



F2	UNIT 1	
	<p><u>Using a computer</u></p> <p>Learning about the main parts of a computer and how to use the keyboard and mouse. Logging in and out.</p>	<p>Vocab: computer, computer tower, monitor, keyboard, mouse, letters, numbers, uppercase, lowercase, type, log in, log out, computer safety, protect, password, private, secure, security, lock, personal, computer, left-click, right-click, arrow, cursor, paint, stamp, drag, move, drop</p>
	<p>Required prior knowledge</p> <ul style="list-style-type: none"> • New learning 	<p>End point</p> <ul style="list-style-type: none"> • learn what a keyboard is and how to locate relevant keys • learn how to log in and log out. • use a simple online paint tool to create digital art • learn what a mouse is and to develop basic mouse skills such as moving and clicking
	UNIT 2	
<p><u>All about instructions</u></p> <p>The children learn to receive and give instructions and understand the importance of precise instructions.</p>	<p>Vocab: instructions, blindfold, step over, walk around, turn, left, right, to the side, straight on, stand still, stop, duck, under, bend down, walk, hop, tiptoe, shuffle, skip, run, instructions, timer, describe, adjective, two-part instructions</p>	
<p>Required prior knowledge</p> <ul style="list-style-type: none"> • New learning 	<p>End points:</p> <ul style="list-style-type: none"> • follow instructions as part of practical activities and games • learn to give simple instructions • learn that an algorithm is a set of instructions to carry out a task, in a specific order • learn how to explore and tinker with hardware to develop familiarity and introduce relevant vocabulary 	
UNIT 3		

	<p><u>Programming Bee-Bots</u> Children learn about directions, experiment with programming a Bee-Bot/Blue-Bot and tinker with hardware.</p>	<p>Vocab: forward, back, backwards, right, left, arrow, direction, turn, straight on, directions, route, program, algorithm, instructions, circle, sequence, debug</p>
	<p>Required prior knowledge</p> <p>F2, unit 2</p> <ul style="list-style-type: none"> to follow instructions as part of practical activities and games to learn to give simple instructions to learn that an algorithm is a set of instructions to carry out a task, in a specific order to learn how to explore and tinker with hardware to develop familiarity and introduce relevant vocabulary 	<p>End points:</p> <ul style="list-style-type: none"> understand the meaning of directional arrows understand simple instructions experiment with programming a Bee-bot/Blue-bot learn to debug instructions, with the help of an adult, when things go wrong learn that an algorithm is a set of instructions to carry out a task, in a specific order
<p>Y1 UNIT 1 Digital writing L1-3</p>		
	<p>Promote learners' understanding of the various aspects of using a computer to create and change text. Learners will familiarise themselves with typing on a keyboard and begin using tools to change the look of their writing, and then they will consider the differences between using a computer and writing on paper to create text.</p>	<p>Vocab: Word processor, keyboard, keys, letters, type, Numbers, space, backspace, text cursor, Capital letters, toolbar, bold, italic, underline</p>
	<p>Required prior knowledge Children should know:</p> <ul style="list-style-type: none"> Experience of using a keyboard Knowledge of letter names and sounds 	<p>End point</p> <ul style="list-style-type: none"> To use a computer to write To add and remove text on a computer To identify that the look of text can be changed on a computer
<p>UNIT 1 cont'd and start 2 Digital writing L4-5 /Moving a robot L1</p>		
	<p>Promote learners' understanding of the various aspects of using a computer to create and change text. Learners will familiarise themselves with typing on a keyboard and begin using tools to change the look of their writing, and then they will consider the differences between using a computer and writing on paper to create text.</p>	<p>Vocab: Mouse, select, font, Undo, redo, font, format, forwards, backwards, turn, clear, go, commands</p>

