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Computing

YR		
	Autumn	
	Computer science **Bee-Bots**	**Vocab: program, forward, back, backwards, right, left, arrow, direction, turn, straight on, directions, route, instructions,**
	Required prior knowledge Children should know: • New learning. Children need lots of time to play with the Bee-Bots before KS1.	End point • To understand that Bee-Bots need to be programmed not pushed • To experiment with programming a Bee-bot/Blue-bot • To guide the Bee-Bots to certain points
	Spring	
	Digital literacy **Photography**	**Vocab: iPad, photograph, camera, PicCollage app**
	Required prior knowledge Children should know: • New learning	End point • To use the camera feature • To take photographs • To use PicCollage, add a title, name and save
	Information technology **Technology hunt**	**Vocab: technology, photographs, appliances**

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	Required prior knowledge Children should know: • New learning	End point • To recognise that a range of technology is used in places such as homes and schools. • To select and use technology for particular purposes.
	Summer	
	Computer Science **Bee-Bot emulator**	**Vocab: Bee-Bot, turn, program**
	Required prior knowledge Children should know: • 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	End point • To know how to operate simple equipment. • To complete a simple program on a computer. • To experiment with programming a Bee-bot/Blue-bot • To learn that an algorithm is a set of instructions to carry out a task, in a specific order

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Y1	Autumn	
	Information Technology and Digital Literacy	**Vocab:** **Unit 1: Tab, shapes, format, image, shadow, border, glow, effect, pen, line weight, line style, resize, rotate** **Unit 2: 'Home row', delete, return, font, bold, italics, underline, alignment, colour, QR code, upload, show, hide, rename, save** **Unit 3: Online safety, report cyberbullying, lock screen, desktop, swipe, app, screenshot**
	Unit 1: Digital Art & iPad basics Required prior knowledge Children should know: • New learning	End point • To know the basics of handling an iPad (open/close apps, navigate desktop, search apps, identify common apps, lock screen, save/open files, take a screenshot) • To be able to access formatting tool options and navigate them using tabs • To insert and format shapes in Pages to create pictures • To use the touch screen to resize and rotate a shape • To format images in Pages and apply special effects • To use the Doodle Buddy app to create patterns using various pen and colour options • Top use the art tools in Seesaw
	Unit 2: IT basics	End point

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	Required prior knowledge Children should know: • New learning	• To understand what the 'home row' is and be able to position their fingers correctly on a keyboard • To learn some Word Processing basics (font, formatting, and text alignment) • To learn how to use the return and delete keys • To be able to 'show' and 'hide' the keyboard on an iPad • To be able to type some words in a document • To learn how to scan a QR code and upload a photo to an online platform • To be able to rename a Pages document
	Unit 3 Online safety and iPad basics Required prior knowledge Children should know: • How to identify different ways to stay safe online • What cyberbullying is	• To understand online safety basics. • To focus use of online images and personal information. • To understand about keeping passwords safe and the risk on in app purchasing • Consolidate knowledge of basics of handling an iPad (open/close apps, navigate desktop, search apps, identify common apps, lock screen, save/open files, take a screenshot)
	Spring	
	Computer Science	**Vocab:**

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		Unit 1: Code, command, algorithm, sequence, start, stop, move, grow, shrink, repeat **Unit 2: Trigger, stop blocks, loops, movement, sprite, stage, move, upload, screenshot**
	Unit 1: Coding Required prior knowledge Children should know: • New learning	End point • To understand some basic coding commands (e.g. move, grow, shrink, repeat) using Daisy the Dino and Tynker Jr • To know that a command is an instruction • To know that computers follow (run) commands • To be able to put code into a logical sequence • To know that code can contain errors
	Unit 2: Coding Required prior knowledge Children should know: • What an algorithm is • How start and stop blocks are used in a sequence • Some basic coding commands	End point • To use Scratch Jr to create simple algorithms using trigger/stop blocks, loops and movement • To know what the stage is • To search and select backgrounds and sprites in a library and add them to the stage • To be able to remove unwanted code • To use logical reasoning to work out a task • To create simple algorithms in a sequence
	Summer	
	Digital Literacy and Information Technology	**Vocab:** **Unit 1: Home row, QWERTY, space bar, enter, typing, caps lock,**

