St. Andrew's CE Primary School

Curriculum Map for Computing

KS1

	Year 1						
	Week 1	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Unit Title	**E – Safety**	**Technology Around Us**	**Digital Writing**	**Moving a Robot**	**Grouping Data**	**Digital Painting**	**Programming Animations**
National Curriculum Links	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content Recognise common uses of information technology beyond school Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions Create and debug simple programs Use logical Reasoning to predict the behaviour of simple programs Use technology purposefully to create, organise, store, manipulate and retrieve digital content Recognise common uses of information technology beyond school	Use technology purposefully to create, organise, store, manipulate and retrieve digital content Recognise common uses of information technology beyond school Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions Create and debug simple programs Use logical Reasoning to predict the behaviour of simple programs Use technology purposefully to create, organise, store, manipulate and retrieve digital content
Disciplinary Concepts	E-Safety Computing Systems and Networks Creating Media	E-Safety Computing Systems and Networks Creating Media	E-Safety Computing Systems and Networks Creating Media	E-Safety Computing Systems and Networks Creating Media	E-Safety Computing Systems and Networks Creating Media	E-Safety Computing Systems and Networks Creating Media	E-Safety Computing Systems and Networks Creating Media

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	Programming Data and Information	Programming Data and Information	Programming Data and Information	Programming Data and Information	Programming Data and Information	Programming Data and Information	Programming Data and Information
What do children need to know to access the unit?	To have an understanding of what 'safety' means.	No prior knowledge is assumed. This unit progresses students' knowledge and understanding of technology and how they interact with it in school.	The learners will develop their ability to find and use the keys on a keyboard in order to create digital content	This unit progresses learners' knowledge and understanding of giving and following instructions. It moves from giving instructions to each other to giving instructions to a robot by programming it.	This unit will introduce learners to data and information. It will introduce learners to the concept of labelling and grouping objects based on their properties	Learners should be familiar with: • How to switch their device on • Usernames • Passwords	This unit progresses learners' knowledge and understanding of programming and follows on from 'Moving a robot', where children will have learned to program a floor robot using instructions.
Golden threads (substantive concepts)	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation
Vocabulary	upsetting or frightening content, pop-ups, and screentime. contact from strangers, inappropriate games, and being asked for personal information.	technology, computer, mouse, trackpad, keyboard, screen, double-click, typing	word processor, keyboard, keys, letters, type, numbers, space, backspace, text cursor, capital letters, toolbar, bold, italic, underline, mouse, select, font, undo, redo, format, compare, typing, writing.	Bee-Bot, forwards, backwards, turn, clear, go, commands, instructions, directions, left, right, route, plan, algorithm, program.	object, label, group, search, image, property, colour, size, shape, value, data set, more, less, most, fewest, least, the same	paint program, tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool, undo tool, colour, brush style, brush size, pictures, painting, computers	ScratchJr, command, sprite, compare, programming, area, block, joining, start, run, program, background, delete, reset, algorithm, predict, effect, change, value, instructions, design.
Sticky knowledge	Personal information protection, respectable behaviour online, identifying trusted adults, reporting concerns	To identify technology, to identify a computer and its main parts, to use a mouse in different ways to use a keyboard on a computer, to create rules for using	To use a computer to write, to add and remove text, to identify that the look of text can be changed on a computer, to make careful choices when changing text,	To explain what a given command will do, to follow an instruction, to combine forwards and backwards movements to make a sequence, to combine four	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	To describe what different freehand tools do, to use the shape tool and the line tools, to use a computer to create a painting	To show that a series of commands can be joined together, to use algorithms to create a program

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		technology responsibly	to explain why I used the tools that I chose, to compare typing on a computer to writing on paper	direction commands to make a sequence, to plan a simple program, to find a solution to a problem in a program	answer questions about groups of objects		