	<p>Required prior knowledge Children should know:</p> <ul style="list-style-type: none"> • Experience of sequencing either digital device or in any other way such as story events in F2 	<p>End point</p> <ul style="list-style-type: none"> • To make careful choices when changing text • To explain why I used the tools that I chose ----- • To explain what a given command will do
<p>UNIT 2 cont'd Moving a robot L3,4,5</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>Vocab: Forwards, backwards, left, right, turn, commands, plan, algorithm, program</p>
	<p>Required prior knowledge Children should know:</p> <ul style="list-style-type: none"> • Experience of sequencing either digital device or in any other way such as story events in F2 	<p>End point</p> <ul style="list-style-type: none"> • To combine 'forwards' and 'backwards' commands to make a sequence • To combine four direction commands to make sequences • To plan a simple program
<p>Y2 UNIT 1 Digital photography</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>Vocab: Device, camera, photograph, capture, image, digital, landscape, portrait, framing, subject, compose, light sources, flash, focus, background, editing, filter, format, framing, lighting</p>
	<p>Required prior knowledge Children should know:</p> <ul style="list-style-type: none"> • Experience of taking photos on a device in FS/Y1 	<p>End point</p> <ul style="list-style-type: none"> • To recognise and take photos in landscape and portrait. • To take a good photo and retake it if necessary. • To explore the effect of light and experiment with light

	<p>sources.</p> <ul style="list-style-type: none"> To use a tool to change a photo.
<p>UNIT 2 Pictograms</p>	
<p>This unit introduces the learners to the term 'data'. Learners will begin to understand what data means and how this 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>Vocab:</p> <p>More than, less than, most, least, organise, data, object, tally chart, votes, total, pictogram, enter, compare, count, explain, more, less, more common, least common, attribute, group, same, different, object, conclusion, sharing, data</p>
<p>Required prior knowledge Children should know:</p> <ul style="list-style-type: none"> Knowledge of data, tally charts and pictograms (Y2 maths) 	<p>End point</p> <ul style="list-style-type: none"> To record data in a tally chart To collect data To use a tally chart to create a pictogram To interpret charts and draw conclusions
<p>UNIT 3 Programming quizzes</p>	
<p>This unit initially recaps on learning from the Year 1 Scratch Junior unit 'Programming B - 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 improvements to their programming projects.</p>	<p>Vocab:</p> <p>Sequence, command, program, run, start, outcome, predict, blocks, sprite, algorithm, design, actions, project, modify, change, build, match, compare, debug, features, evaluate</p>
<p>Required prior knowledge Children should know:</p> <ul style="list-style-type: none"> Knowledge of commands, sequences and planning a program in Y1 	<p>End point</p> <ul style="list-style-type: none"> To explain that a sequence of commands has a start and an outcome To create and change a program using a given design To create a program using my own design To decide how my project can be improved

Y3	UNIT 1 Sequencing sounds	
	<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>Vocab: 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, costume, design, algorithm, bug, debug</p>
	<p>Required prior knowledge Children should know:</p> <ul style="list-style-type: none"> • Knowledge of running and sequencing commands Y1/Y2 	<p>End point</p> <ul style="list-style-type: none"> • To identify that commands have an outcome • To recognise that a sequence of commands can have an order • To change the appearance of my project • To create a project from a task description
	UNIT 2 Branching databases	
	<p>Learners will develop their understanding of what a branching database is and how to create one. They will use yes/no questions to gain an understanding of what attributes are and how to use them to sort groups of objects. Learners will create physical and on-screen branching databases. To conclude the unit, they will create an identification tool using a branching database, which they will test by using it. They will also consider real-world applications for branching databases.</p>	<p>Vocab: Attribute, value, questions, table, objects, branching database, database, equal, even, separate, structure, compare, order, organise, selecting, information, decision tree</p>
	<p>Required prior knowledge Children should know:</p> <ul style="list-style-type: none"> • Knowledge of information, data and pictograms from Y2 	<p>End point</p> <ul style="list-style-type: none"> • To identify the attributes needed to collect data about an object • To create a branching database

		<ul style="list-style-type: none"> • To plan the structure of a branching database • To independently create an identification tool
UNIT 3 Desktop Publishing		
	<p>During this unit, 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 purpose of these and evaluate how and why desktop publishing is used in the real world.</p>	<p>Vocab:</p> <p>Text, images, advantages, disadvantages, communicate, font, font style, template, landscape, portrait, orientation, placeholder, layout, content, desktop publishing, copy, paste, purpose, benefits</p>
	<p>Required prior knowledge</p> <p>Children should know:</p> <ul style="list-style-type: none"> • Using a computer to add and remove text and change how it looks Y1 	<p>End point</p> <ul style="list-style-type: none"> • To recognise that text and layout can be edited • To choose appropriate page settings • To add content to a desktop publishing publication • To consider how different layouts can suit different purposes
Y4 UNIT 1 Audio production		
	<p>Learners will identify the input device (microphone) and output devices (speaker or headphones) required to work with sound digitally. 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>Vocab:</p> <p>Audio, microphone, speaker, headphones, input device, output device, sound, podcast, edit, trim, align, layer, import, record, playback, selection, load, save, export, MP3, editing, evaluate, feedback</p>

