



Computing Progression Document

This is intended to be a spiral curriculum. Pupils should be taught National Curriculum objectives but should be supported to catch up.

End Points (Threshold Concepts)		Milestones					
		KS 1		Lower KS 2		Upper KS 2	
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computing Systems and networks	Understand what a computer is, and how its constituent parts function together as a whole.	<p><u>Technology Around Us</u></p> <ul style="list-style-type: none"> • To identify technology • To recognise some of the uses and features of information technology • To identify information technology • To recognise choice are made when using technology • To explain how information technology benefits us 	<p><u>I.T. Around Us</u></p> <ul style="list-style-type: none"> • To recognise the uses and features of information technology beyond school (KS1). • To recognise choice are made when using technology • To explain how information technology benefits us • To use technology safely and 	<p><u>Connecting Computers</u></p> <ul style="list-style-type: none"> • To identify input and output devices • To explain that a computer system accepts an input and processed it to produce an output • To explain how a computer network can be used to share information • To explain the role of a switch, server, and 	<p><u>The Internet</u></p> <ul style="list-style-type: none"> • To describe how networks, connect to other networks • To outline how information can be shared via the world wide web • To recognise that the world wide web is part of the internet • To explain that the global interconnection of networks is the internet • To recognise the need for security on the internet 	<p><u>Sharing Information</u></p> <ul style="list-style-type: none"> • To recognise that computers can be part of a system in an electronic device • To understand that computers can be connected to form systems • To see that computer, connect with other devices (Including other computers)• • To recognise input, process, and output in larger computer systems 	<p><u>Communication</u></p> <ul style="list-style-type: none"> • To understand computer networks including the interney; how they can provide multiple services such as the world wide web; and the opportunities they offer in communication and collaboration. (KS2) • To use search technologies effectively, appreciate how results are selected (KS2) • To use technology safely,

		<ul style="list-style-type: none"> • To show how to use technology safely • To create rules for using technology responsibly • To recognise how digital devices can help us. 	<p>respectfully (KS1).</p> <ul style="list-style-type: none"> • To create rules for using technology responsibly • To recognise how digital devices can change the way we work. <ul style="list-style-type: none"> • To keep personal information private (KS1). • To identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies (KS1). 	<p>wireless access point in a network</p> <ul style="list-style-type: none"> • To identify devices around me • To explain how networks can be connected to other networks 	<ul style="list-style-type: none"> • To know how to access the WWW • To describe the types of content/media that can be added, created, and shared on the WWW • To know that the internet enables us to view the WWW • To explain that the WWW comprises of websites and web pages • To describe the current limitations of the WWW media • To evaluate the reliability of the content and the consequences of unreliable content • To explain the benefits of the WWW 	<ul style="list-style-type: none"> • To recognise how information is transferred across the internet • To recognise that data is transferred using agreed protocols (methods) • To recognise the role of computer systems in our lives • To explain that data is transferred in packets • To recognise that connections between computers allows us to work together • To explain that the internet lets people in a different place work together • To explain that the internet allows different media to be shared 	<p>respectfully and responsibly (KS2)</p> <ul style="list-style-type: none"> • To recognise acceptable and unacceptable behaviour (KS2) • To identify a range of ways to report concerns about content and contact (KS2) • To recognise that there are a number of search engines • To explain why search engines exist • To define purpose of an index • To explain why search engines create indexes, and they are different from each search engine • To explain how search results are selected • To explain the role of web crawlers
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						<ul style="list-style-type: none">• To evaluate different ways of working together• recognise that internet collaborations can be public or private	<ul style="list-style-type: none">• To explain that ranking narrows down the search results from the index, which makes it more usefulTo explain that search results are ordered, and this is known as ranking• To explain how ranking is determined by rules, and that different search engines use different rules• To examine the role of the searcher, search engine, and content creator in the searching process• To explain why the order of results is important, and to whom• To identify some of the limitations of search engines
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							<ul style="list-style-type: none"> • To explain how search engines, make money by selling advertising space • To recognise that some information is not searchable • To define communication • To discuss the opportunities that technology offers for communication
Creating Media	Select and create a range of media including text, images, sounds, and video	<u>Digital Painting</u> <ul style="list-style-type: none"> • To recognise that tools can be changed to produce different outcomes • To choose options to achieve a desired effect • To consider impact of choices made 	<u>Digital Photography</u> <ul style="list-style-type: none"> • use technology purposefully to create organise, store manipulate and retrieve digital content (KS1) • To recognise that some devices can capture images using a camera 	<u>Animation</u> <ul style="list-style-type: none"> • To use a computer to create animation (tell a story) • To set up a device to capture stop frame photos • To capture a series of images • To use tools (onion skinning) to review subject position 	<u>Audio Editing</u> <ul style="list-style-type: none"> • To press/ tap buttons to start recording • To know where the microphone is on the device • To press/ tap buttons to stop recording • To locate recorded audio • To play audio back • To select a section of audio 	<u>Vector Drawing</u> <ul style="list-style-type: none"> • To recognise that tools can be changed to produce different outcomes • To choose options to achieve a desired effect • To recognise that an image comprises of separate objects 	<u>3D Modelling</u> <ul style="list-style-type: none"> • To recognise that 3D objects, comprise length, width, and height (depth) • To recognise the differences when working in 3D compared to 2D • To recognise that structures can be broken down into a