	Year 2						
	Week 1	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Unit Title	**E – Safety**	**Information Technology Around Us**	**Digital photography**	**Robot Algorithms**	**Pictograms**	**Digital Music**	**Programming Quizzes**
National Curriculum Links	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content Recognise common uses of information technology beyond school Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions Create and debug simple programs Use logical Reasoning to predict the behaviour of simple programs Use technology purposefully to create, organise, store, manipulate and retrieve digital content Recognise common	Use technology purposefully to create, organise, store, manipulate and retrieve digital content Recognise common uses of information technology beyond school Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions Create and debug simple programs Use logical Reasoning to predict the behaviour of simple programs Use technology purposefully to create, organise, store, manipulate and retrieve digital content

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				uses of information technology beyond school			
Disciplinary Concepts	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information
What do children need to know to access the unit?		This unit progresses learners' understanding of technology and how they interact with it. They will develop this understanding to become familiar with the term information technology and will be able to identify common features of IT.	This unit begins the learners' understanding of how photos are captured and can be manipulated for different purposes.	In advance of the lessons in this Year 2 unit, learners should have had some experience of creating short programs using floor robots and predicting the outcome of a simple program.	This unit builds on the Year 1 Data and Information unit where learners labelled objects and grouped them based on different properties.	This unit progresses students' knowledge through listening to music and considering how music can affect how we think and feel.	This unit progresses students' knowledge through listening to music and considering how music can affect how we think and feel.
Golden threads (substantive concepts)	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation
Vocabulary	downloading apps, fact versus opinion, and being asked to meet up. screentime, password sharing, and online bullying.	Information technology (IT), computer, barcode, scanner/scan	paint program, tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool, undo tool, colour, brush style, brush size, pictures, painting, computers	instruction, sequence, clear, unambiguous, algorithm, program, order, prediction, artwork, design, route, mat, debugging, decomposition	more than, less than, most, least, common, popular, organise, data, object, tally chart, votes, total, pictogram, enter, data, compare, objects, count, explain, attribute,	music, quiet, loud, feelings, emotions, pattern, rhythm, pulse, pitch, tempo, rhythm, notes, create, emotion, beat, instrument, open, edit.	sequence, command, program, run, start, outcome, predict, blocks, design, actions, sprite, project, modify, change, algorithm, build, match, compare,

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					group, same, different, conclusion, block diagram, sharing		debug, features, evaluate, decomposition, code.
Sticky knowledge	Personal information protection, respectable behaviour online, identifying trusted adults, reporting concerns	To describe some uses of computers, To identify information technology in school, To identify information technology beyond school, To show how to use information technology safely	To recognise that some digital devices can capture images using a camera. To recognise that photos can be saved and viewed later. To recognise that light can change a photograph. To recognise that photos can be changed after they have been taken and some images are not accurate.	To explain what happens when we change the order of instructions. To predict the outcome of a program by looking at the instructions.	To use tally chats and pictograms to collect data, To compare grouped objects, To suggest headings for tally charts and pictograms, To understand why some information should not be shared.	To identify that computers can be used to play the sounds of instruments, To identify that a pattern can be represented in different ways, To compare playing music and making music.	To predict the outcome of a program by looking at the instructions.

KS2 - Cycle A: 2025-26

	Year 3/4						
	Week 1	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Unit Title	**E – Safety**	**Connecting Computers**	**Stop-Frame Animation**	**Sequencing Sounds**	**Data Logging**	**Desktop Publishing**	**Events and Actions in Programs**

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National Curriculum Links	use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content Select, use and combine a variety of software (including internet	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given

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		services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information					goals, including collecting, analysing, evaluating and presenting data and information
Disciplinary Concepts	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information
What do children need to know to access the unit?		This unit progresses learners' knowledge and understanding of technology by focusing on digital and non-digital devices, from the following units; Technology around me Year 1 and IT around us Year 2.	This unit progresses learner's knowledge and understanding of using digital devices to create media, exploring how they can create stop-frame animations. It builds on learners previous understanding of images from the Digital Photography Year 2 unit.	To explain what happens when we change the order of instructions. To predict the outcome of a program by looking at the instructions.	This unit progresses learners' knowledge and understanding of data and how it can be collected over time to answer questions. Specifically, it builds on the concept of answering questions with data which is first introduced in the KS1 data and information units.	This unit progresses learners' knowledge and understanding of using digital devices to combine text and images building on work from the following units; Digital Writing Year 1, Digital painting Year 1, and Digital Photography Year 2.	This unit assumes that learners will have some prior experience of programming.

