



Fairfield Primary School Computing Curriculum Map



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*Tell me and I forget, teach me and I may remember,
involve me and I learn. - Benjamin Franklin*



Computing Vision Statement

"The computer was born to solve problems that did not exist before."

- Bill Gates (Microsoft guru)

"Technology is best when it brings people together."

- Matt Mullenweg (WordPress co-founder)

"I am always doing that which I cannot do, in order that I may learn how to do it."

- Ada Lovelace (the first computer programmer)

At Fairfield Primary School, our vision is 'Dream, Believe, Achieve'. This vision celebrates aspiration. Our Computing curriculum is designed to engage children and give them a wide range of meaningful contexts within which to apply their computing skills; this helps them to adapt to the different challenges and opportunities that life in the rapidly changing modern world offers. With regard to e-Safety, this means giving the pupils the tools and the confidence to engage with the wider world through technology in a safe and responsible manner.

Four key concepts are revisited throughout Key Stage 1 and Key Stage 2. These are

Connect, **Communicate**, **Collect** and **Code**.

These concepts allow pupils to more easily connect their learning to that undertaken in previous years and each unit as been tagged with one or more of these key words.

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Computing in EYFS	
Nursery	Reception
<p><u>Computers and Networks</u></p> <p>In Nursery, children will be given lots of experiences and resources to help them explore cause and effect i.e., buttons to press, remote controls, role play microwaves, irons, washing machines, telephones, calculators etc.</p>	<p><u>Computers and Networks</u></p> <p>Reception children will have opportunities to continue exploring real and pretend technology in the environment as well as using things like the iPad to record their work, Colour Magic to draw and the keyboard to write their name, use the photocopier to make copies of their work etc. As a class and in small groups the children will Google things that interest them.</p>
<p><u>Creating Media</u></p> <p>Nursery will have had the opportunity to see adults create media on the interactive boards and may have used simple tools like the pen on the screen to circle amounts during maths etc. Nursery will also have had a range of real creating with media experiences and used an iPad to take photographs</p>	<p><u>Creating Media</u></p> <p>In Reception, the children will use a range of technology to create with including Colour Magic to write their names and draw, iPads to take photographs, photocopiers to make copies of their work and the printer to print out pictures for use in collages. They will also use the visualiser to view their creations and as another way of recording work i.e. a junk model they make showing it under the visualiser then using that camera to record it or take a picture.</p>
<p><u>Data Information</u></p> <p>In Nursery, children get exposed to 'data' and 'information' in a variety of ways and do a lot of unplugged work on this as part of the daily routines of nursery life including finding their name/picture/logo on coat peg, trays and self-registration. Children have their first experiences of labelling and sorting in nursery with accessing, choosing and tidying resources in self-initiated time. Words and pictures on all resources as well as silhouettes help children to start sorting, grouping, matching and organising all which are essential foundations for the rest of the data and information strand of computing.</p>	<p><u>Data Information</u></p> <p>In reception children continue to access well labelled resources and sort and match during the routines of the day i.e. bookbags, trays, coat pegs and their own resources such as coats. There will be lots of opportunity for cross curricular links with maths where in the first half term (autumn) children spend lots of time sorting objects by colour, shape, size and other attributes. Children are also to be encouraged to understand that 'information' can be found in a range of ways such as from adults, books and the internet. Time should be made to model this "I wonder how I could find out..." and children's questions and interests searched and talked about.</p>
<p><u>Programming</u></p> <p>Children will be exposed to a range of real life and role play objects that allow them to explore and pretend. They will use things with buttons, flaps and that have a cause and effect such as sound when a button is pressed.</p>	<p><u>Programming</u></p> <p>The children will use a range of technology within the classroom and follow instructions in the classroom and lesson contexts i.e., getting ready for home or baking. There are hands on physical devices such as code-a-pillars, code-a-critter and Beebots as well as apps like Coding Safari where children can start to understand that they can control the movement of objects by giving instructions (algorithms).</p>