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		Unit 2: Slideshow, run show, exit, slide layout, text box, bullet image, gradient **Web browser, search engine, key word search, rank, sponsored ads, search results, tab** **Unit 3: Flip, image editing, capture, range, angle, pano, slo-mo, portrait, landscape, filter**
	Unit 1: Typing Skills Required Prior knowledge Basics done in Autumn term.	End point • Building on basic understanding of keyboard • To learn the positions of the keys • To be able to improve typing speed • To be able to improve typing accuracy • To type keys beyond the home row using the correct fingers
	Unit 2: Presentations & Internet Skills Required prior knowledge Children should know: New learning	End point • To create a simple slideshow • To add a new slide to a presentation • To run and exit a show • To select layout options for a slide • To add and format text in a presentation • To format a background in a presentation • To add images to a presentation • To know what a web browser is • To know what a search engine is

			• To use a search engine to perform a key word search • To understand search results (category tabs, ranking filters) • To recognise sponsored ads • To find information and images online	
	<u>Unit 3: iPad cameras</u> <u>Required prior knowledge</u> Children should know: • How to use the camera feature How to take photographs		<u>End point</u> • To use the camera on an iPad to capture photos • To use 'pano' on a camera • To use 'slo-mo' on a camera • To use 'camera flip' to reverse a camera • and simple editing options. • To know and practice some photography techniques (angle, range, steady hand, focus) • To capture photos in portrait and landscape view • To apply filters to an image	
Adaptive Learning	**Communication & Interaction**	**Cognition & Learning**	**S/E/M Health**	**Physical & Sensory Needs**
	• Clear instructions given every lesson • Use of projector screen to demonstrate skills (teacher to stand in front to point out icons etc) • All technical vocabulary should be clearly explained • Start lessons with Q&A to ensure consolidation of knowledge from prior lesson	• Good use of classroom displays to showcase expected end product • Key words displayed around the room to reinforce technical language • Appropriate use of user-friendly apps with very visual interfaces eg pictorial icons • Use multimedia to teach eg videos and sound	• Encourage positive feedback on one another's work through seesaw comments • Seating plans in place to support less able children • Peer support encouraged during skills-based lessons (principle: if you know how to do something and your partner doesn't, help them	• A very practical subject that allows children to constantly work with their hands, listen to sounds etc • Use of keyboards, tablets, apple pencils and headphones -all very practical and sensory • Headphones with volume control to suit children's needs

	• Circulate the room regularly to monitor progress and interact with students • Ensure all children are keeping up to pace during teacher-led demonstrations. Always ensure children are ready before moving on to the next stage and encourage peer support in this	• Make full use of seesaw functions to enable children to express their own understanding through drawing and recorded audio • Many lessons involving multiple apps to help children remain focused – wide range of activities	before they request help from teacher). This creates a very nurturing environment in the room • Use headphones in lessons involving sound as noise levels can cause anxiety from some children, whilst others are calmed by the musical accompaniment in certain apps	• Strategically choose class monitors to help collect equipment or hand things out to get a movement break.

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Y2	Autumn	
	Information Technology and Digital Literacy	**Vocab:** **Unit 1: Annotation tools, text box, border, font options, upload, draw, emoji** **Unit 2: Pop-ups, chatrooms, block, report, reliability** **Unit 3: Shapes, text boxes, alignment, special effects, wrap text**
	Unit 1: IT skills in SeeSaw Required prior knowledge Children should know: • How to access SeeSaw using their class QR code • How to upload content to SeeSaw	End point • To use the 'drawing' interface in Seesaw to practice using the inbuilt annotation tools • To use the 'notes' feature in Seesaw to develop typing skills • To access the emoji keyboard to add illustrations • To use typing skills to create clues to Guess the alien
	Unit 2: Online Safety Required prior knowledge Children should know: • The SMART rules of online safety	End point • To know the dangers of pop-ups, web content and online chatrooms. • To understand how to block and report cyberbullies • To recognise that websites are not always reliable or trustworthy • To know that anyone can create a website
	Unit 3: Word processing Required prior knowledge	End point • To create and rename a document in Pages