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Golden threads (substantive concepts)	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation
Vocabulary	apps, bookmark, wifi, browser, copyright, device, download, icon, homepage, favourites, internet, emoji, pop up, social, media, broadband, meme, gif, search, virus, webpage, website, screen time, online, viral, inbox, footprint, html	digital device, input, process, output, program, digital, non-digital, connection, network, switch, server, wireless access point, cables, sockets	animation, flip book, stopframe, frame, sequence, image, photograph, setting, character, events, onion skinning, consistency, evaluation, delete, media, import, transition.	Scratch, programming, blocks, commands, code, sprite, costume, stage, backdrop, motion, turn, point in direction, go to, glide, sequence, event, task, design, run the code, order, note, chord, algorithm, bug, debug, code.	data, table, layout, input device, sensor, logger, logging, data point, interval, analyse, dataset, import, export, logged, collection, review, conclusion.	text, images, advantages, disadvantages, communicate, font, style, landscape, portrait, orientation, placeholder, template, layout, content, desktop publishing, copy, paste, purpose, benefits.	motion, event, sprite, algorithm, logic, move, resize, extension block, pen up, set up, pen, design, action, debugging, errors, setup, code, test, debug, actions.
Sticky knowledge	Personal information protection, respectable behaviour online, identifying trusted adults, reporting concerns	To describe what an input and output is, To identify how changing the process can affect the output, To recognise that computers can be connected to each other in a network, explaining how it works and identify the benefits of this.	To explain that an animation is made up of a sequence of images. To understand that the capturing device needs to be in a fixed position, To understand that the smaller the movement, the smoother the animation, To understand that the project must be exported to be shared.	To explain that programs start because of an input, to identify that a program includes sequences of commands, To identify that different sequences can achieve the same output	To identify that data can be logged over time, To identify that sensors are input devices and can be used as an input device for data collection. To explain that data loggers capture 'data points' from sensors over time	To consider how different layouts can suit different purposes, To recognise that DTP pages can be structured with placeholders, To consider the benefits of using a DTP application	To explain that programs start because of an input, to identify that a program includes sequences of commands, To identify that different sequences can achieve the same output

	Year 5/6						
	Week 1	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Unit Title	**E – Safety**	**Communication and collaboration**	**Webpage Creation**	**Variables in Games**	**Flat-File Databases**	**3D Modelling**	**Sensing**

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National Curriculum Links	use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts use sequence, selection, and repetition in programs; work with variables and various forms of input and output use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs select, use and combine a variety of software (including internet services) on a range of	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs Select, use and combine a variety of software (including internet services) on a range of digital devices to

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				digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information			design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
Disciplinary Concepts	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information
What do children need to know to access the unit?		This unit progresses learners' knowledge and understanding of computing systems and online collaborative working.	This unit progresses students' knowledge and understanding of the following: digital writing, digital painting, desktop publishing, digital photography, photo editing, and vector drawing.	This unit assumes that learners have some prior experience of programming in Scratch. Specifically, they should be familiar with the programming constructs of sequence, repetition, and selection.	This unit progresses learners' knowledge and understanding of why and how information might be stored in a database and looks at how tools within a database can help us to answer questions about our data.	This unit progresses students' knowledge and understanding of creating 3D graphics using a computer. Prior to undertaking this unit, learners should have worked with 2D graphics applications.	This unit presumes that pupils are already confident in their understanding of sequence, repetition and selection independently within programming. If pupils are not yet ready for this, you may wish to revisit earlier programming units where