		<ul style="list-style-type: none"> • To use basic tools to create an image • To use a wider variety of tools to create images • To recognise that text can be changed • To recognise that tools can be changed to produce different outcomes • To choose options to achieve a desired effect • To consider the impact of choices made 	<ul style="list-style-type: none"> • To recognise that people around me can view my screen to see my photos • To explain that photos can be saved • To recognise that photographs can be changed through editing • To recognise that a photograph is composed by the photographer • To recognise when to choose landscape or portrait • To recognise features of a good photograph • To choose an image that 	<ul style="list-style-type: none"> • To move a subject between captures • To play sequence of images back to review • To remove images to improve an animation • To add sound effects • To add text (scenes, credits, captions) • To play back and review a film • To export a film 	<ul style="list-style-type: none"> • To apply effects to a section of audio • To delete a section of audio • To save/ export an audio file 	<ul style="list-style-type: none"> • To recognise that objects are layered • To combine options to achieve a desired effect • To consider the impact of choices made • To recognise that objects can be modified in groups • To recognise that vector images can be scaled without impact on quality 	<p>collection of 3D objects</p> <ul style="list-style-type: none"> • To recognise the similarities and differences between real life 3D and virtual 3D • To select, use and combine a variety of software, 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 (KS2)
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			<p>could be improved by editing</p> <ul style="list-style-type: none"> • To explain that photos can be retrieved, edited and re-saved • To identify that some images are not real/ fake • To consider the results of choices I have made 				
Programming A	Create software to allow computers to solve problems	<p><u>Moving a Robot</u></p> <ul style="list-style-type: none"> • To enact a given word • To recall words that can be enacted • To predict the outcome of a command • To list which commands can be used on a given device 	<p><u>Robot Algorithms</u></p> <ul style="list-style-type: none"> • To describe that a series of instructions is a sequence • To recall that a series of instructions can be issued before they are enacted • To use logical reasoning to 	<p><u>Sequence in Music</u></p> <ul style="list-style-type: none"> • To explain that a program has a start • To explain what a sequence is • To identify that a program includes a sequence of command 	<p><u>Repetition in Shapes</u></p> <ul style="list-style-type: none"> • To relate what 'repeat' means • To identify everyday tasks that include repetition as part of a sequence, e.g. brushing teeth, dance move • To explain that we can use a loop command in a 	<p><u>Selection in Physical Computing</u></p> <ul style="list-style-type: none"> • To define that conditional statements are used in computer programs • To relate that a conditional statement connects a condition to an outcome • To outline that a condition is 	<p><u>Variables in Games</u></p> <ul style="list-style-type: none"> • To design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them in to smaller parts (KS2).