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Computing in Key Stage One Connect, Communicate, Collect, Code						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	<p>1.1 Technology Around Us</p> <p>Connect</p> <p>Learners will develop their understanding of technology and how it can help them in their everyday lives. They will start to become familiar with the different components of a computer by developing their keyboard and mouse skills. Learners will also consider how to use technology responsibly.</p>	<p>1.2 Digital Painting</p> <p>Communicate</p> <p>Learners will develop their understanding of a range of tools used for digital painting. They then use these tools to create their own digital paintings, while gaining inspiration from a range of artists' work. The unit concludes with learners considering their preferences when painting with and without the use of digital devices.</p>	<p>1.3 Digital Writing</p> <p>Communicate</p> <p>Learners will develop their understanding of the various aspects of using a computer to create and manipulate text. They will become more familiar with using a keyboard and mouse to enter and remove text. Learners will also consider how to change the look of their text, and will be able to justify their reasoning in making these changes. Finally, learners will consider the differences between using a computer to create text, and writing text on paper. They will be able to explain which method they prefer and explain their reasoning for choosing this.</p>	<p>1.4 Grouping Data</p> <p>Collect</p> <p>This unit introduces learners to data and information. Labelling, grouping, and searching are important aspects of data and information. Searching is a common operation in many applications, and requires an understanding that to search data, it must have labels. This unit of work focuses on assigning data (images) with different labels in order to demonstrate how computers are able to group and present data.</p>	<p>1.5 Moving A Robot</p> <p>Code</p> <p>This unit introduces learners to early programming concepts. Learners will explore using individual commands, both with other learners and as part of a computer program. They will identify what each floor robot command does and use that knowledge to start predicting the outcome of programs. The unit is paced to ensure time is spent on all aspects of programming and builds knowledge in a structured manner. Learners are also introduced to the early stages of program design through the introduction of algorithms.</p>	<p>1.6 Programming Animations</p> <p>Code</p> <p>Learners will be introduced to on-screen programming through ScratchJr. Learners will explore the way a project looks by investigating sprites and backgrounds. They will use programming blocks to use, modify, and create programs. Learners will also be introduced to the early stages of program design through the introduction of algorithms.</p>
End Points	<ul style="list-style-type: none"> ● Recognise common uses of information technology beyond school ● Use technology purposefully to create, organise, store, 	<ul style="list-style-type: none"> ● Use technology purposefully to create, organise, store, manipulate, and retrieve digital content 	<ul style="list-style-type: none"> ● Use technology purposefully to create, organise, store, manipulate, and retrieve digital content ● Use technology safely and respectfully, keeping 	<ul style="list-style-type: none"> ● Use technology purposefully to create, organise, store, manipulate, and retrieve digital content 	<ul style="list-style-type: none"> ● Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following 	<ul style="list-style-type: none"> ● Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following