	Children should know: • What the 'home row' is • How to change the font style, size and colour and add emphasis to text • How to use the return and delete keys when word processing • How to add a shape to a document • How to resize and rotate objects	• To add text and images to a document • To add text to a shape • To format a document with colour, font options and designs options (shadow, border, line style, line weight) • To use zoom to oversee a document layout • To make effective use of white space • To create posters using images, shapes and text • To know and use alignment options
	Spring	
	Computer Science	**Vocab:** **Unit 1: Coding, algorithm, sprite, stage, background, grid, shrink, grow, flip, speech, speed, trigger** **Unit 2: Coding, command, run, debug, format, slideshow, screenshot, import, transition**
	Unit 1: Coding Required prior knowledge Children should know: • How to create simple algorithms in Scratch Jr using start / stop blocks and movement blocks • How to select backgrounds and sprites in Scratch Jr	End point • To know that an algorithm is a set of step-by-step instructions • To use Scratch Jr to create an animation • To learn new commands to resize, flip, add speech, and change the speed of movement • To add additional scenes to an animation • To enable and disable stage gridlines to calculate distance • To set the start trigger to 'on tap'

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	Unit 2: Presentations and Coding Required prior knowledge Children should know: • How to create algorithms using a variety of commands in a logical sequence • How to create a simple slideshow with text and images	End point • To add screenshots of code (from Coding Safari) to a presentation and annotate them using text boxes • To format a presentation with effective fonts and use of colour. • To apply transition effects to a slideshow
	Summer	
	Information Technology and Computer Science	**Vocab:** **Unit 1: Comic, book, square, frames, gutters, speech, text, images, format, full screen** **Unit 2: Screenshot, upload, coding, algorithm, comment, annotate**
	Unit 1: Book Creator Required prior knowledge Children should know: • New learning	End point • "Animal Madness". To create a simple comic using Book Creator. • To use frames, speech/thought bubbles, text and images. • To format the gutters by adding colour and create images for the comic using backgrounds and sprites in the Scratch Jr library.
	Unit 2: Coding Required prior knowledge Children should know: • How to use a range of trigger blocks and basic end blocks	End point • To complete coding tasks in Tynker Jr and on Hour of Code • To screenshot code and upload to Seesaw

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			• To use the annotation tools and 'comment' features in Seesaw to show understanding.	
Adaptive Learning	**Communication & Interaction**	**Cognition & Learning**	**S/E/M Health**	**Physical & Sensory Needs**
	• Clear instructions given every lesson • Use of projector screen to demonstrate skills (teacher to stand in front to point out icons etc) • All technical vocabulary should be clearly explained • Start lessons with Q&A to ensure consolidation of knowledge from prior lesson • Circulate the room regularly to monitor progress and interact with students • \Ensure all children are keeping up to pace during teacher-led demonstrations. Always ensure children are ready before moving on to the next stage and encourage peer support in this	• Good use of classroom displays to showcase expected end product • Key words displayed around the room to reinforce technical language • Appropriate use of user-friendly apps with very visual interfaces eg pictorial icons • Use multimedia to teach eg videos and sound • Make full use of seesaw functions to enable children to express their own understanding through drawing and recorded audio • Many lessons involving multiple apps to help children remain focused – wide range of activities	• Encourage positive feedback on one another's work through seesaw comments • Seating plans in place to support less able children • Peer support encouraged during skills-based lessons (principle: if you know how to do something and your partner doesn't, help them before they request help from teacher). This creates a very nurturing environment in the room • Use headphones in lessons involving sound as noise levels can cause anxiety from some children, whilst others are calmed by the musical accompaniment in certain apps	• A very practical subject that allows children to constantly work with their hands, listen to sounds etc • Use of keyboards, tablets, apple pencils and headphones -all very practical and sensory • Headphones with volume control to suit children's needs • Strategically choose class monitors to help collect equipment or hand things out to get a movement break.

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Y3	Autumn	
	Information Technology and Digital Literacy	**Vocab:** **Unit 1: Format, font, font style, effects, Bluetooth, keyboard, touch typing, home row** **Unit 2: Logo, text box, pen, pencil, erase, magic pen, background, shapes, emoji, style, edit, delete** **Unit 3: Slide, run show, image, text, copy, paste, transparent, search filter, custom animation, transition, gradient**
	Unit 1: Typing skills Required prior knowledge Children should know: • What the 'home row' is • How to change the font style, size and colour and add emphasis to text • How to use the return and delete keys when word processing	End point • To use Bluetooth keyboards and understand that they use a wireless connection • To learn the basics of touch typing and the home row • To use an online learning site and follow audio and written instructions • To develop typing skills (finger positioning, speed, accuracy) • To use a keyboard to type up sentences in Pages • To format sentences to show a range of different font styles and effects