		<ul style="list-style-type: none"> • To explain what a given command does • To recognise how to run a command (push a button). • To match a command to an outcome • To choose a command for a given purpose • To understand that a program is a set of commands a computer can run • To recall that a series of instructions can be issued before they are enacted • To build a sequence of commands in steps 	<p>predict the behaviour of simple programs (KS1)</p> <ul style="list-style-type: none"> • To use technology purposefully to create organise, store manipulate and retrieve digital content (KS1) 	<ul style="list-style-type: none"> • To build a sequence of commands • To recognise that sequences can have an order • To order commands in a program • To explain that the order of commands can affect the outcome (same commands, different order - > same or different outcome) • To identify that different sequences can achieve the same outcome • To create a sequence of commands to produce a given outcome • To combine commands in a program 	<p>program to repeat instruction</p> <ul style="list-style-type: none"> • To identify patterns in a sequence • To identify a loop within a program • To explain that in programming there are indefinite loops and count-controlled loops • To explain that an indefinite loop will run until the program is stopped • To explain that you can program a loop to stop after a specific number of times • To identify patterns in a sequence eg 'step 3 times' means the same as step, step, step. • To justify when to use a loop and when not to • To explain the importance of 	<p>something that can be either true or false</p> <ul style="list-style-type: none"> • To explain that instructions in a program will produce specific outcomes • To relate that a count-controlled loop contains a condition • To explain that a loop can stop when a condition is met e.g. number of times, event • To explain, modify and create a sequence within a count or event-controlled loop • To explain that program flow can branch according to a condition • To explain the importance of instruction order in 'if then...' statements 	<ul style="list-style-type: none"> • To use sequence, selection and repetition in programs; to work with variables and various forms of input and output (KS2). • To use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. (KS2) • To define a 'variable' as something that is changeable • To identify examples of information that is variable eg a football score during a match • To explain that a variable is something that we can use in a program eg score • To define a program variable
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		<ul style="list-style-type: none">• To combine commands in a program			<p>instruction order in a loop</p> <ul style="list-style-type: none">• To recognise that not all tools enable more than one process to be run at once		<p>as a placeholder in memory for a single value</p> <ul style="list-style-type: none">• To explain that a variable has a name and a value• To recognise that the value of a variable can be used by a programTo recognise that the value of a variable can be updated• To define the way that a variable is changed• To recognise that a variable can be set as a constant (fixed value)• To identify that variables can hold number (integers) or letters (Strings)• To explain the importance of setting up a variable at the start of a program (initialisation)
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							<ul style="list-style-type: none"> • To explain that there is only one value for a variable at any one time • To explain that if you change the value of a variable, you cannot access the previous value (cannot undo) • To explain that if you read a variable, the value remains • To explain that the name of a variable is meaningless to the computer • To explain that the name of a variable needs to be unique
Data and Information	Understand how data is stored, organised, and used to represent real-world artefacts and scenarios	<u>Grouping Data</u> <ul style="list-style-type: none"> • To identify that objects can be counted • To recognise that information can be presented • To recognise that information can 	<u>Pictograms</u> <ul style="list-style-type: none"> • To use technology purposefully to create organise, store manipulate and retrieve digital content (KS1) 	<u>Branching Databases</u> <ul style="list-style-type: none"> • To investigate questions with yes/ no answers • To identify the object attributes to collect relevant data • To select an attribute to 	<u>Data Logging</u> <ul style="list-style-type: none"> • To suggest questions that can be answered using a given data set • To identify the data that, we need to answer questions 	<u>Flat file Databases</u> <ul style="list-style-type: none"> • To design an approach to answer a question using a database • To explain that a computer program can be 	<u>Spreadsheets</u> <ul style="list-style-type: none"> • To select, use and combine a variety of software, on a range of digital devices to design and create a range of programs, systems and content that accomplish given

