Computing Curriculum Overview – 25-26

Long Term Plan

	Aut1	Aut2	Spr1	Spr2	Sum1	Sum2
F1	All aspects of the curriculum are delivered 'in the moment' using opportunities during the children's exploration and learning. Examples of everyday opportunities that extend the children's knowledge and understanding of the uses of technology to help us in our lives -					
F2	Information technology Computer science Digital literacy	Information technology Digital literacy	Information technology	Information technology Computer science	Information technology	Information technology
Year 1	Technology around us	Digital Painting	Digital Writing	Basic digital skills – typing	Moving a robot	Introduction to animation
Year 2	Technology around us	Digital Painting	Digital writing Y2	Basic digital skills – typing	Moving a robot	Introduction to animation
Year 3/4	Computer systems and networks Y3	Creating media stop frame animation Y3	Sequence in music Y3	Basic digital skills – using PowerPoint	Events and actions Y3	Repetition in shapes Y3
Year 4/5	Sharing information Y5	Audio/ photo editing Y4	Vector drawing Y5	Data logging/ microbits Y4/5	Selection in physical computing Y5	Repetition in games/ quizzes Y4/5
Year 5/6	Communication Y6	3D Modelling Y6	Web page creation Y6	Variables in games Y6	Sensing Y6	Mircobits Y6

Digital literacy Information technology Computer science

Subject Progression

<table>
<tr><th></th><th>Aut1</th><th>Aut2</th><th>Spr1</th><th>Spr2</th><th>Sum1</th><th>Sum2</th></tr>
<tr><td rowspan="5">F1</td><td colspan="6">• Children help the adult load the dirty puddle suits into the washing machine and select the correct programme pressing buttons/dial
• During baking sessions measuring using electronic scale, setting timer on microwave and electronic timer.
• Asking Google when we have a question and selecting e.g. images on interactive board
• Cd player – songs play and stop button
• Bin lorry/delivery trucks – observing the control panel and how used to operate the grabber etc
• Completing the register on the iPad to send via internet to ladies in office to save walking there!
• Torches – recharging after use

In addition, some adult planned experiences are used as appropriate and linked to children's needs and interests
• Bee bot robots
• Using Word and keyboard on a laptop</td></tr>
<tr><td colspan="6">Why this and why now?</td></tr>
<tr><td colspan="6">In the moment activities as the occur while the children spend time in FS1. Teaching children from a very young age about technology is all around us and used in many everyday aspects as and when possible.</td></tr>
<tr><td colspan="6">Vocabulary and key concepts</td></tr>
<tr><td colspan="6">Push, on, off, up, down, switch, move, start, stop, go, forward, backward, turn.</td></tr>
<tr><td rowspan="2">F2</td><td>iPad-using the camera – to take selfies and compare to friends. Instructions can be verbal, pictorial, written, programmed – Use google maps on IWB.
How have appliances changed – what technology is in our home/school?</td><td>iPad-using the camera to take own autumn natural collage

Make an animal costume for beebot – explore how to use a beebot.</td><td>Laptops – logon to laptop using Teams password. Use paint to create winter scene or animal picture</td><td>Use IWB to create/draw pictures – link to maths or UW
Use beebots to move around our buildings – programme for a purpose.</td><td>Laptops – find google – use search to find information about minibeasts</td><td>iPad – to retrieve information about farming or transport</td></tr>
<tr><td colspan="6">Why this and why now?</td></tr>
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	The children have experiences using technology for a purpose rather than playing games or watching videos. Can follow instructions using the images	Using the Ipad for a purpose has to make sure they get the object in the picture. Learning that things only move if they are given instructions in a program.	Children may have never seen a laptop before and know how to use one. It is important that they have opportunities to use these as they will sue frequently as they move through school.	Continuing their gross motor skills and using the IWB to draw objects linking to maths learning. Recognising that their mark will transfer to the board using technology.	Continuing their skills by logging onto a device and then using their knowledge to search for objects. Understanding that they need to tell the computer what they wish to search for by typing in the box.	Building on their skills and searching for information. These basic skills will build as the children work through the school.
	Vocabulary and key concepts					
	Button, iPad, on, off, switch, point, image, object, selfie, instruction, follow, way, programme, map, direction, technology, appliance washing machine.	Image, object, button, see, beebot, move, forward, backward, on, off.	Laptop, on, button, switch, letters, numbers, user, password, initials, date of birth, paint, brush, colour, copy, create, new, open.	Interactive whiteboard, draw, design, lines, colour, piece, picture, create, object, maths, number. Move, forward, backward, program, move, left, right, on, off, straight, curve, around.	Word, letters, search, minibeast, home, colour, look, input, find.	Retrieve, find, search, look, input, ask, farming, tractor, animals,
Y1	**Technology around us** Recognising technology in school and using it responsibly.	**Digital Painting** Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally.	**Digital Writing** Using a computer to create and format text, before comparing to writing non-digitally.	**Grouping Data** Exploring object labels, then using them to sort and group objects by properties.	**Moving a robot** Writing short algorithms and programs for floor robots, and predicting program outcomes.	**Introduction to animation** Designing and programming the movement of a character on screen to tell stories.
	Why this and why now?					
	To teach children that in the world thy grow in there is so much useful technology. Build on knowledge learned in EYFS	Introducing our technology can have many uses. Build on knowledge learned in EYFS	Understand that we can input information. We can use many tools. Build on knowledge learned in EYFS	Understanding data and how it can be in many forms. Build on knowledge learned in EYFS	Begin learning about algorithms and programming objects. Build on knowledge learned in EYFS	To start to understand that we can program things to move objects. Build on knowledge learned in EYFS
	Vocabulary and key concepts					