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	<p>manipulate, and retrieve digital content</p> <ul style="list-style-type: none"> ● 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. 	<p>KS1 Art and Design</p> <p>Pupils should be taught:</p> <ul style="list-style-type: none"> ● To develop a wide range of art and design techniques in using colour, pattern, texture, line, shape, form, and space ● About the work of a range of artists, craft makers, and designers, describing the differences and similarities between different practices and disciplines and making links to their own work 	<p>personal information private</p>	<ul style="list-style-type: none"> ● Use technology safely and respectfully 	<p>precise and unambiguous instructions</p> <ul style="list-style-type: none"> ● Create and debug simple programs ● Use logical reasoning to predict the behaviour of simple programs ● Recognise common uses of information technology beyond school 	<p>precise and unambiguous instructions</p> <ul style="list-style-type: none"> ● Create and debug simple programs ● Use logical reasoning to predict the behaviour of simple programs
<p>Year 2</p>	<p>2.1 IT Around Us</p> <p>Connect</p> <p>Learners will develop their understanding of what information technology (IT) is and will begin to identify examples. They will discuss where they have seen IT in school and beyond, in settings such as shops, hospitals, and libraries. Learners will then investigate how IT improves our world, and they will learn about the importance of using IT responsibly.</p>	<p>2.2 Digital Photography</p> <p>Communicate</p> <p>Learners will learn to recognise that different devices can be used to capture photographs and will gain experience capturing, editing, and improving photos. Finally, they will use this knowledge to recognise that images they see may not be real.</p>	<p>2.3 Robot Algorithms</p> <p>Code</p> <p>This unit develops pupils' understanding of instructions in sequences and the use of logical reasoning to predict outcomes. Pupils will use given commands in different orders to investigate how the order affects the outcome. Pupils will also learn about design in programming. They will develop artwork and test it for use in a program with a robot. They will design algorithms and then test those algorithms as programs and debug them.</p>	<p>2.4 Pictograms</p> <p>Collect</p> <p>Learners will begin to understand what the term data means and how data can be collected in the form of a tally chart. They will learn the term 'attribute' and use this to help them organise data. They will then progress onto presenting data in the form of pictograms and finally block diagrams. Learners will use the data presented to answer questions.</p>	<p>2.5 Making Music</p> <p>Communicate</p> <p>In this unit, learners will be using a computer to create music. They will listen to a variety of pieces of music and consider how music can make them think and feel. Learners will compare creating music digitally and non-digitally. Learners will look at patterns and purposefully create music.</p>	<p>2.6 Programming Quizzes</p> <p>Code</p> <p>This unit initially recaps on learning from the Year 1 ScratchJr unit 'Programming animations'. Learners begin to understand that sequences of commands have an outcome, and make predictions based on their learning. They use and modify designs to create their own quiz questions in ScratchJr, and realise these designs in ScratchJr using blocks of code. Finally, learners evaluate their work and make</p>

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						improvements to their programming projects.
End Points	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 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 <p>Art and design</p> <ul style="list-style-type: none"> ● To develop a wide range of art and design techniques in using colour, pattern, texture, line, shape, form, and space 	<ul style="list-style-type: none"> ● 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 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. 	<ul style="list-style-type: none"> ● Use technology purposefully to create, organise, store, manipulate and retrieve digital content ● 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 <p>Maths</p> <ul style="list-style-type: none"> ● Year 1 Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: 'equal to', 'more than', 'less than' ('fewer'), 'most', 'least' ● Year 2 Interpret and construct simple pictograms, tally charts, block diagrams and simple tables ● Ask and answer simple questions by counting the number of objects in each 	<ul style="list-style-type: none"> ● Use technology purposefully to create, organise, store, manipulate and retrieve digital content <p>Music national curriculum links</p> <ul style="list-style-type: none"> ● Play tuned and untuned instruments musically ● Listen with concentration and understanding to a range of high-quality live and recorded music ● Experiment with, create, select and combine sounds using the inter-related dimensions of music 	<ul style="list-style-type: none"> ● 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

