



Year 1	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Computing focus	Computing systems and networks	Creating Media	Creating Media	Programming A	Programming B	Data and information
Unit Overview, lesson plans and resources in Computing folder	Technology around us Recognising technology in school and using it responsibly.	Digital writing Using a computer to create and format text, before comparing to writing non-digitally.	Digital painting Choosing appropriate tools in a program to create art and making comparisons with working non-digitally	Moving a robot Writing short algorithms and programs for floor robots and predicting program outcomes.	Programming animations Designing and programming the movement of a character on screen to tell stories.	Grouping data Exploring object labels, then using them to sort and group objects by properties.
Link to National Curriculum	Recognise common uses of information technology beyond school	Use technology purposefully to create, organise, store, manipulate and retrieve digital content		Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Recognise common uses of information technology beyond school
Vocabulary Progression	technology, computer, mouse, trackpad, keyboard, screen, double-click, typing.	paint program, tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool, undo tool, colour, brush style, brush size, pictures, painting, computers word processor, keyboard, keys, letters, type, numbers, space, backspace, text cursor, capital letters, toolbar, bold, italic, underline, mouse, select, font, undo, redo, format, compare, typing, writing.		Bee-Bot, forwards, backwards, turn, clear, go, commands, instructions, directions, left, right, route, plan, algorithm, program.	ScratchJr, command, sprite, compare, programming, area, block, joining, start, run, program, background, delete, reset, algorithm, predict, effect, change, value, instructions, design.	object, label, group, search, image, property, colour, size, shape, value, data set, more, less, most, fewest, least, the same
Notes and equipment	iPads or laptops Some of this is unplugged off computer PC to explore the keyboard and practise typing	Digital Writing focuses on the keyboard, Capital letters and so on can use skills to write about Could use Purple mash arrow keys game , typing quiz etc	2 Paint Pupils to draw using Purple Mash, teachers can use the resources in the NCCE folder to teach skills to create a digital self portraits	Beebots Floor mats Links to Mr Posthouse etc Can also use beebot app on iPad Instructions	iPad and ScratchJr app Journey themed animations	No Tech equipment needed to teach but physical objects to sort could link to sorting shapes numbers
Online safety Lesson plans from Common Sense media NC aim: 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.	Pause for people How do you say goodbye to technology when you don't want to?				Safety in my online neighbourhood How do you go places safely online?	Media balance is important. How do we find a happy balance between our online and offline activities



Year 2	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Computing focus	Computing systems and networks	Creating Media	Creating Media	Programming A	Programming B	Data and information
Unit Overview, lesson plans and resources in Computing folder	Information technology 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	Robot algorithms Creating and debugging programs and using logical reasoning to make predictions	Programming quizzes Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.	Pictograms Collecting data in tally charts and using attributes to organise and present data on a computer.
Link to National Curriculum	Recognise common uses of information technology beyond school	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs	Use technology purposefully to create, organise, store, manipulate and retrieve digital content		
Vocabulary Progression	Information technology (IT), computer, barcode, scanner/scan	device, camera, photograph, capture, image, digital, landscape, portrait, framing, subject, compose, light sources, flash, focus, background, editing, filter, format, framing, lighting,	music, quiet, loud, feelings, emotions, pattern, rhythm, pulse, pitch, tempo, rhythm, notes, create, emotion, beat, instrument, open, edit.	instruction, sequence, clear, unambiguous, algorithm, program, order, prediction, artwork, design, route, mat, debugging, decomposition	sequence, command, program, run, start, outcome, predict, blocks, design, actions, sprite, project, modify, change, algorithm, build, match, compare, debug, features, evaluate, decomposition, code.	more than, less than, most, least, common, popular, organise, data, object, tally chart, votes, total, pictogram, enter, data, compare, objects, count, explain, attribute, group, same, different, conclusion, block diagram, sharing
Notes and equipment	Mostly unplugged activities, some PowerPoint sorting out tech activities that could be done as a whole class on whiteboard. Lesson 5 make a poster about rules for a device – Use 2 Publish (laptop or iPad) Lesson 6 carousel of different activities for children to rotate around including 2 non tech activities to teach about balance – iPads	Taking photos outside Finding living things Lessons suggest using Pixlr App (should be on all iPads) if not available use image editing in photos app on iPad iPads	https://musiclab.chromeexperiments.com/ iPads or Laptops	Using Beebots /Beebot app and 2go on Purple Mash. Beebot can travel around maps pf Chipperfield or Maps of London	iPads Scratch Jr create an interactive quiz about where animals live	Use 2Count on Purple Mash iPads or laptops
Online safety Lesson plans from Common Sense media NC aim: 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.		<u>Privacy and security</u> How do you stay safe when visiting a website or app?	<u>Pause and Think online</u> How can we be safe, responsible, and respectful online?			<u>Media balance & Well being</u> Why is it important to listen to your feelings when using technology?



