Progression of skills and knowledge – Computing

Year		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
		My town. My school. My road.	United Kingdom	Toys	Paws, Claws and Whiskers	Kenya	Seaside Holidays!
		Online Safety & Exploring Purple Mash Grouping and Sorting	Pictograms Lego Builders	Maze Explorers Animated Story Books	Coding	Spreadsheets	Technology outside school
KS1	Y1 Africa	**National Curriculum**					
		• 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 • use technology purposefully to create, organise, store, manipulate and retrieve digital content	• 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	• understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions • 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
		Knowledge and Understanding: End Point Assessment					
		• Login in safely to my account. • Open, save and print work. • Use Purple Mash's search bar to find resources. • Add pictures and text to work. • Understand importance of logging out. • To sort items using the "grouping" activities.	• Understand that data can be represented in picture format. • Contribute to a class pictogram. • Use a pictogram to record results of an experiment. • Follow and create simple instructions on a computer. • Consider how the order changes the results.	• Understand how direction keys work. • Create and debug a set of instructions (algorithm). • To set challenges for peers and complete those set for me. • Create an e-book using animation, sound, backgrounds and copy-and-pasting.	• Understand and use the term 'Coding'. • Use design mode to set up a scene. • Add characters. • Use code blocks to make a character perform an action. • Use collision detection. • Save, share and print work.	• Know what a spreadsheet looks like and is used for. • Open 2Calculate in Purple Mash. • Enter data into cells. • Add clipart to cells. • Use the tools: lock, move cell, speak and count.	• Walk around the local community to find examples of where technology is used. • Record examples of technology use. • Explain what the term 'technology' means and explain how it has make our lives easier.

	Fighting Fit!	Around the World	Fire, Fire!	Land Ahoy!	Nightingale and Seacole	Go Wild!
	Coding Online Safety	Online Safety Spreadsheets	Spreadsheets Questioning	Effective Searching Making Music	Making Music Presenting Ideas	Creating Pictures
	National Curriculum					
Y2 UK, Australasia and Oceania	• understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions • create and debug simple programs • use logical reasoning to predict the behaviour of simple programs • use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies	• 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 • recognise common uses of information technology beyond school • use technology purposefully to create, organise, store, manipulate and retrieve digital content	• use technology purposefully to create, organise, store, manipulate and retrieve digital content	• use technology purposefully to create, organise, store, manipulate and retrieve digital content	• use technology purposefully to create, organise, store, manipulate and retrieve digital content	• use technology purposefully to create, organise, store, manipulate and retrieve digital content
	Knowledge and Understanding: End Point Assessment					
	• Design algorithms and then code them. • Compare different object types. • Use the repeat and timer command. • Debug programs. • Refine searches using the search tool.	• Open and send simple emails (2Respond). • Give simple steps on how to keep personal data safe. (Digital footprint) • Use 2Calculate tools: image, move cell, speak, count, copy and paste, total.	• Use 2 Calculate to collect data, create a graph and solve calculations. • Create a binary tree. • Use 2Question to answers questions. • Use a database and the search tool to find information.	• Understand the key vocabulary associated with searching (e.g. search engine). • Help someone search for information on the internet. • Explore, edit and combine sounds using 2Sequence.	• Record and upload sounds. • Present a story in different ways. • Make a quiz about a story or class topic. • Make a fact file about a non-fiction topic.	• Understand the different functions of 2Paint. • Recreate art in different styles using 2Paint. • Explore and respond to eCollage.