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	Unit 2: SeeSaw Required prior knowledge Children should know: • How to use the 'drawing' interface to practice using the inbuilt annotation tools. • How to use the 'notes' feature to develop typing skills by writing a short story. • How to access the emoji keyboard to add illustrations.	End point • To use the 'drawing' program to design a new class logo • To edit the style options of a text box • To use the 'notes' feature to type up a short story
	Unit 3: Presentations (and the internet) Required prior knowledge Children should know: • How to create a basic Keynote presentation • How to perform simple online searches • That not all websites are reliable	End point • To create a sports presentation and apply custom animations to text and images • To set a background colour to 'gradient' and adjust the direction • To apply custom animation to objects • To format images by applying special effects • To use the internet to research a topic • To copy and paste resources from the internet • To know what 'transparent' images are and understand their benefits • To use the search engine tools to filter transparent images

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	Spring	
	Computer Science	**Vocab:** **Unit 1: Coding, algorithm, loop, IF statements, syntax** **Unit 2: Sequences, debugging, loops, repeat** **Unit 3: Wait commands, broadcast, sequence, parallel coding**
	Unit 1: Coding in Tynker Required prior knowledge Children should know: • How to create simple algorithms in Scratch Jr using start / stop blocks and movement blocks • How to select backgrounds and sprites in Scratch Jr • How to complete coding tasks in Tynker Jr	End point • To be able to define an algorithm • To understand the importance of syntax and accuracy in coding • To understand the importance of detail in coding e.g. direction • To learn different loop options • To understand when and how IF statements are used • To develop debugging skills by fixing incorrect code
	Unit 2: Coding in Lightbot Required prior knowledge Children should know: • How to complete a range of coding activities in Space Cadets. • The different loop options and how to use IF statements • How to develop debugging skills by fixing incorrect code	End point • To use logical reasoning to design coding sequences • To use loops in coding • To be able to define 'debugging'

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	Unit 3: Coding in Scratch Jr Required prior knowledge Children should know: • How to create simple algorithms in Scratch Jr using start/stop blocks and movement blocks • How to select backgrounds and sprites in Scratch Jr • How to complete coding tasks in Tynker Jr	End point • To use wait commands to alter the timings of an animation • To use broadcasts within coding to trigger an action • To create coded animations that use parallel block sequences
	Summer	
	Information technology and Digital Literacy	**Vocab:** **Unit 1: Import, sketch, transparent canvas, fill options (solid, linear, radial, pattern), opacity, RGB, palette, slider, undo, history, FX, blend mode** **Unit 2: Range, focus, angle, foreground, background, frame, stickers, animation, layout, template, contrast**
	Unit 1: Digital art Required prior knowledge Children should know: • How to use a range of pen options within digital art • How to edit colours and pen size • How to use an eraser	End point • To be able to undo last action and undo history • Know how transparency is represented in digital art (checked pattern) • To know what a canvas is and a range of canvas options • To be able to import a background onto a blank canvas To edit clipart by adjusting colour FX (effects) and blend mode settings • To design and edit complex shapes using settings sliders and colour options (radial, linear, pattern, solid)

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	<u>Unit 2: Photography using iPads</u> <u>Required prior knowledge</u> Children should know: • How to use an iPad to capture images • Some basic image editing options to improve picture		<u>End point</u> • To develop photography skills to capture a range of related images • To access design templates within a software package • To add stickers and text boxes to a collage • To edit textbox options, including style, size and colour • To understand the need for colour contrasts when layering objects • To save an online project to a device	
Adaptive Learning	**Communication & Interaction**	**Cognition & Learning**	**S/E/M Health**	**Physical & Sensory Needs**
	• Clear instructions given every lesson • Use of projector screen to demonstrate skills (teacher to stand in front to point out icons etc) • All technical vocabulary should be clearly explained • Start lessons with Q&A to ensure consolidation of knowledge from prior lesson • Circulate the room regularly to monitor progress and interact with students	• Good use of classroom displays to showcase expected end product • Key words displayed around the room to reinforce technical language • Appropriate use of user-friendly apps with very visual interfaces eg pictorial icons • Use multimedia to teach eg videos and sound • Make full use of seesaw functions to enable children to express their own understanding through	• Encourage positive feedback on one another's work through seesaw comments • Seating plans in place to support less able children • Peer support encouraged during skills-based lessons (principle: if you know how to do something and your partner doesn't, help them before they request help from teacher). This creates a very nurturing environment in the room	• A very practical subject that allows children to constantly work with their hands, listen to sounds etc • Use of keyboards, tablets, apple pencils and headphones -all very practical and sensory • Headphones with volume control to suit children's needs • Strategically choose class monitors to help collect equipment or hand things out to get a movement break.