Year 3	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Computing focus	Computing systems and networks	Creating Media	Creating Media	Programming A	Programming B	Data and information
Unit Overview, lesson plans and resources in Computing folder	Connecting Computers Identifying that digital device have inputs, processes, and outputs, and how devices can be connected to make networks.	Desktop publishing Creating documents by modifying text, images, and page layouts for a specified purpose.	Stop-frame animation Capturing and editing digital still images to produce a stop-frame animation that tells a story.	Sequencing sounds Creating sequences in a block-based programming language to make music	Events and actions in programs Writing algorithms and programs that use a range of events to trigger sequences of actions.	Branching databases Building and using branching database to group objects using yes/no questions.
Link to National Curriculum	Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information		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
Vocabulary Progression	digital device, input, process, output, program, digital, non-digital, connection, network, switch, server, wireless access point, cables, sockets	text, images, advantages, disadvantages, communicate, font, style, landscape, portrait, orientation, placeholder, template, layout, content, desktop publishing, copy, paste, purpose, benefits.	animation, flip book, stop-frame, frame, sequence, image, photograph, setting, character, events, onion skinning, consistency, evaluation, delete, media, import, transition.	Scratch, programming, blocks, commands, code, sprite, costume, stage, backdrop, motion, turn, point in direction, go to, glide, sequence, event, task, design, run the code, order, note, chord, algorithm, bug, debug, code.	motion, event, sprite, algorithm, logic, move, resize, extension block, pen up, set up, pen, design, action, debugging, errors, setup, code, test, debug, actions.	attribute, value, questions, table, objects, branching, database, objects, equal, even, separate, structure, compare, order, organise, selecting, information, decision tree.
Notes and equipment	Lots of off computer tasks Lesson 3 Use of Purple Mash art or writing tools for the computer-based task; 2Paint, 2PaintAPicture, 2CreateAStory, 2Publish. Lessons 5 and 6 Purple Mash quizzes. These include further content regarding hardware as well as networks, inputs and outputs; Some quizzes to try as assessment at end of lessons in purple mash could be set as 2 dos Hardware Quiz Networks Quiz Networks Labelling Transferring files iPad or laptops	Creating a leaflet about Stone age etc designed on a laptop using Adobe Spark and this is reflected in the screenshots and videos. Teachers may decide to use the Purple Mash 2 publishplus readymade templates to discuss and fill in Pupils to use blank template to make own template at end of unit or other software such as Microsoft Publisher. iPads or Laptops	Stop frame animations about World war two – use Stop motion app on ipad	Scratch online. laptops or iPads	Scratch online. laptops or iPads	Use 2 branch o purple mash Could use the lesson plans in Purple mash on 2 Branch https://www.purplemash.com/#tab/teachers/computing_sow/computing_sow_v3/computing_sow_v3_3-6 iPad or laptops
Online safety Lesson plans from Common Sense media NC aim: 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.	News and media literacy How can you give credit for other people's work?	Introduction - We are digital citizens How can we be good digital citizens?	Media balance and wellbeing Why is it important to have device-free moments in our lives?	Internet safety week Monday 7 th – Friday 11 th February assemblies and activities planned Privacy and security What kinds of information should I keep to myself when I use the internet?	Relationships and communication How are we all part of an online community? Cyberbullying What should you do if someone is mean to you online?	Digital footprints and identity What information is OK to have in your digital footprint?



Year 4	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Computing focus	Computing systems and networks	Creating Media	Creating Media	Programming A	Programming B	Data and information
Unit Overview, lesson plans and resources in Computing folder	The internet Recognising the internet as a network of networks including the WWW, and why we should evaluate online content.	Photo editing Manipulating digital images and reflecting on the impact of changes and whether the required purpose is fulfilled.	Audio editing Capturing and editing audio to produce a podcast, ensuring that copyright is considered.	Repetition in shapes Using a text-based programming language to explore loops when drawing shapes	Repetition in games Using a block-based programming Language to explore count-controlled and infinite loops when creating a game.	Data logging Recognising how and why data is collected over time, before using data loggers to carry out an investigation.