<p>Required prior knowledge Children should know:</p> <ul style="list-style-type: none"> • Experience of recording sound on a variety of devices throughout FS/KS1 	<p>End point</p> <ul style="list-style-type: none"> • To identify that sound can be recorded • To explain that audio recordings can be edited • To recognise the different parts of creating a podcast project • To combine audio to enhance my podcast project
<p>UNIT 2 Repetition in games</p>	
<p>This unit explores the concept of repetition in programming using the Scratch environment. It 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>	<p>Vocab: Scratch, programming, sprite, blocks, code, loop, repeat, value, forever, infinite loop, count-controlled loop, costume, repetition, forever, animate, event block, duplicate, modify, design, sprite, algorithm, debug, refine, evaluate</p>
<p>Required prior knowledge Children should know:</p> <ul style="list-style-type: none"> • Experience of moving robot using commands Y1 • Using commands to design a program to make a quiz in Y2 • Using commands to sequence sounds and recognise order Y3 	<p>End point</p> <ul style="list-style-type: none"> • To develop the use of count-controlled loops in a different programming environment • To develop a design that includes two or more loops which run at the same time • To modify an infinite loop in a given program • To create a project that includes repetition
<p>UNIT 3 Connecting computers(Y3) L2,4,5,6 / The internet(Y4) L1 and 4</p>	
<p>Challenge your learners to develop their understanding of digital devices, with an initial focus on inputs, processes, and outputs. Start by comparing digital and non-digital devices, before introducing them to computer networks that include network infrastructure devices like routers and switches.</p>	<p>Vocab: Digital device, input, process, output, connection, network, network switch, server, wireless access point, network cables, network sockets</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.</p>	
	<p>Required prior knowledge Children should know:</p> <ul style="list-style-type: none"> • New learning 	<p>End point</p> <ul style="list-style-type: none"> • To identify input and output devices • To explain how a computer network can be used to share information • To recognise the physical components of a network ----- • To describe how networks physically connect to other networks • To describe how content can be added and accessed on the World Wide Web (WWW)
Y5	UNIT 1 Selection in physical computing	
	<p>In this unit, learners will use physical computing to explore the concept of selection in programming through the use of the Crumble programming environment. Learners will be introduced to a microcontroller (Crumble controller) and learn how to connect and program components (including output devices- LEDs and motors) through the application of their existing programming knowledge. Learners are introduced to conditions as a means of controlling the flow of actions and make use of their knowledge of repetition and conditions when introduced to the concept of selection (through the if, then structure).</p>	<p>Vocab: Microcontroller, 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, repetition, debug</p>
	<p>Required prior knowledge Children should know:</p> <ul style="list-style-type: none"> • Experience of moving robot using commands Y1 • Using commands to design a program to make a quiz in Y2 	<p>End point</p> <ul style="list-style-type: none"> • To explain that a loop can stop when a condition is met • To explain that a loop can be used to repeatedly check whether a condition has been met • To design a physical project that includes selection

- Using commands to sequence sounds and recognise order Y3
- Create a program that uses count controlled and infinite loops (repetition) Y4

- To create a program that controls a physical computing project

UNIT 2 Flat file databases (Y5) Lesson 1,3 and 4 / Communication and collaboration (Y6) L2, 3 ,4

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 question, and present their work to others.

In this unit learners explore how data is transferred over the internet. Learners initially focus on addressing, before they move on to the makeup and structure of data packets. Learners then look at how the internet facilitates online communication and collaboration; they complete shared projects online and evaluate different methods of communication. Finally, they learn how to communicate responsibly by considering what should and should not be shared on the internet.

