COMPUTING National Curriculum

National Curriculum Coverage — Key Stage 1 Computing Curriculum	1.1 Technology around us	1.2 Digital painting	1.3 Moving a robot	1.4 Grouping data	1.5 Digital writing	1.6 Programming animations	2.1 Information technology around us	2.2 Digital photography	2.3 Robot algorithims	2.4 Pictograms	2.5 Making music	2.6 Programming quizzes
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	✓		✓	✓			✓	✓				
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	✓				✓	✓	✓			✓		

National Curriculum Coverage — Years 3 and 4	3.1 Connecting computers	3.2 Stop-frame animation	3.3 Sequencing sounds	3.4 Branching databases	3.5 Desktop publishing	3.6 Events and actions in programs	4.1 The Internet	4.2 Audio editing	4.3 Repetition in shapes	4.4 Data logging	4.5 Photo editing	4.6 Repetition in games
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			✓			✓			✓			✓
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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact							✓	✓			✓	

National Curriculum Coverage — Years 5 and 6	5.1 Sharing information	5.2 Video editimg	5.3 Selection in physical computing	5.4 Flat-file databases	5.5 Vector drawing	5.6 Selection in quizzes	6.1 Internet communication	6.2 Webpage creation	6.3 Variables in games	6.4 Introduction to spreadsheets	6.5 3D modelling	6.6 Sensing
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			✓			✓			✓			✓
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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	✓	✓						✓	✓		✓	

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Digital literacy	**Computing systems and networks**	Recognising technology in school and using it responsibly.	Identifying IT and how its responsible use improves our world in school and beyond.	Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks.	Recognising the internet as a network of networks including the WWW, and why we should evaluate online content.	Identifying and exploring how information is shared between digital systems.	Recognising how the WWW can be used to communicate and be searched to find information.
Information technology	**Creating media**	Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally.	Capturing and changing digital photographs for different purposes	Capturing and editing digital still images to produce a stop-frame animation that tells a story.	Capturing and editing audio to produce a podcast, ensuring that copyright is considered.	Planning, capturing, and editing video to produce a short film.	Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation
	Creating media	Using a computer to create and format text, before comparing to writing non-digitally.	Using a computer as a tool to explore rhythms and melodies, before creating a musical composition.	Creating documents by modifying text, images, and page layouts for a specified purpose.	Manipulating digital images, and reflecting on the impact of changes and whether the required purpose is fulfilled.	Creating images in a drawing program by using layers and groups of objects.	Planning, developing, and evaluating 3D computer models of physical objects.
Computer Science	**Data and information**	Exploring object labels, then using them to sort and group objects by properties.	Collecting data in tally charts and using attributes to organise and present data on a computer.	Building and using branching databases to group objects using yes/no questions.	Recognising how and why data is collected over time, before using data loggers to carry out an investigation.	Using a database to order data and create charts to answer questions.	Answering questions by using spreadsheets to organise and calculate data.
	Programming A	Writing short algorithms and programs for floor robots, and predicting program outcomes.	Creating and debugging programs, and using logical reasoning to make predictions.	Creating sequences in a block-based programming language to make music.	Using a text-based programming language to explore count-controlled loops when drawing shapes	Exploring conditions and selection using a programmable microcontroller.	Exploring variables when designing and coding a game.
	Programming B	Designing and programming the movement of a character on screen to tell stories.	Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz	Writing algorithms and programs that use a range of events to trigger sequences of actions.	Using a block-based programming language to explore count-controlled and infinite loops when creating a game.	Exploring selection in programming to design and code an interactive quiz.	Designing and coding a project that captures inputs from a physical device.