	• Ensure all children are keeping up to pace during teacher-led demonstrations. Always ensure children are ready before moving on to the next stage and encourage peer support in this	drawing and recorded audio • Many lessons involving multiple apps to help children remain focused – wide range of activities	• Use headphones in lessons involving sound as noise levels can cause anxiety from some children, whilst others are calmed by the musical accompaniment in certain apps	

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Y4	Autumn	
	Information Technology and Digital Literacy	**Vocab:** **Unit 1: Home row, speed, touch type, accuracy, typo** **Unit 2: Network, PAN/LAN/WAN, ethernet, fibre-optic, satellite, bandwidth, byte, binary, data transfer, topologies, IP address, URL** **Unit 3: input, output, process, devices, components, presentation, multimedia**
	Unit 1 – Typing skills <u>Required prior knowledge</u> Children should know: • The general layout of a QWERTY keyboard • How to position their fingers on the 'home row' • How to use common function keys	<u>End point</u> • To be able to type more letters/words whilst looking at the monitor • To increase typing speed • To improve typing accuracy
	Unit 2 – Networks <u>Required prior knowledge</u> Children should know: • What the internet is an how to access it • That computers can view websites through the internet	<u>End point</u> • To know what a network is and that computers can communicate with other devices • To know the difference between PANs, LANs and WANs

		• To know that digital data is transmitted via ethernet cables, fibre optic cables and satellites • To know some common network topologies (ring/bus/star/mesh) • To understand that computers communicate using binary code • To know various data sizes (byte, KB, MB, GB, TB)
	Unit 3 – PC basics <u>Required prior knowledge</u> Children should know: • That there are a variety of computing devices and peripherals • How to create a multi-media slideshow presentation	<u>End point</u> • To know the difference between input, process and output • To identify common input and output devices e.g. mouse, keyboard, monitor, printer • To understand the difference between hardware and software • To know some of the components that are found inside a computer e.g. motherboard, sound card and graphics card • To create a multimedia presentation using Keynote • To effectively use background colour, fonts, tables, images, transition effects and animation effects • To conduct effective and relevant image searches using tool options in Safari • To copy online images into a presentation
	Spring	
	Computer Science & Information Technology	**Vocab:** **Unit 1: Coding, algorithm, sprite, stage, flip, loop, parallel coding, freehand draw**

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		Unit 2: Coding, debugging, rotate, stage coordinates, costumes, trigger, broadcast, wait, resize, switch, forever
	Unit 1: Coding and Book Creator Required prior knowledge Children should know: • The key features of Coding • How to create a project using Scratch Jr	End point • To create and edit a range of sprites and backgrounds • To use the paint editing tools in Scratch Jr to add shapes and freehand drawing • To create a multi-scene animation using 'go to scene' end blocks • To insert screenshots into a digital book • To format a book effectively • To edit document detail settings
	Unit 2: Further Coding in Scratch 3.0 Required prior knowledge Children should know: • New learning (online version)	End point • To have a good understanding of common terms used in coding • To browse and select sprite costumes in an animation using 'switch costume' blocks • To understand how to position a sprite using coordinates • To be able to rotate and resize sprites • To use forever loops in an algorithm
	Summer	
	Information Technology and Computer Science	**Vocab:** **Unit 1: Pair, tools, pen, sketch, crayon, highlighter, pixel, RGB, opacity, pen-to-**

		text, freehand, typeface, shape recognition. Drawing guide, symmetry **Unit 2: Operators, variables, score, ask and wait, if/else, show/hide**
	Unit 1: Apple Pencil Required prior knowledge: Children should know: • New learning	End point • To pair an Apple Pencil to an iPad • To access and use the drawing tools in Apple notes • To know what pixels are • To rotate an Apple pencil to adjust eraser size • To know what opacity is and adjust opacity settings for a pen • To use the pen-to-text tool to convert freehand to typeface • To use shape recognition to create perfect shapes • To experiment with a range of brush effects • To use layers to trace images and adjust lower opacity • To use the drawing guide to insert lines of symmetry
	Unit 2: Quizzes (in Scratch 3.0 and kahoot) Required prior knowledge: Children should know: • How to use sprites and backgrounds • How to use movement and speech commands • How to switch sprite costumes	End point • To design and create a quiz in Scratch 3.0 To use conditionals within code • To add a score variable to an algorithm • To use operators within an algorithm • To use operators and variables to calculate a score • To create an interactive project that enables a user to enter data