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				<p>category and sorting the categories by quantity</p> <ul style="list-style-type: none"> ● Ask and answer questions about totalling and comparing categorical data 		
Computing in Key Stage Two Connect, Communicate, Collect, Code						
Year 3	<p>3.1 Connecting Computers</p> <p>Connect</p> <p>Learners will develop their understanding of digital devices, with an initial focus on inputs, processes, and outputs. They will also compare digital and non-digital devices. Next, learners will be introduced to computer networks, including devices that make up a network's infrastructure, such as wireless access points and switches. Finally, learners will discover the benefits of connecting devices in a network.</p>	<p>3.2 Stop-frame Animation</p> <p>Communicate</p> <p>Learners will use a range of techniques to create a stop-frame animation using tablets. Next, they will apply those skills to create a story-based animation. This unit will conclude with learners adding other types of media to their animation, such as music and text.</p>	<p>3.3 Sequencing Sounds</p> <p>Code</p> <p>This unit explores the concept of sequencing in programming through Scratch. It begins with an introduction to the programming environment, which will be new to most learners. They will be introduced to a selection of motion, sound, and event blocks which they will use to create their own programs, featuring sequences. The final project is to make a representation of a piano. The unit is paced to focus on all aspects of sequences, and make sure that knowledge is built in a structured manner. Learners also apply stages of program design through this unit.</p>	<p>3.4 Branching Databases</p> <p>Collect</p> <p>During this unit, learners will develop their understanding of what a branching database is and how to create one. They will gain an understanding of what attributes are and how to use them to sort groups of objects by using yes/no questions. The learners will create physical and on-screen branching databases. Finally, they will evaluate the effectiveness of branching databases and will decide what types of data should be presented as a branching database.</p>	<p>3.5 Desktop Publishing</p> <p>Communicate</p> <p>Learners will become familiar with the terms 'text' and 'images' and understand that they can be used to communicate messages. They will use desktop publishing software and consider careful choices of font size, colour and type to edit and improve premade documents. Learners will be introduced to the terms 'templates', 'orientation', and 'placeholders' and begin to understand how these can support them in making their own template for a magazine front cover. They will start to add text and images to create their own pieces of work using desktop publishing software. Learners will look at a range of page layouts thinking carefully about the</p>	<p>3.6 Events And Actions In Programs</p> <p>Code</p> <p>This unit explores the links between events and actions, while consolidating prior learning relating to sequencing. Learners begin by moving a sprite in Scratch in four directions (up, down, left, and right). They then explore movement within the context of a maze, using design to choose an appropriately sized sprite. This unit also introduces programming extensions, through the use of Pen blocks. Learners are given the opportunity to draw lines with sprites and change the size and colour of lines. The unit concludes with learners designing and coding their own maze-tracing program.</p>

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					purpose of these and evaluate how and why desktop publishing is used in the real world.	
End Points	<ul style="list-style-type: none"> ● 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, analysing, evaluating and presenting data and information 	<ul style="list-style-type: none"> ● 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. 	<ul style="list-style-type: none"> ● 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 goals, including collecting, analysing, evaluating and presenting data and information 	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 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 goals, including collecting, analysing, evaluating and presenting data and information

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Year 4	<p>4.1 The Internet</p> <p>Connect Communicate</p> <p>Learners will apply their knowledge and understanding of networks, to appreciate the internet as a network of networks which need to be kept secure. They will learn that the World Wide Web is part of the internet, and will be given opportunities to explore the World Wide Web for themselves in order to learn about who owns content and what they can access, add, and create. Finally, they will evaluate online content to decide how honest, accurate, or reliable it is, and understand the consequences of false information.</p>	<p>4.2 Audio Editing</p> <p>Communicate</p> <p>In this unit, learners will initially examine devices capable of recording digital audio, which will include identifying the input device (microphone) and output devices (speaker or headphones) if available. Learners will discuss the ownership of digital audio and the copyright implications of duplicating the work of others. In order to record audio themselves, learners will use Audacity to produce a podcast, which will include editing their work, adding multiple tracks, and opening and saving the audio files. Finally, learners will evaluate their work and give feedback to their peers.</p>	<p>4.3 Repetition In Shapes</p> <p>Code</p> <p>Learners will create programs by planning, modifying, and testing commands to create shapes and patterns. They will use MSW Logo, a text-based programming language.</p> <p>This unit is the first of the two programming units in Year 4, and looks at repetition and loops within programming</p>	<p>4.4 Data Logging</p> <p>Code Collect</p> <p>This series of five lessons is aimed at pupils aged 9-10. Pupils learn about data through a variety of unplugged activities. They write and evaluate algorithms and programs using selection and repetition to use Micro:bit as a temperature recorder, an automatic warning system and a digital assistant.</p>	<p>4.5 Photo Editing</p> <p>Communicate</p> <p>In this unit, learners will develop their understanding of how digital images can be changed and edited, and how they can then be resaved and reused. They will consider the impact that editing images can have, and evaluate the effectiveness of their choices.</p>	<p>4.6 Repetition In Games</p> <p>Code</p> <p>Learners will explore the concept of repetition in programming using the Scratch environment. The unit begins with a Scratch activity similar to that carried out in Logo in Programming unit A, where learners can discover similarities between two environments. Learners look at the difference between count-controlled and infinite loops, and use their knowledge to modify existing animations and games using repetition. Their final project is to design and create a game which uses repetition, applying stages of programming design throughout.</p>
End Points	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 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, 	<ul style="list-style-type: none"> ● Use search technologies effectively ● 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 	<ul style="list-style-type: none"> ● 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