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							these constructs are introduced.
Golden threads (substantive concepts)	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation
Vocabulary	apps, bookmark, wifi, browser, copyright, device, download, icon, homepage, favourites, internet, emoji, pop up, social, media, broadband, meme, gif, search, virus, webpage, website, screen time, online, viral, inbox, footprint, html	communication, protocol, data, address, Internet Protocol (IP), Domain Name Server (DNS), packet, header, data payload, chat, explore, slide deck, reuse, remix, collaboration, internet, public, private, oneway, two-way, one-to-one, one-to-many.	website, web page, browser, media, Hypertext Markup Language (HTML), logo, layout, header, media, purpose, copyright, fair use, home page, preview, evaluate, device, Google Sites, breadcrumb trail, navigation, hyperlink, subpage, evaluate, implication, external link, embed	variable, change, name, value, set, design, event, algorithm, code, task, artwork, program, project, code, test, debug, improve, evaluate, share, assign, declare	database, data, information, record, field, sort, order, group, search, value, criteria, graph, chart, axis, compare, filter, presentation.	TinkerCAD, 2D, 3D, shapes, select, move, perspective, view, handles, resize, lift, lower, recolour, rotate, duplicate, group, cylinder, cube, cuboid, sphere, cone, prism, pyramid, placeholder, hollow, choose, combine, construct, evaluate, modify.	Micro:bit, MakeCode, input, process, output, flashing, USB, trace, selection, condition, if then else, variable, random, sensing, accelerometer, value, compass, direction, navigation, design, task, algorithm, step counter, plan, create, code, test, debug.
Sticky knowledge	Personal information protection, respectable behaviour online, identifying trusted adults, reporting concerns	To recognise that data is transferred across networks using agreed protocols (methods), To recognise that connections between computers allow access to shared stored files and are transferred in 'pockets', To recognise computers connected to the internet allow people in different places to work together, To explain that communicating and	To recognise the relationship between HTML and visual display, To recognise that web pages can contain different media types, To recognise that web pages are written by people, To recognise that a website is a set of hyperlinked web pages, To consider the ownership and use of images (copyright), to recognise the need to preview	To define a 'variable' as something that is changeable and give an example, To identify that variables can hold numbers (integers) or letters (strings), To know that the name of a variable needs	To explain that a computer program can be used to organise data, To outline how 'AND' and 'OR' can be used to refine data selection, To explain that computer programs can be used to compare data	To explain that 3D models can be created on a computer, To explain that 3D models can be created on a computer, To recognise that artefacts can be broken down into a collection of 3D objects	To define a 'variable' as something that is changeable and give an example, To identify that variables can hold numbers (integers) or letters (strings), To know that the name of a variable needs

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		collaboration using the internet can be public or private	pages, to recognise the need for a navigation path, to recognise the implications to linking content owned by others.	to be unique.	visually		to be unique.

KS2 - Cycle B: 2026-27

	Year 3/4						
	Week 1	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Unit Title	**E – Safety**	**The Internet**	**Audio Production**	**Repetition in Shapes**	**Branching Databases**	**Photo Editing**	**Repetition in Games**
National Curriculum Links	use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Use logical reasoning to explain how some simple algorithms work	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Use logical reasoning to explain how some simple algorithms work

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		Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.		and to detect and correct errors in algorithms and programs Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information			and to detect and correct errors in algorithms and programs
Disciplinary Concepts	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information
What do children need to know to access the unit?		This unit progresses students' knowledge and understanding of networks from that developed in the Year 3 Connecting	This unit progresses students' knowledge and understanding of creating media, by focusing on the recording and editing of	This unit progresses students' knowledge and understanding	This unit progresses learners' knowledge and understanding of	This unit progresses students' knowledge and understanding of digital photography and using digital devices to create	This unit assumes that learners will have some prior experience of programming.