Link to National Curriculum	Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information		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
Vocabulary Progression	internet, network, router, security, switch, server, wireless access point (WAP), website, web page, web address, routing, web browser, World Wide Web, content, links, files, use, download, sharing, ownership, permission, information, accurate, honest, content, adverts	image, edit, digital, crop, rotate, undo, save, adjustments, effects, colours, hue, saturation, sepia, vignette, image, retouch, clone, select, combine, made up, real, composite, cut, copy, paste, alter, background, foreground, zoom, undo, font.	audio, microphone, speaker, headphones, input device, output device, sound, podcast, edit, trim, align, layer, import, record, playback, selection, load, save, export, MP3, evaluate, feedback.	Logo (programming environment), program, turtle, commands, code snippet, algorithm, design, debug, pattern, repeat, repetition, count-controlled loop, value, trace, decompose, procedure.	Scratch, programming, sprite, blocks, code, loop, repeat, value, infinite loop, count-controlled loop, costume, repetition, forever, animate, event block, duplicate, modify, design, algorithm, debug, refine, evaluate.	data, table, layout, input device, sensor, logger, logging, data point, interval, analyse, dataset, import, export, logged, collection, review, conclusion.
Notes and equipment	Exploring websites, what makes the internet and so on, important to emphasise to pupils that it's important to understand HOW the internet works . Could use some of the purple mash quizzes for year 4 Hardware Quiz Lesson 4 uses https://musiclab.chromeexperiments.com/	Photo editing – can use a current topic Pixlr app Or free online editor – https://www.photopoea.com/ iPads .	Garage band on ipads	Purple Mash 2logo Can adapt the lessons or use Purplemash year 4 lessons https://www.purplemash.com/#tab/teachers/computing_sow/computing_sow_y4/computing_sow_y4_4-5 Laptops or iPads	Scratch Laptops or iPads	Arduino science lab app Rather than use lesson plans choose some of these https://shorturl.at/ezMU3
Online safety Lesson plans from Common Sense media NC aim: 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.	<u>Privacy and security</u> How can a strong password help protect your privacy?	<u>Cyberbullying</u> What should you do when someone uses mean or hurtful language on the internet?	<u>Media balance and wellbeing</u> How do digital citizens take responsibility for themselves, their communities and their world?	<u>Relationships and communication</u> What makes a strong online community?	<u>News and media literacy</u> Why do people alter digital photos and videos?	<u>Digital footprints and identity</u> How does what I post online affect my identity?



Year 5	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Computing focus	Computing systems and networks	Creating Media	Creating Media	Programming A	Programming B	Data and information
Unit Overview, lesson plans and resources in Computing folder	Sharing information Identifying and exploring how information is shared between digital systems.	Video editing Planning, capturing, and editing video to produce a short film. objects.	Vector drawing Creating images in a drawing program by using layers and groups of	Selection in physical computing Exploring conditions and selection using a programmable microcontroller	Selection in quizzes Exploring selection in programming to design and code an interactive quiz. laptops	Flat-file databases Using a database to order data and create charts to answer questions.
Link to National Curriculum	Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information		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
Vocabulary Progression	system, connection, digital, input, process, storage, output, search, search engine, refine, index, bot, ordering, links, algorithm, search engine optimisation (SEO), web crawler, content creator, selection, ranking.	video, audio, camera, talking head, panning, close up, video camera, microphone, lens, mid-range, long shot, moving subject, side by side, angle (high, low, normal), static, zoom, pan, tilt, storyboard, filming, review, import, split, trim, clip, edit, reshoot, delete, reorder, export, evaluate, share.	vector, drawing tools, object, toolbar, vector drawing, move, resize, colour, rotate, duplicate/copy, zoom, select, align, modify, layers, order, copy, paste, group, ungroup, reuse, reflection	microcontroller, USB, components, connection, infinite loop, output component, motor, repetition, count-controlled loop, Crumble controller, switch, LED, Sparkle, crocodile clips, connect, battery box, program, condition, Input, output, selection, action, debug, circuit, power, cell, buzzer	Selection, condition, true, false, count-controlled loop, outcomes, conditional statement, algorithm, program, debug, question, answer, task, design, input, implement, test, run, setup, operator	database, data, information, record, field, sort, order, group, search, value, criteria, graph, chart, axis, compare, filter, presentation.