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Adaptive Learning	**Communication & Interaction**	**Cognition & Learning**	**S/E/M Health**	**Physical & Sensory Needs**
	• Clear instructions given every lesson • Use of projector screen to demonstrate skills (teacher to stand in front to point out icons etc) • All technical vocabulary should be clearly explained • Start lessons with Q&A to ensure consolidation of knowledge from prior lesson • Circulate the room regularly to monitor progress and interact with students • Ensure all children are keeping up to pace during teacher-led demonstrations. Always ensure children are ready before moving on to the next stage and encourage peer support in this	• Good use of classroom displays to showcase expected end product • Key words displayed around the room to reinforce technical language • Appropriate use of user-friendly apps with very visual interfaces eg pictorial icons • Use multimedia to teach eg videos and sound • Make full use of seesaw functions to enable children to express their own understanding through drawing and recorded audio • Many lessons involving multiple apps to help children remain focused – wide range of activities	• Encourage positive feedback on one another's work through seesaw comments • Seating plans in place to support less able children • Peer support encouraged during skills-based lessons (principle: if you know how to do something and your partner doesn't, help them before they request help from teacher). This creates a very nurturing environment in the room • Use headphones in lessons involving sound as noise levels can cause anxiety from some children, whilst others are calmed by the musical accompaniment in certain apps	• A very practical subject that allows children to constantly work with their hands, listen to sounds etc • Use of keyboards, tablets, apple pencils and headphones -all very practical and sensory • Headphones with volume control to suit children's needs • Strategically choose class monitors to help collect equipment or hand things out to get a movement break.

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Y5	Autumn	
	Information Technology and Digital Literacy	**Vocab:** **Unit 1: Touch typing, 'home row', accuracy, speed, alternate keys, characters** **Unit 2: Cyberbullying, likes/dislikes, positive and negative impact, scroll addiction, text box, table, cell-formatting, header, footer** **Unit 3: Timings, multiple-choice, true/false, settings, embed video, trim**
	<u>Unit 1 – Typing skills</u> <u>Required prior knowledge</u> Children should know: • The general layout of a QWERTY keyboard • How to position their fingers on the 'home row' • How to use common function keys	<u>End point</u> • To be able to type more letters/words whilst looking at the monitor • To increase typing speed • To improve typing accuracy
	<u>Unit 2 – Digital wellbeing</u> <u>Required prior knowledge</u> Children should know: • That online habits affect people in different ways • How to identify strategies for developing healthy online habits	<u>End point</u> • To understand the positive and negative impact of technology on health, relationships, work and the environment. • To create an information sheet on Digital Wellbeing using text boxes, word art, tables, images, headers and footers

		• To format a document using a range of styles and techniques to make it more presentable • To add a header and footer to a document
	Unit 3 – Digital quizzes (Kahoot) Required prior knowledge Children should know: • How to play quizzes in Kahoot! • How to browse online videos and images	End point • To create a digital quiz using both multiple choice and true/false question options • To search for and insert relevant online images and videos to illustrate questions • To set appropriate timings for a quiz • To test the quiz on peers and understand the importance of audience feedback • To trim videos from YouTube
	Spring	
	Computer Science	**Vocab:** **Unit 1: Algorithm, sequence, functions, decomposition, iteration, abstraction** **Unit 2: 'Go to' coordinates, sensor touching colour, conditional statements, forever loop, stop all, variables**
	Unit 1: Coding in Tynker Required prior knowledge Children should know: • How to create algorithms • How to debug code • How to sort code into a sequence	End point • To use computational thinking when creating algorithms • To use decomposition and abstraction to improve coding • To create functions for an algorithm
	Unit 2: Advanced Coding	End point