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		Computers unit.	sound to produce a podcast.	of programming. Within the Year 3 units, Programming A- Sequencing Sounds and Programming B- Events and Actions in programs, learners will have an awareness of the sequence of commands in a program.	the categories of data handling, with a particular focus on implementation. It builds on their knowledge of data and information from key stage 1.	media. Learners will have had some exposure to images and their manipulation through the Teach Computing Digital Photography- Year 2 unit.	The KS1 NCCE units cover floor robots and ScratchJr, and Scratch, and the skill of sequence, is introduced in the Year 3 programming units: Sequencing Sounds and Events and actions in programs.
Golden threads (substantive concepts)	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation
Vocabulary	apps, bookmark, wifi, browser, copyright, device, download, icon, homepage, favourites, internet, emoji, pop up, social, media, broadband, meme, gif, search, virus, webpage, website, screen time, online, viral, inbox, footprint, html	internet, network, router, security, switch, server, wireless access point (WAP), website, web page, web address, routing, web browser, World Wide Web, content, links, files, use, download, sharing, ownership, permission, information, accurate, honest, content, adverts	audio, microphone, speaker, headphones, input device, output device, sound, podcast, edit, trim, align, layer, import, record, playback, selection, load, save, export, MP3, evaluate, feedback.	Logo (programming environment), program, turtle, commands, code snippet, algorithm, design, debug, pattern, repeat, repetition, count-controlled loop, value, trace, decompose, procedure.	attribute, value, questions, table, objects, branching, database, objects, equal, even, separate, structure, compare, order, organise, selecting, information, decision tree.	image, edit, digital, crop, rotate, undo, save, adjustments, effects, colours, hue, saturation, sepia, vignette, image, retouch, clone, select, combine, made up, real, composite, cut, copy, paste, alter, background, foreground, zoom, undo, font.	Scratch, programming, sprite, blocks, code, loop, repeat, value, infinite loop, count-controlled loop, costume, repetition, forever, animate, event block, duplicate, modify, design, algorithm, debug, refine, evaluate.
Sticky knowledge	Personal information protection, respectable	To describe how networks connect to other networks,	To identify that an input device is needed to record	To relate what 'repeat' means,	To recognise that a data set can	To use an application to change the whole of a	To explain that we can use a

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	behaviour online, identifying trusted adults, reporting concerns	To recognise that the World Wide Web is part of the internet, To explain that the global interconnection of networks is the internet, To recognise the need for security on the internet, To evaluate the reliability of content and the consequences of unreliable content	sound, To identify that output devices are needed to play audio, To recognise that recorded audio can be stored on a computer, To recognise that audio can be edited, To recognise that sound can be represented visually as a waveform, To recognise that audio can be layered so that multiple sounds can be played at the same time,	To explain that we can use a loop command in a program to repeat instructions, To identify a loop within a program, To explain that in programming there are indefinite loops and count-controlled loops, To explain that you can program a loop to stop after a specific number of times and indefinite loop will run until the program is stopped, To explain the importance of instruction order in a loop	be structured using yes/no questions, To explain that a well-structured branching database will enable you to identify objects using fewer questions, To suggest real-world applications for branching databases	digital image, To use an application to change part of a digital image, To use an application to add to the composition of a digital image	loop command in a program to repeat instructions, To identify a loop within a program, To explain that in programming there are indefinite loops and count-controlled loops, To explain that an indefinite loop will run until the program is stopped, To explain that an indefinite loop will run until the program is stopped, To explain the importance of instruction order in a loop

	Year 5/6						
	Week 1	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Unit Title	**E – Safety**	**Systems and Searching**	**Video Production**	**Selection in physical computing**	**Introduction to Spreadsheets**	**Vector Drawing**	**Selection in Quizzes**
National Curriculum Links	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns	Design, write and debug programs that accomplish specific goals, including controlling or	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	Design, write and debug programs that accomplish specific goals, including controlling or	Select, use and combine a variety of software (including internet services) on a range of digital	Select, use and combine a variety of software (including internet services) on a range of digital	Design, write and debug programs that accomplish specific goals, including controlling or

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	about content and contact.	simulating physical systems; solve problems by decomposing them into smaller parts Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting,	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	simulating physical systems; solve problems by decomposing them into smaller parts Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	simulating physical systems; solve problems by decomposing them into smaller parts Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