	Technology, help, support, desk, computer mouse/trackpad, keyboard, screen, click, drag, double click, input, device, shift, space bar, capital letter, full stop, safely, responsibly, computer, technology.	paint program, tool, paintbrush, erase, fill, undo, Piet Mondrian, primary colours, shape tools, line tool, fill tool, undo tool, Henri Matisse, shape tool, fill tool, Wassily Kandinsky, tools, feelings, colour, brush style, Georges Seurat, Pointillism, brush size, p, painting, computers.	Word processor, keyboard, keys, letters, Microsoft Word, Google Docs, Teams, account, numbers, space, backspace, text cursor, capital letters, toolbar, bold, italic, underline, mouse, cursor, select, font, undo.	Object, label, group, search, image, property, colour, size, shape, data set, value, more, less, most, fewest, the same.	ScratchJr, Bee-Bot, command, sprite, compare, programming, programming area, Block, joining, command, start block, run, program, programming area, background, delete, reset, algorithm, predict, effect, change, value, block, Instructions, sprite, delete, program, algorithm, appropriate, design.	Forwards, backwards, turn, clear, go, commands, Instructions, directions, Left, right, turn, plan, algorithm, program, route.
Y2	**IT around us** Identifying IT and how its responsible use improves our world in school and beyond.	**Digital photography** Capturing and changing digital photographs for different purposes.	**Making music** Using a computer as a tool to explore rhythms and melodies, before creating a musical composition.	**Pictograms** Collecting data in tally charts and using attributes to organise and present data on a computer.	**Robot algorithms** Creating and debugging programs, and using logical reasoning to make predictions.	**Introduction to quizzes** Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.
	Why this and why now?					
	Building on the knowledge and uses of technology in the wider world.	Teaching children the uses of photography and how we can use them in different ways to capture objects.	Building on their knowledge and skills using a computer. Linking to their music knowledge and supporting their learning.	Beginning to understand how we collect and analyse data. Linking tot their maths.	Builds on the learning from the previous year group	Builds on the learning from the previous year group and also Robot algorithms.
	Vocabulary and key concepts					
	Information technology (IT), computer, barcode, scanner/scan.	Device, camera, photograph, capture, image, digital, Landscape, portrait,	Music, planets, Mars, Venus, war, peace, quiet, loud, feelings, emotions, pattern,	More than, less than, most, least, organise, data, object, tally chart, votes, total, pictogram,	Instruction, sequence, clear, unambiguous, algorithm,	Sequence, command, program, run, program, start, outcome, predict,

		horizontal, vertical, field of view, narrow, wide, format, framing, focal point, subject matter, compose, natural lighting, artificial lighting, flash, focus, background, editing, tools, colour, filter, images, Pixlr, changed, real.	rhythm, pulse, Neptune, pitch, tempo, rhythm, notes, instrument, create, emotion, pulse/beat, open, edit.	enter, data, tally chart, compare, count, explain, more, less, most, least, more common, least common, attribute, group, same, different, most popular, least popular, conclusion, sharing, data, block data.	program, order, commands, artwork, design, route, mat, debugging.	blocks, sprite, algorithm, blocks, design, sequence, actions, sprite, blocks, design, modify, change, match, compare, design, debug, program, features, evaluate.
Y3/4	**Connecting computers** Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks.	**Animation** Capturing and editing digital still images to produce a stop-frame animation that tells a story.	**Sequence in music** Creating sequences in a block-based programming language to make music.	**Basic digital skills – PowerPoint** To understand how to create PowerPoint documents and how to save them and edit them.	**Events and actions** Writing algorithms and programs that use a range of events to trigger sequences of actions.	**Repetition in shapes** Manipulating digital images, and reflecting. on the impact of changes and whether the required purpose is fulfilled.
	Why this and why now?					
	To begin to learn about the way computers work. To ensure the curriculum is followed and built upon.	A new element to media use with a computer. Developing new skills.	Continuing the use of computers to make media can link their programming skills to create this.	Becoming digital literate using other Microsoft applications to create documents. Building the children's knowledge of other skills available to them on a device.	Continuing to develop their programming skills and become familiar with the technical vocabulary used on Scratch.	This is progressive and particular words and concepts are taught in a progressive order.
	Vocabulary and key concepts					
	Digital device, input, output, process, program, connection, network, network switch, server, WAP wire access point.	Animation, flip book, stop-frame animation, frame, sequence, image, photograph, setting, character, events, stop frame animation, onion skinning, consistency, delete, frame, evaluating, media, import, transition.	Scratch, programming, blocks, commands, code, sprite, costume, stage, backdrop, programming blocks, motion, turn, point in direction, go to, glide, sequence, event, task, design, code, run the code, sequence,	Slides, PowerPoint, icon, open, new slides, insert, animation, home, add picture, add image, add table, each tab shows different things to help edit the slide.	Motion, event, sprite, algorithm, logic, resize, algorithm, move, extension block, pen up, set up, event, action, debugging, errors, setup, design, code, set up, test, debug.	Code snippet, program, turtle, commands, algorithm, design, logo, debug, Pattern, repeat, repetition, count-controlled loop, algorithm, value, repeat, repetition, count-controlled loop, trace, value, repeat,

