YEAR 1
National Curriculum Requirements at KS1

Pupils should be taught: • 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.

Programme of study, skills and vocabulary					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Technology around us	Digital painting	Moving a robot	Grouping data	Digital writing	Programming animations
Computing systems and networks	Creating media	Programming A	Data and information	Creating media	Programming B

Recognising technology in school and using it responsibly	Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally.	Writing short algorithms and programs for floor robots, and predicting program outcomes.	Exploring object labels, then using them to sort and group objects by properties.	Using a computer to create and format text, before comparing to writing non-digitally.	Designing and programming the movement of a character on screen to tell stories.

YEAR 2
National Curriculum Requirements at KS1

Pupils should be taught: • 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.

Programme of study, skills and vocabulary					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Information technology around us	Digital photography	Robot algorithms	Pictograms	Making music	Programming quizzes

Computing systems and networks	Creating media	Programming A	Data and information	Creating media	Programming B
Identifying IT and how its responsible use improves our world in school and beyond.	Capturing and changing digital photographs for different purposes.	Creating and debugging programs, and using logical reasoning to make predictions.	Collecting data in tally charts and using attributes to organise and present data on a computer.	Using a computer as a tool to explore rhythms and melodies, before creating a musical composition.	Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.

YEAR 3
National Curriculum Requirements at KS2

•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

Programme of study, skills and vocabulary					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Connecting computers	Stop-frame animation	Sequencing sounds	Branching databases	Desktop publishing	Events and actions in programs
Computing systems and networks	Creating media	Programming A	Data and information	Creating media	Programming B
Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks.	Capturing and editing digital still images to produce a stop-frame animation that tells a story	Creating sequences in a block-based programming language to make music.	Building and using branching databases to group objects using yes/no questions.	Creating documents by modifying text, images, and page layouts for a specified purpose	Writing algorithms and programs that use a range of events to trigger sequences of actions

YEAR 4
National Curriculum Requirements at KS2

•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 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

• Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	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 technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Programme of study, skills and vocabulary					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
The internet	Audio production	Repetition in shapes	Data logging	Photo editing	Repetition in games
Computing systems and networks	Creating media	Programming A	Data and information	Creating media	Programming B
Recognising the internet as a network of networks including the WWW, and why we should evaluate online content.	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	Recognising how and why data is collected over time, before using data loggers to carry out an investigation	Manipulating digital images, and reflecting on the impact of changes and whether the required purpose is fulfilled.	Using a block-based programming language to explore count-controlled and infinite loops when creating a game.

YEAR 5

National Curriculum Requirements at KS2	
•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

Programme of study, skills and vocabulary					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Systems and searching	Video production	Selection in physical computing	Flat-file databases	Vector drawing	Selection in quizzes
Computing systems and networks	Creating media	Programming A	Data and information	Creating media	Programming B

Recognising IT systems around us and how they allow us to search the internet.	Planning, capturing, and editing video to produce a short film.	Exploring conditions and selection using a programmable microcontroller	Using a database to order data and create charts to answer questions	Creating images in a drawing program by using layers and groups of objects.	Exploring selection in programming to design and code an interactive quiz.

YEAR 6
National Curriculum Requirements at KS2

•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

Programme of study, skills and vocabulary					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Communication and collaboration	Webpage creation	Variables in games	Introduction to spreadsheets	3D modelling	Sensing
Computing systems and networks	Creating media	Programming A	Data and information	Creating media	Programming B
Identifying and exploring how data is transferred and information is shared online.	Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation.	Exploring variables when designing and coding a game.	Answering questions by using spreadsheets to organise and calculate data.	Planning, developing, and evaluating 3D computer models of physical objects	Designing and coding a project that captures inputs from a physical device.

National Curriculum Coverage — Years 1 and 2

	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 algorithms	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 production	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 production	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	✔	✔						✔	✔		✔	