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		analysing, evaluating and presenting data and information					
Disciplinary Concepts	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information	E-Safety Computing Systems and Networks Creating Media Programming Data and Information
What do children need to know to access the unit?		This unit progresses students' knowledge and understanding of the internet from that developed in the Year 4 The Internet	This unit builds on the Year 4 Photo editing unit where composition is introduced and the Year 3 unit 'Stop-frame animation'	This unit assumes that learners will have prior experience of programming using a block-based language (e.g. Scratch) and understand the concepts of sequence and repetition.	This unit progresses students' knowledge and understanding of data, and teaches them how to organise and modify data within spreadsheets. Specifically, learners will have experienced data in tables and charts in the Y4 data logging.	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.	This unit assumes that learners will have prior experience of programming using block-based construction (e.g. Scratch), understand the concepts of 'sequence' (Year 3 units: Sequencing Sounds and Events and actions in programs) and 'repetition' (Year 4 units: Repetition in shapes and Repetition in games), and have some experience of using 'selection'
Golden threads (substantive concepts)	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation	Logic Algorithms Decomposition Patterns Abstraction Evaluation

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Vocabulary	apps, bookmark, wifi, browser, copyright, device, download, icon, homepage, favourites, internet, emoji, pop up, social, media, broadband, meme, gif, search, virus, webpage, website, screen time, online, viral, inbox, footprint, html	system, connection, digital, input, process, storage, output, search, search engine, refine, index, bot, ordering, links, algorithm, search engine optimisation (SEO), web crawler, content creator, selection, ranking.	video, audio, camera, talking head, panning, close up, video camera, microphone, lens, mid-range, long shot, moving subject, side by side, angle (high, low, normal), static, zoom, pan, tilt, storyboard, filming, review, import, split, trim, clip, edit, reshoot, delete, reorder, export, evaluate, share.	microcontroller, USB, components, connection, infinite loop, output component, motor, repetition, count-controlled loop, Crumble controller, switch, LED, Sparkle, crocodile clips, connect, battery box, program, condition, Input, output, selection, action, debug, circuit, power, cell, buzzer	data, collecting, table, structure, spreadsheet, cell, cell reference, data item, format, formula, calculation, spreadsheet, input, output, operation, range, duplicate, sigma, propose, question, data set, organised, chart, evaluate, results, sum, comparison, software, tools.	vector, drawing tools, object, toolbar, vector drawing, move, resize, colour, rotate, duplicate/copy, zoom, select, align, modify, layers, order, copy, paste, group, ungroup, reuse, reflection	Selection, condition, true, false, count-controlled loop, outcomes, conditional statement, algorithm, program, debug, question, answer, task, design, input, implement, test, run, setup, operator
Sticky knowledge	Personal information protection, respectable behaviour online, identifying trusted adults, reporting concerns	To describe how networks connect to other networks, To recognise that the World Wide Web is part of the internet, To explain that the global interconnection of networks is the internet, To recognise the need for security on the internet, To evaluate the reliability of content and the consequences of unreliable content	To explain the features of video as a visual media format, To recognise which devices can and can't record video, To explain the purpose of a storyboard, To recognise that filming techniques can be used to create different effects, To identify videos can be improved through and reshooting or editing	To explain that a condition can only be true or false, To relate that a count-controlled loop contains a condition, To explain that when a condition is met, a loop will complete a cycle before it stops, To explain the importance of instruction order in 'if...then...else...' statements	To identify questions that can be answered using spreadsheet data, To explain what an item of data is in a spreadsheet, To outline that there are different software tools to work with data, To explain that formulas can be used to produce calculated data, To recognise cells can be linked	To identify that a vector drawing comprises separate objects in different layers, To recognise that vector images can be scaled without impact on quality, To recognise that objects can be modified in groups	To explain that a condition can only be true or false, To relate that a count-controlled loop contains a condition, To explain that when a condition is met, a loop will complete a cycle before it stops, To explain the importance of instruction order in 'if...then...else...' statements