

Computing overview – key National Curriculum links

	Autumn	Spring	Summer
Year 1	<p>Using School Technology Independently</p> <p>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</p>	<p>Understanding Algorithms and Making Things Happen</p> <p>Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions Create 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</p>	<p>Data and Digital Art</p> <p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</p>
Year 2	<p>Improving Basic Computing Skills and Writing for a Purpose</p> <p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content Use technology safely and respectfully, keeping personal information private</p>	<p>Understanding Algorithms and Making Things Happen</p> <p>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</p>	<p>Grouping, Sorting and Classifying Data</p> <p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</p>
KS1 end points	<p>By the end of KS1, pupils will:</p> <ul style="list-style-type: none"> ✓ Be able to independently turn on devices, log in and open programs like Word and PowerPoint, or apps like Scratch Jr ✓ Be able to save their work in an appropriate place and find it next lesson ✓ Take photographs and copy and paste images into documents and move them around ✓ Use simple word processing skills, including typing letters and punctuation, highlighting text and changing its appearance, and use the undo and redo function ✓ Sort data using a pictogram, Venn diagram and a simple branching database ✓ Be able to create algorithms involving correct sequencing online and in unplugged activities ✓ Plan, test and debug an algorithm to solve a given problem ✓ Predict the outcome of a simple program 		<p><u>Online Safety</u></p> <ul style="list-style-type: none"> ✓ Understand how to use school technology safely and respectfully, including who can be asked for help or who to talk to in the case of any concerns ✓ Understand the importance of and how to keep personal information private

Year 3	Improving Basic Computing Skills and Writing for a Purpose	Understanding Algorithms and Making Things Happen - Loops	Grouping, Sorting and Classifying Data
	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	Design and write programs that accomplish specific goals Use sequence and repetition in programs Use technology safely, respectfully and responsibly	Select, use and combine a variety of software, including collecting, analysing, evaluating and presenting data and information Use technology safely, respectfully and responsibly
Year 4	Using Computers as an Artist	Computational Thinking and Programming	Multi-Media and Animation
	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 Use technology responsibly; recognise acceptable/unacceptable behaviour	Design, write and debug programs that accomplish specific goals, including solving problems by decomposing them into smaller parts 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 Use technology safely, identify a range of ways to report concerns about content and contact
LKS2 end points	By the end of LKS2, pupils will:		<u>Online Safety</u>
	<ul style="list-style-type: none"> ✓ Be able to combine text and images to create something for a given audience, including the use of text wrapping and other tools such as cropping, resizing and layering ✓ Know how to take photos and edit them ✓ Be able to plan, storyboard and create a multi-media animation, as well as identify and correct errors ✓ Know how to navigate a database, including the use of search and sort tools, and create a simple database ✓ Be able to identify and use forever and count-controlled loops in algorithms ✓ Understand what decomposition is and use it to solve a problem, by modifying, debugging and writing their own algorithm ✓ Be able to create a simple drawing program, and predict the outcome of a given algorithm for a drawing ✓ Use events to make things happen 		<ul style="list-style-type: none"> ✓ Understand what is meant by copyright ✓ Identify what makes a strong password ✓ Understand what a computer virus is, including how and why they are sent ✓ Explain targeted adverts and how websites are able to use them ✓ Explain in increasing detail what personal information is and that websites store a lot of data about us
Year 5	Using Search Engines	Computational Thinking and Programming	Using Computers to Make Music
	Understand computer networks including the internet; how they can provide multiple services, such as the world wide web Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	Use 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	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 Use technology responsibly; recognise acceptable/unacceptable behaviour
Year 6	Big Data	Binary, Variables and Decision	Making Movies
	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	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems	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

	<p>accomplish given goals, including collecting, analysing, evaluating and presenting data and information</p> <p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>	<p>Use technology safely, recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact</p>	<p>Use technology safely and responsibly, identify a range of ways to report concerns about content and contact</p>
<p>UKS2 end points</p>	<p>By the end of UKS2, pupils will:</p> <ul style="list-style-type: none"> ✓ Understand how search engines work and use this to improve the quality of their searches, including the use of advanced search techniques ✓ Understand what is meant by 'big data' ✓ Create and use spreadsheet tools including using formulae and creating graphs ✓ Be able to create a piece of music using a computer, matched to a given or chosen visual stimulus ✓ Be able to create and edit a movie that combines different media for a given audience, making use of transitions, voice-over/narration and backing music ✓ Recognise when selection is used in a program and use it in an algorithm that models a physical system ✓ Use variables in programs to control physical systems ✓ Create and use subroutines / procedures in an algorithm 		<p><u>Online Safety</u></p> <ul style="list-style-type: none"> ✓ Explain ways of making ourselves safer using passwords and privacy settings ✓ Analyse digital content, understanding that bias can mislead readers ✓ Understand that it is easy to edit images using computers, which can make it hard to tell the difference between truth and fake-news