Vocab:

Microcontroller, 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, repetition, debug

Required prior knowledge

Children should know:

- Explain how a computer network can be used to share information and describe how content can be added and accessed on the World Wide Web (WWW) (Y4)
- Identify the attributes needed to collect data about an object and plan the structure of a branching database (Y3)

End point

- To use a form to record information
- To outline answer questions by grouping and then sorting data and to explain that tools can be used to select specific data
- To recognise how data is transferred across the internet.
- To evaluate different ways of working together online

UNIT 3 Video production

This unit gives learners the opportunity to learn how to create short videos in groups. As they progress through this unit, they will be exposed to topic-based language and develop the skills of capturing, editing, and manipulating video. Active learning is encouraged through guided questions and by working in small

Vocab:

Video, audio, camera, talking head, panning, close up, video camera, microphone, lens, mid range, long shot, moving subject, side by side, high angle, low angle, normal angle, Static camera,

	<p>groups to investigate the use of devices and software. Learners are guided with step-by-step support to take their idea from conception to completion. At the teacher's discretion, the use of green screen can be incorporated into this unit. At the conclusion of the unit, learners have the opportunity to reflect on and assess their progress in creating a video.</p>	<p>zoom, pan, tilt, storyboard, filming, review, Import, split, trim, clip, edit, reshoot, delete, reorder, export, evaluate, share</p>
	<p>Required prior knowledge Children should know:</p> <ul style="list-style-type: none"> ● Digital photography y2 ● Audio production y4 	<p>End point</p> <ul style="list-style-type: none"> ● To make use of a microphone ● To capture video using a range of filming techniques ● To create and save video content ● To make edits to my video and improve the final outcome
<p>Y6</p>	<p>UNIT 1 Variables in games</p>	
<p>This unit explores the concept of variables in programming through games in Scratch. First, learners find out what variables are and relate them to real-world examples of values that can be set and changed. Then they use variables to create a simulation of a scoreboard. In Lessons 2, 3, and 5, which follow the Use-Modify-Create model, learners experiment with variables in an existing project, then modify them, before they create their own project. In Lesson 4, learners focus on design. Finally, in Lesson 6, learners apply their knowledge of variables and design to improve their games in Scratch.</p>	<p>Vocab: Variable, change, name, value, set, design, event, algorithm, code, artwork, program, project, code, test, debug, improve, evaluate, share</p>	
<p>Required prior knowledge Children should know:</p> <ul style="list-style-type: none"> ● Experience of moving robot using commands Y1 ● Using commands to design a program to make a quiz in Y2 ● Using commands to sequence sounds and recognise order Y3 ● Create a program that uses count controlled and infinite loops (repetition) Y4 ● Use loops for repetition Y5 	<p>End point</p> <ul style="list-style-type: none"> ● To identify that variables can hold numbers or letters ● To recognise that the value of a variable can be changed ● To choose a name that identifies the role of a variable ● To use variables to extend my game 	

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UNIT 2 Intro to spreadsheets	
<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 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 charts, and evaluate their results in comparison to questions asked.</p>	<p>Vocab: Data, collecting, table, structure, spreadsheet, cell, cell reference, data item, format, formula, calculation, data, input, output, calculate, operation, range, duplicate, sigma, propose, question, data set, organised, chart, evaluate, results, comparison, questions, software, tools</p>
<p>Required prior knowledge Children should know:</p> <ul style="list-style-type: none"> • Identify the attributes needed to collect data about an object and plan the structure of a branching database (Y3) • Use a form to record information • Outline answer questions by grouping and then sorting data and to explain that tools can be used to select specific data (Y5) 	<p>End point</p> <ul style="list-style-type: none"> • To enter data into a spreadsheet • To format a cell • To create and apply a formula to multiple cells by duplicating it • To use a spreadsheet to answer questions
UNIT 3 Web page creation	
<p>This unit introduces learners to the creation of websites for a chosen purpose. Learners identify what makes a good web page and use this information to design and evaluate their own website using Google Sites. Throughout the process learners pay specific attention to copyright and fair use of media, the aesthetics of the site, and navigation paths.</p>	<p>Vocab: Website, web page, browser, media, Hypertext Markup Language (HTML), logo, layout, header, purpose, copyright, fair use, home page, preview, evaluate, device, Google Sites, breadcrumb trail, navigation, hyperlink, subpage, implication, external link, embed</p>
<p>Required prior knowledge Children should know:</p>	<p>End point</p> <ul style="list-style-type: none"> • To know that websites are written in HTML • To draw a web page layout that suits my purpose

- Connecting computer (Y4)

- To add content to my own web page
- To make multiple web pages and link them using hyperlinks