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	<p>results are selected and ranked, and be discerning in evaluating digital content</p> <ul style="list-style-type: none"> ● 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. 	<p>and create a range of programs, systems, and content that accomplish given goals, including collecting, analysing, evaluating, and presenting data and information</p> <ul style="list-style-type: none"> ● Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact 	<p>various forms of input and output</p> <ul style="list-style-type: none"> ● 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 	<p>evaluating, and presenting data and information</p> <ul style="list-style-type: none"> ● Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs ● Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact 	<p>collecting, analysing, evaluating and presenting data and information</p> <ul style="list-style-type: none"> ● Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 	<p>various forms of input and output</p> <ul style="list-style-type: none"> ● 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
Year 5	<p>5.1 Sharing Information</p> <p>Connect Communicate</p> <p>In this unit, learners will develop their understanding of computer systems and how information is transferred between systems and devices. Learners will consider small-scale systems as well as large-scale systems. They will</p>	<p>5.2 Code Breaking</p> <p>Communicate</p> <p>In this unit, linked to the WW2 history topic, pupils will develop their understanding of different codes and ciphers. They will begin to manually decode enciphered texts and then progress to using various website tools to help with decoding. The challenges start with simple Letter-Numbers</p>	<p>5.3 Selection In Physical Computing (Micro:Bits)</p> <p>Code</p> <p>In this unit, learners will use physical computing to explore the concept of selection in programming through the use of the Micro:Bits. Pupils will learn how to connect and program it to control components (including input and output devices — accelerometers, light</p>	<p>5.4 Flat-file Databases</p> <p>Collect</p> <p>This unit looks at how a flat-file database can be used to organise data in records. Pupils use tools within a database to order and answer questions about data. They create graphs and charts from their data to help solve problems. They use a real-life database to answer a</p>	<p>5.5 Vector Drawing</p> <p>Communicate</p> <p>In this unit, learners start to create vector drawings. They learn how to use different drawing tools to help them create images. Learners recognise that images in vector drawings are created using shapes and lines, and each individual element in the drawing is called an object. Learners layer their objects</p>	<p>5.6 Selection In Quizzes</p> <p>Code</p> <p>In this unit, pupils develop their knowledge of 'selection' by revisiting how 'conditions' can be used in programming, and then learning how the 'if... then... else...' structure can be used to select different outcomes depending on whether a condition is 'true' or 'false'. They represent this in</p>

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	<p>explain the input, output, and process aspects of a variety of different real-world systems. Learners will also take part in a collaborative online project with other class members and develop their skills in working together online.</p>	<p>ciphers (e.g. A=1, B=2, C=3, etc) and progress through well known ciphers such as the Masonic Cipher and Latin Gibberish. The pupils finish off the project by using powerful tools to crack a difficult cipher using frequency distribution! All of this is set against the backdrop of WW2 as the code-breakers "help" some local pilots who have been shot down over Belgium. Each cipher that is solved helps these pilots to navigate their way through the "Comet" evasion lines and get back to Britain via Gibraltar.</p>	<p>sensors and LEDs). Learners will be introduced to conditions as a means of controlling the flow of actions in a program. Learners will make use of their knowledge of repetition and conditions when introduced to the concept of selection (through the 'if...then...' structure) and write algorithms and programs that utilise this concept.</p>	<p>question, and present their work to others.</p>	<p>and begin grouping and duplicating them to support the creation of more complex pieces of work.</p>	<p>algorithms, and then by constructing programs using the Scratch environment. They learn how to write programs that ask questions and use selection to control the outcomes based on the answers given. They use this knowledge to design a quiz in response to a given task and implement it as a program. To conclude the unit, learners evaluate their program by identifying how it meets the requirements of the task, the ways they have improved it, and further ways it could be improved.</p>
<p>End Points</p>	<ul style="list-style-type: none"> ● 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 ● Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for 	<ul style="list-style-type: none"> ● Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact ● 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 	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 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. 	<ul style="list-style-type: none"> ● 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