Year		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
		Tribal Tales	Mountains, Volcanoes and Natural Disasters		Plants of the World	Espana	Gods and Mortals
		Coding	Online Safety	Email	Spreadsheets	Branching Databases	Simulations
			Touch Typing		Graphing	Simulations	Using PowerPoint
LKS2	Y3 Europe	**National Curriculum**					
		• 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	• use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	• understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration	• select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	• 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	• 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
		Knowledge and Understanding: End Point Assessment					
		• Design an algorithm using a flowchart. • Use selection in coding using "if" command. • Use variables in coding.	• Explain what makes a safe password. • Understand how a blog can communicate. • Evaluate if a website's content is truthful. • Know the PEGI rating system.	• Open and respond to an email using the address book. • Explain how to use email safely. • Add an attachment to an email.	• Use > < and = symbols to compare values. • Use 2Calculate to collect data and produce a variety of graphs. • Use advanced mode to learn about cell references.	• Sort objects using "yes" and "no" questions. • Complete a branching database and create my own. • Explain what simulations are. • Explore a simulation.	• Create a page in a presentation. • Add media to a presentation. • Add animations to a presentation. • Add timings to a presentation.

		Tribal Tales	Electricity	Water World	Romans	India	The Sound of Music
		Coding	Online Safety	Spreadsheets	Writing For Different Audiences	Logo and Animation	Effective Searching Hardware Investigators
Y4 Asia		**National Curriculum**					
		• 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	• use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	• select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	• 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	• 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	• 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
		Knowledge and Understanding: End Point Assessment					
		• Use the "if/else" command. • Use variables ("repeat until"). • Use flowcharts that include selection. • Use terms: decomposition and abstraction.	• Explain how we can protect ourselves from identity theft. (SPAM) • Identify risks and benefits of installing software. • Collaborate with others while avoiding plagiarism. • Balance health and screen time.	• Format cells as currency, percentage, decimal to different decimal places or fraction. • Use formula wizard to calculate averages. • Add a formula to make a calculation.	• Use font size and style to impact a text. • Use a simulated scenario to produce a news report. • Use a simulated scenario to write for a community campaign.	• Use the Repeat function in Logo to create shapes. • Use and build procedures in Logo. • Use onion skinning. • Add backgrounds and sounds to animations.	• Use search effectively. • Assess whether a source is true and reliable. • Understand the different parts that make up a computer. • Explain the difference between hardware and software.

Year		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
		Anglo-Saxons	Vikings	Extreme Environments	The Ancient Maya	Natural Resources	Star Gazers
		Coding	E-Safety	Spreadsheets & Databases	Game Creator	3D Modelling Concept Maps	Word Processing
UKS2	Y5 North America	**National Curriculum**					
		• 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	• use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact • 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	• 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	• 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	• 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
		Knowledge and Understanding: End Point Assessment					
		• Create a program that simulates physical systems. • Explore string/ text variables. • Program a game with timers / score pad.	• Know how to maintain secure passwords. • Understand the implications of altering an image digitally. • Know how to reference sources.	• Use the formula wizard to automatically create calculations. • Use 2Calculate to test a hypothesis. • Create a database.	• Create a game environment. • Create a quest function. • Share own game and evaluate the work of peers.	• Explore the effect of moving points when using 2Design. • To use term CAD. • Create a concept map. • Create a collaborative concept map.	• Create a document from a template. • Insert and edit images. • Share documents. • Use bullet points and numbering.

	Life in Tudor Times	Heart Beaters	Brazil, Biomes and Urbanisation	Crime and Punishment		Global Trade
	Coding	**Online Safety**	Spreadsheets	**Blogging**	**Text Adventure**	**Networks** **Quizzing**
	National Curriculum KS2					
Y6 South America	• 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	• use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact • 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	• 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	• 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	• 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 • 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
	Knowledge and Understanding: End Point Assessment					
	• Use abstraction and decomposition. • Use functions and tabs to improve code quality. • Code user interactivity using input functions.	• Identify benefits and risks of sharing our personal info, including our location. • Identify secure sites. Explain the need to balance positive and negative influences of tech on our health and the environment.	• Use a spreadsheet to investigate probability. • Use the formula wizard to make a calculation automatically, then progress to doing this themselves. • Create graphs using data collected.	• Understand the importance of regularly updating the content of a blog. • Contribute to an existing blog. • Understand how and why blog posts are approved by the teacher.	• Make a story-based adventure. • Code a map-based text adventure.	• Compare a LAN and WAN network. • Explain how the internet is accessed in school (physically). • Research and find out about the age of the internet. • To make a quiz that requires the player to search a database.