computer ✓ Identify that digital 3D objects can be modified ✓ Recognise that objects can be combined in a 3D model ✓ Create a 3D model for a given purpose ✓ Plan and create their own 3D model	✓ I can add 3D shapes to a project ✓ I can view 3D shapes from different perspectives ✓ I can move 3D shapes relative to one another ✓ I can resize an object in three dimensions ✓ I can lift/lower 3D objects ✓ I can recolour a 3D object ✓ I can rotate objects in three dimensions ✓ I can duplicate 3D objects ✓ I can group 3D objects ✓ I can accurately size 3D objects ✓ I can show that placeholders can create holes in 3D objects ✓ I can combine a number of 3D objects ✓ I can analyse a 3D model ✓ I can choose objects to use in a 3D model ✓ I can combine objects in a design ✓ I can construct a 3D model based on a design ✓ I can explain how my 3D model could be improved ✓ I can modify my 3D model to improve it **Sequential learning:** ← Y3/4 Editing digital images → KS3 Computing

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Key Vocabulary	3D model, workspace, dimensions	Key Questions	Can I create and manipulate 3D shapes? Can I combine 3D shapes to create a model?
Year B **Video Production – Year 5 unit**	✓ Create short videos ✓ Capture, edit and manipulate video	https://teachcomputing.org/curriculum/key-stage-2/creating-media-video-editing ✓ To explain what makes a video effective ✓ To use a digital device to 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	✓ I can explain that video is a visual media format ✓ I can identify features of videos ✓ I can compare features in different videos ✓ I know what to do if I see any content online that makes me feel uncomfortable ✓ I can identify and find features on a digital video recording device ✓ I can experiment with different camera angles ✓ I can make use of a microphone ✓ I can suggest filming techniques for a given purpose ✓ I can capture video using a range of filming techniques ✓ I can review how effective my video is ✓ I can outline the scenes of my video ✓ I can decide which filming techniques I will use ✓ I can create and save video content ✓ I can store, retrieve, and export my recording to a computer ✓ I can explain how to improve a video by reshooting and editing ✓ I can select the correct tools to make edits to my video ✓ I can make edits to my video and improve the final outcome ✓ I can recognise that my choices when making a video will impact the quality of the final outcome ✓ I can evaluate my video and share my opinions **Sequential learning:** Y3/4 Stop-frame animation KS3 Computing
Key Vocabulary	✓ Video, capture, edit, manipulate, storyboard, shoot & reshoot	Key Questions	Can I plan a video? Can I record and edit according to my plan? Can I evaluate the effectiveness of my video?
Year B **Introduction to spreadsheets – Year 6 unit**	✓ Introduce what spreadsheets are ✓ Organise data into columns and rows ✓ The importance of formatting data for calculations ✓ Apply formulas ✓ Create charts and answer questions	https://teachcomputing.org/curriculum/key-stage-2/data-and-information-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	✓ I can collect data ✓ I can suggest how to structure my data ✓ I can enter data into a spreadsheet ✓ I can explain what an item of data is ✓ I can choose an appropriate format for a cell ✓ I can apply an appropriate format to a cell ✓ I can explain which data types can be used in calculations ✓ I can construct a formula in a spreadsheet ✓ I can identify that changing inputs changes outputs ✓ I can calculate data using different operations ✓ I can create a formula which includes a range of cells ✓ I can apply a formula to multiple cells by duplicating it ✓ I can use a spreadsheet to answer questions ✓ I can explain why data should be organised ✓ I can apply a formula to calculate the data I need to answer questions ✓ I can produce a chart ✓ I can use a chart to show the answer to a question

Skills progression key:	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

			✓ I can suggest when to use a table or chart **Sequential learning:** Y3/4 Data logging KS3 Computing
Key Vocabulary	Spreadsheet, formula, data, cell, chart	Key Questions	Can I collect data for a spreadsheet? Can I input data into a spreadsheet? Can I use a given formula to answer questions?
Year B **Web page creation – Year 6 unit**	✓ Create a webpage for a purpose ✓ Design and evaluate their own site ✓ Learn about copyright and fair use of media, aesthetics and navigation paths	https://teachcomputing.org/curriculum/key-stage-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	✓ I can explore a website ✓ I can discuss the different types of media used on websites ✓ I know that websites are written in HTML ✓ I can recognise the common features of a web page ✓ I can suggest media to include on my page ✓ I can draw a web page layout that suits my purpose ✓ I can say why I should use copyright-free images ✓ I can find copyright-free images ✓ I can describe what is meant by the term 'fair use' ✓ I know how to use technology respectfully and responsibly when online ✓ I can add content to my own web page ✓ I can preview what my web page looks like ✓ I can evaluate what my web page looks like on different devices and suggest/make edits. ✓ I can explain what a navigation path is ✓ I can describe why navigation paths are useful ✓ I can make multiple web pages and link them using hyperlinks ✓ I can explain the implication of linking to content owned by others ✓ I can create hyperlinks to link to other people's work ✓ I can evaluate the user experience of a website **Sequential learning:** Y3/4 Desktop Publishing Software KS3 Computing
Key Vocabulary	Webpage, website, navigation	Key Questions	Can I name and explain the features of a website? Can I design my own website? Can I add navigation links to my site?