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	<p>communication and collaboration</p> <ul style="list-style-type: none"> ● 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 		<ul style="list-style-type: none"> ● 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 			
Year 6	<p>6.1 Internet Communication</p> <p>Connect Communicate</p> <p>In this unit, the class will learn about the World Wide Web as a communication tool. First, they will learn how we find information on the World Wide Web, through learning how search engines work (including how they select and rank</p>	<p>6.2 Webpage Creation</p> <p>Communicate</p> <p>Learners will be introduced to creating websites for a chosen purpose. Learners identify what makes a good web page and use this information to design and evaluate their own website. Throughout the process, learners pay specific attention to copyright and fair use of media, the aesthetics of</p>	<p>6.3 Variables In Games</p> <p>Code</p> <p>This unit explores the concept of variables in programming through games in Scratch. First, pupils will learn what variables are, and relate them to real-world examples of values that can be set and changed. Pupils will then use variables to create a simulation of a scoreboard. In Lessons 2, 3,</p>	<p>6.4 Introduction To Spreadsheets</p> <p>Communicate Collect</p> <p>This unit introduces the learners to spreadsheets. They will be supported in organising data into columns and rows to create their own data set. Learners will be taught the importance of formatting data to support calculations, while also</p>	<p>6.5 3D Modelling</p> <p>Communicate</p> <p>During this unit, learners will develop their knowledge and understanding of using a computer to produce 3D models. Learners will initially familiarise themselves with working in a 3D space, including combining 3D objects to make a house and examining the differences</p>	<p>6.6 Sensing</p> <p>Code</p> <p>This unit is the final KS2 programming unit and brings together elements of all the four programming constructs: sequence from Year 3, repetition from Year 4, selection from Year 5, and variables (introduced in Year 6 – ‘Programming A’. It offers learners the opportunity to use all of these constructs</p>

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	<p>results) and what influences searching, and through comparing different search engines. They will then investigate different methods of communication, before focusing on internet-based communication. Finally, they will evaluate which methods of internet communication to use for particular purposes.</p>	<p>the site, and navigation paths.</p>	<p>and 5, which follow the Use-Modify-Create model, pupils will experiment with variables in an existing project, then modify them, then they will create their own project. In Lesson 4, pupils will focus on design. Finally, in Lesson 6, pupils will apply their knowledge of variables and design to improve their game in Scratch.</p>	<p>being introduced to formulas and will begin to understand how they can be used to produce calculated data. Learners will be taught how to apply formulas that include a range of cells, and apply formulas to multiple cells by duplicating them. Learners will use spreadsheets to plan an event and answer questions. Finally, learners will create graphs and charts, and evaluate their results in comparison to questions asked.</p>	<p>between working digitally with 2D and 3D graphics. Learners will progress to making accurate 3D models of physical objects, such as a pencil holder, which include using 3D objects as placeholders. Finally, learners will examine the need to group 3D objects, then go on to plan, develop, and evaluate their own 3D model of a photo frame.</p>	<p>in while using a familiar physical device — the Micro:bit. The unit begins with a simple program for learners to build in and test in the programming environment, before transferring it to their Micro:bit. Learners then take on three new projects in Lessons 2, 3, and 4, with each lesson adding more depth.</p>
End Points	<ul style="list-style-type: none"> ● Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ● 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 	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 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

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	<p>in evaluating digital content</p> <ul style="list-style-type: none"> ● 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 	<p>acceptable/unacceptable behaviour.</p>	<p>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</p>			<p>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</p>
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