Notes and equipment	Lots of talking about the internet but some good templates in purple mash https://www.purplemash.com/#app/pup/transferringfiles_betweendevices for write ups Pupils could make a shared blog rather than a slide deck and use 2Connect or 2Write to plan collaboratively what their blog post will be about	Videos based on the piano Use iMovie on iPads	Using PowerPoint on laptops Creating images from shapes , emojis etc Put the pupil files in pupils pick up or the class folder	Crumble (if available) or borrow from Mary or NCCE hub	Scratch on iPad or pc	As we will be using 2investigate in purple mash for this unit , you could use these PowerPoints lessons and activities , rather than the STEM ones https://www.purplemash.com/site#tab/teachers/computing_sow/computing_sow_y5/computing_sow_y5_5-4 Could base on space theme
Online safety Lesson plans from Common Sense media NC aim: 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.	Jigsaw PSHCE Relationships – Online safety Pieces 1-6	Media balance and wellbeing <i>What makes a healthy media choice?</i>	Relationships and communication <i>How can I help myself and others be positive and have fun while playing online games?</i> Cyberbullying <i>How can we be upstanders when we see cyberbullying?</i>	News and media literacy <i>What rights and responsibilities do you have as a creator?</i>	Privacy and security <i>What information about you is OK to share online?</i>	Digital footprints and identity <i>How does our online activity affect the digital footprints of ourselves and others?</i>



Year 6	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Computing focus	Computing systems and networks	Creating Media	Creating Media	Programming A	Programming B	Data and information
Unit Overview, lesson plans and resources in Computing folder	Internet communication Recognising how the WWW can be used to communicate and be searched to find information	Webpage creation Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation.	3D modelling Planning, developing, and evaluating 3D computer models of physical objects	Variables in games Exploring variables when designing and coding a game (microbe catching or avoiding)	Sensing Designing and coding a project that captures inputs from a physical device	Introduction to spreadsheets Answering questions by using spreadsheets to organise and calculate data.
Link to National Curriculum	Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information		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
Vocabulary Progression	communication, protocol, data, address, Internet Protocol (IP), Domain Name Server (DNS), packet, header, data payload, chat, explore, slide deck, reuse, remix, collaboration, internet, public, private, one-way, two-way, one-to-one, one-to-many.	website, web page, browser, media, Hypertext Markup Language (HTML), logo, layout, header, media, purpose, copyright, fair use, home page, preview, evaluate, device, Google Sites, breadcrumb trail, navigation, hyperlink, subpage, evaluate, implication, external link, embed.	Tinkercad, 2D, 3D, shapes, select, move, perspective, view, handles, resize, lift, lower, recolour, rotate, duplicate, group, cylinder, cube, cuboid, sphere, cone, prism, pyramid, placeholder, hollow, choose, combine, construct, evaluate, modify.	variable, change, name, value, set, design, event, algorithm, code, task, artwork, program, project, code, test, debug, improve, evaluate, share, assign, declare	Micro:bit, MakeCode, input, process, output, flashing, USB, trace, selection, condition, if then else, variable, random, sensing, accelerometer, value, compass, direction, navigation, design, task, algorithm, step counter, plan, create, code, test, debug.	data, collecting, table, structure, spreadsheet, cell, cell reference, data item, format, formula, calculation, spreadsheet, input, output, operation, range, duplicate, sigma, propose, question, data set, organised, chart, evaluate, results, sum, comparison, software, tools.
Notes and equipment	Learning about how webpages are ranked, how search engines work, part research, part discussion	Google sites – teacher set up one account , children all share same account and create own site	.Tinkercad Set up class account	Scratch online	Microbits to design a step counter https://makecode.microbit.org/	Excel. Linked to Vikings
Online safety Lesson plans from Common Sense media NC aim: 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.	<u>News and media literacy</u> <i>What are the important parts of an online news article?</i>	<u>Jigsaw PSHCE Relationships – Online safety Pieces 1-6</u>	<u>Media balance and wellbeing</u> <i>What does media balance mean for me?</i>	<u>Cyberbullying</u> <i>What is cyberbullying and what can you do to stop it?</i>	<u>Privacy and security</u> <i>What is clickbait and how can you avoid it?</i>	<u>Digital footprints and identity</u> <i>How do gender stereotypes shape our experiences online?</i>