	Required prior knowledge Children should know: • How to use sprites and backgrounds effectively • How to use if statements • How to use continual loops	• To create an interactive pong game in Scratch 3.0 • To use sensors within a game • To use IF statements within a game to allow for multiple outcomes • To use 'wait until' commands to provide a condition to an algorithm • To use audio commands within an algorithm • To control multiple sprites within an animation
	Summer	
	Information Technology & Digital Literacy	**Vocab:** **Unit 1: Pair, sketch, pen, select, erase, design, fill, canvas, blend, layer, pipette, alpha lock, layer mask, blend** **Unit 2: Frame, speed, play back, onion layers, convert, MP4, duplicate**
	Unit 1: Digital art using Apple pencils Required prior knowledge Children should know: • How to pair an Apple pencil to an iPad • How to use the touch sensitive tip effectively	End point • To use additional pen options such as calligraphy, fur, sketchy and stamp. • To drag and drop colours on to a canvas using an Apple pencil • To use the blend feature to manipulate a drawing • To understand the various colour palette options in Procreate and their individual benefits • To know what a pipette is and how to use it • To add layers to a piece of artwork • To use alpha lock to apply focused effects

			• To create animations using frames	
	Unit 2: Animation Required prior knowledge Children should know: • New learning (animation)		End point • To create a simple animation using several frames (photo stills) in Stop Motion • To create simple animations using animation assist in Procreate • To adjust the speed of an animation • To know what an onion layer is • To adjust the number of visible onion layers when designing an animation • To duplicate a layer and understand the benefits of this feature • To convert an animation into an MP4 video	
Adaptive Learning	**Communication & Interaction**	**Cognition & Learning**	**S/E/M Health**	**Physical & Sensory Needs**
	• Clear instructions given every lesson • Use of projector screen to demonstrate skills (teacher to stand in front to point out icons etc) • All technical vocabulary should be clearly explained	• Good use of classroom displays to showcase expected end product • Key words displayed around the room to reinforce technical language • Appropriate use of user-friendly apps with very visual interfaces eg pictorial icons	• Encourage positive feedback on one another's work through seesaw comments • Seating plans in place to support less able children • Peer support encouraged during skills-based lessons (principle: if you know	• A very practical subject that allows children to constantly work with their hands, listen to sounds etc • Use of keyboards, tablets, apple pencils and headphones -all very practical and sensory

	• Start lessons with Q&A to ensure consolidation of knowledge from prior lesson • Circulate the room regularly to monitor progress and interact with students • Ensure all children are keeping up to pace during teacher-led demonstrations. Always ensure children are ready before moving on to the next stage and encourage peer support in this	• Use multimedia to teach eg videos and sound • Make full use of seesaw functions to enable children to express their own understanding through drawing and recorded audio • Many lessons involving multiple apps to help children remain focused – wide range of activities	how to do something and your partner doesn't, help them before they request help from teacher). This creates a very nurturing environment in the room • Use headphones in lessons involving sound as noise levels can cause anxiety from some children, whilst others are calmed by the musical accompaniment in certain apps	• Headphones with volume control to suit children's needs • Strategically choose class monitors to help collect equipment or hand things out to get a movement break.

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Computing

Y6	Autumn	
	Information Technology and Digital Literacy	**Vocab:** **Unit 1: Touch typing, 'home row', accuracy, speed, alternate keys, characters** **Unit 2: Digital footprint, hyperlinks, transition, animation, social media, cyberbullying, block, report, privacy settings, scroll addiction, grooming, subscriptions, SPAM, catfishing, notifications, locator services, disable, enable**
	Unit 1 – Typing skills Required prior knowledge Children should know: • The general layout of a QWERTY keyboard • How to position their fingers on the 'home row' • How to use common function keys	End point • To be able to type more letters/words whilst looking at the monitor • To increase typing speed • To improve typing accuracy
	Unit 2 – Presentations and online safety	End point • To understand what a digital footprint is