			order, note, chord, algorithm, bug, debug.			count controlled loop, decompose, procedure,
Yr 4/5	**Sharing information** Identifying and exploring how information is shared between digital systems.	**Audio/photo Editing** Capturing and editing audio to produce a podcast, ensuring. that copyright is considered. Using a text-based programming language to explore. count-controlled loops when drawing shapes.	**Vector drawing** Creating images in a drawing program by using layers and groups of objects.	**Data logging** Recognising how and why data is collected over time, before using data loggers to carry out an investigation.	**Selection in physical computing** Exploring conditions and selection using programmable microcontroller.	**Repetition in games** Using a block-based programming language to explore. count-controlled and infinite loops when creating a game.
	Why this and why now?					
	Progressive as children move u to UKS2	To develop progressive skills using media types to edit audio and photos.	Progression within the media strand form digital literacy.	To progress with the new skills and what information is logged with this equipment.	Combining the elements previously taught and progressing to add more age-appropriate curriculum.	Building on sequences and using repetition. Progressing the skills in computer science.
	Vocabulary and key concepts					
	. System, connection, digital, input, process, output, protocol, address, packet, chat, explore, slide deck, reuse, remix, collaboration.	Image, edit, arrange, select, digital, crop, undo, copyright, composition, edit, save, pixels, crop, rotate, flip, image, adjustments, effects, colours, hue/saturation, sepia, save, version, illustrator, vignette, retouch, clone, recolour, magic wand, select, adjust, sharpen, brighten, fake, real,	Vector, drawing tools, shapes, object, icons, toolbar, move, resize, colour, rotate, duplicate/copy, organise, zoom, select, rotate, object, alignment grid, resize, handles, consistency, modify, layers, object, front, back, order, Copy, paste, group, ungroup, duplicate, object, vector drawing,	Data, table (layout), input device, sensor, data logger, logging, data point, interval, data set, import, export, analyse, logged, collection, review, conclusion.	Microcontroller, Crumble controller, components, LED, sparkle, crocodile clips, connect, battery box, program, repetition, infinite loop, count controlled loop, condition, true, false, input, output devices,	Scratch, programming, sprite, blocks, code, loop, repeat, value, block, repeat, forever, infinite loop, count-controlled loop, costume, repetition, animate, costume, event block, duplicate, block, modify, design, sprite, algorithm, debug, refine, evaluate.

		composite, cut, copy, paste, alter, background, foreground, publication, elements, original, font style, shapes, border, layer.	reuse, Improvement, evaluate, alternatives.		selection, condition, action, Task, design, selection, repetition, condition, action, microcontroller, Crumble controller, output devices, motor, LED, sparkle, switch, crocodile clips, battery box, debug, evaluate.	
Y 5/6	**Communication Y6** Understand how data is transferred over the internet.	**3D Modelling** To use a computer to produce 3D models.	**Web page creation** To learn how different websites are created	**Variables in games** To make games using Scratch	**Sensing** To combine programming skills	**Microbits** A unit introducing the concept on Microbits
	Why this and why now?					
	To understand how we communicate with others and how this can be more efficient than other ways. As they get older. This will become more regular with online homework.	To understand that a computer has many other functions. Use of application Tinkercad to create this. Key skill before moving to secondary schools where they will complete lesson in product design.	To become more aware of the different websites and be able to make sensible decisions. Prepare children for KS3 computing.	To build on current learning and progressive understanding of scratch.	Progressive unit from previous learning providing more opportunity for development of content learn in previous years.	-To prepare children for KS3 computer science and to develop their skills they have learnt using Scratch and SctrachJR.
	Vocabulary and key concepts					

	Communication, software, hardware, internet, transferring, data, packets, sharing, receiving, safe, content.	resize, rotate, duplicate, group, objects 3D, design skill, create, combine, computer design, architecture, plan building.	HTML, code, website, evaluate, create, design, adapt, function, audience, purpose,	Scratch, programming, sprite, blocks, code, loop, repeat, value, block, repeat, forever, infinite loop, count-controlled loop, costume, repetition, animate, costume, event block, duplicate, block, modify, design, sprite, algorithm, debug, refine, evaluate.	Scratch, programming, sprite, blocks, code, loop, repeat, value, block, repeat, forever, infinite loop, count-controlled loop, costume, repetition, animate, costume, event block, duplicate, block, modify, design, sprite, algorithm, debug, refine, evaluate.	Variables, input, command, timer, algorithm, code, effective, code, modify, adapt, solve,