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	<u>Required prior knowledge</u> Children should know: • That online platforms present risks • That people can be bullied online • How to create a multimedia presentation with text, images, tables and transitions	• To identify a range of social media applications, including WhatsApp, SnapChat, YouTube and Instagram • To identify some potential risks when using social media, such as cyberbullying, unwanted subscriptions, grooming and catfishing privacy settings • To know what targeted marketing is • To know what notifications are and the advantages/disadvantages of enabling/disabling them • To know there are laws regarding social media, including age restrictions age • To customise animation setting in a presentation (automatic/click/with/after/ timer) • To create text and image hyperlinks to navigate a presentation
	Spring	
	Computer Science	**Vocab:** **Unit 1: Algorithm, sequence, functions, decomposition, iteration, nested loops** **Unit 2: Logical reasoning, computational thinking, screenshots, caption**
	<u>Unit 1 - Coding in swift</u> <u>Required prior knowledge</u> Children should know: • How to create complex algorithms using functions and loops • How to test and debug their code	<u>End point</u> • To use a touchscreen to navigate an online world • To understand the benefits of eliminating unnecessary code • To create complex functions to complete multiple tasks • To use nested loops in an algorithm • To use IF statements in an algorithm
	<u>Unit 2 – Coding in SpriteBox</u>	<u>End point:</u>

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	<u>Required prior knowledge</u> Children should know: • How to create complex algorithms using functions and loops • How to test and debug their code • How to create a book in Book Creator using backgrounds, text and images	• To complete several coding challenges in SpriteBox using computational thinking and logical reasoning • To design an avatar • To design and create a user guide in Book Creator • To add and delete pages in an e-Book • To use titles and captions to add text to a page
	Summer	
	Information Technology and Computer Science	**Vocab:** **Unit 1: Digital art, blur, noise, liquify, freeform snapping, hold** **Unit 2: Trailer, edit, screen record, storyboard, trim, clip, drop down menu, close-up, wide, action, landscape** **Unit 3: Pair, connect, flash, reset, LED**
	<u>Unit 1: Procreate (advanced)</u> <u>Required prior knowledge</u> Children should know: • How to use the touch sensitive tip effectively • How to use various pen tools • How to use the blend feature and colour palette	<u>End point</u> • To develop digital art skills by creating more complex designs in procreate. • To use a range of adjustment options to blur, add noise and liquify a drawing • To use freeform snapping and hold in animations
	<u>Unit 2: Making iMovies</u> <u>Required prior knowledge</u> Children should know: • How to capture video using an iPad	<u>End point</u> • To create a movie trailer in iMovie using the video camera and online screen record

			• To enable screen record within the control centre of an iPad • To mute/unmute the microphone when using screen record • To use the screen record feature to copy clips from online videos • To use trim to remove unwanted video at the start/end of a clip • To edit the 'outline' text for a trailer and use drop down menus to access further options • To insert video files from a device into a storyboard • To know a range of clip options (close-up, landscape, wide, action)	
	<u>Unit 3: Programming Micro:Bits</u> <u>Required prior knowledge</u> Children should know: • New learning		<u>End point</u> • To pair a Micro:Bit to an iPad • To connect the essential components of a Micro:Bit • To program a Micro:Bit using various triggers and commands • To flash messages to a Micro:Bit • To control LED lights and operate a traffic light model through code commands	
Adaptive Learning	**Communication & Interaction**	**Cognition & Learning**	**S/E/M Health**	**Physical & Sensory Needs**
	• Clear instructions given every lesson • Use of projector screen to demonstrate skills (teacher to stand in front to point out icons etc)	• Good use of classroom displays to showcase expected end product • Key words displayed around the room to reinforce technical language	• Encourage positive feedback on one another's work through seesaw comments • Seating plans in place to support less able children	• A very practical subject that allows children to constantly work with their hands, listen to sounds etc • Use of keyboards, tablets, apple pencils

	• All technical vocabulary should be clearly explained • Start lessons with Q&A to ensure consolidation of knowledge from prior lesson • Circulate the room regularly to monitor progress and interact with students • Ensure all children are keeping up to pace during teacher-led demonstrations. Always ensure children are ready before moving on to the next stage and encourage peer support in this	• Appropriate use of user-friendly apps with very visual interfaces eg pictorial icons • Use multimedia to teach eg videos and sound • Make full use of seesaw functions to enable children to express their own understanding through drawing and recorded audio • Many lessons involving multiple apps to help children remain focused – wide range of activities	• Peer support encouraged during skills-based lessons (principle: if you know how to do something and your partner doesn't, help them before they request help from teacher). This creates a very nurturing environment in the room • Use headphones in lessons involving sound as noise levels can cause anxiety from some children, whilst others are calmed by the musical accompaniment in certain apps	and headphones -all very practical and sensory • Headphones with volume control to suit children's needs • Strategically choose class monitors to help collect equipment or hand things out to get a movement break.