		<p>be presented in different ways</p>	<ul style="list-style-type: none"> • To use a tally chart to collect data • To compare objects that have been grouped by attribute • To construct (complete) a given comparison question. E.g Are there more X balls that Y balls? • To suggest appropriate headings for tally charts and pictograms • To use a computer program to present information in different ways • To explain that we can present 	<p>separate objects into similarly sized groups</p> <ul style="list-style-type: none"> • To explain that data can be used to answer questions • To decide what needs to be collected to answer a specific question • To relate two levels of branching database using • To compare the information shown in a pictogram with a branching database 	<ul style="list-style-type: none"> • To identify that sensors are input devices • To use a digital device to collect data automatically • To recognise that a sensor can be used as an input device for data collection • To explain that a data logger captures 'data points' from sensors over time • To use a larger data set to find information 	<p>used to organise data</p> <ul style="list-style-type: none"> • To outline how ordering data allows us to answer some questions • To explain that tools can be used to select data to answer questions • To outline how operands can be used to filter data • To outline how 'AND' and 'OR' can be used to refine data selection • To explain that computer programs can be used to compare data visually • To explain that we present information to communicate a message 	<p>goals, including collecting, analysing, evaluating and presenting data and information (KS2)</p> <ul style="list-style-type: none"> • To identify questions that can be answered using data • To outline what makes good questions to answer with data • To explain that objects/ artefacts can be described using data • To propose simple, relevant questions that can be answered using data • To explain what an item of data is • To explain that computers deal with different
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			<p>information using a computer</p> <ul style="list-style-type: none"> • To give simple examples of why some information should not be shared 				<p>data types in different ways</p> <ul style="list-style-type: none"> • To outline that there are different software tools to work with data • To explain that formulas can be used to produce calculated data • To explain why data should be organised • To evaluate results in comparison to the question asked • To choose suitable ways to represent data
<p>Creating Media</p>	<p>Select and create a range of media including text, images, sounds, and video</p>	<p><u>Digital Writing</u></p> <ul style="list-style-type: none"> • To identify and locate keys on a keyboard • To use a keyboard to amend typing errors 	<p><u>Making Music</u></p> <ul style="list-style-type: none"> • To use a computer to make a piece of music • To listen to music • To say how music makes 	<p><u>Desktop Publishing</u></p> <ul style="list-style-type: none"> • To recognise how text and images can be used together to convey information • To define landscape and 	<p><u>Photo Editing</u></p> <ul style="list-style-type: none"> • To use a computer to further manipulate • To open/retrieve an image • To change the composition of an image 	<p><u>Video Editing</u></p> <ul style="list-style-type: none"> • To recognise video as moving pictures combined with audio • To review existing video content 	<p><u>Web Page Creation</u></p> <ul style="list-style-type: none"> • To select, use and combine a variety of software, on a range of digital devices to design and create a range of programs, systems and

		<ul style="list-style-type: none"> • To move the cursor around text • To change the appearance of text on a computer • To recognise that information on a computer can be stored • To explain that information (work) can be saved and retrieved, edited and re-saved. • To recognise that work can be shared between devices • To recognise that work can be printed and shared • To recognise that people around me can 	<p>us think and feel</p> <ul style="list-style-type: none"> • To recognise that music is made by humans • To describe how music can be used in different ways • To identify that there are patterns in music • To show how music is made from a series of notes • To create music for a purpose • To consider how different musical sequences, create different effects • To review and refine our 	<p>portrait as two different page orientations</p> <ul style="list-style-type: none"> • To consider how different layout can suit different purposes • To recognise that DTP pages can be structured with placeholders • To recognise how different font styles and effects are used to particular purposes • To consider the benefits of using a DTP application 	<ul style="list-style-type: none"> • To apply a change globally • To apply change locally • To make additions 	<ul style="list-style-type: none"> • To identify the key concepts of composition • To plan a video production using a storyboard • To recognise that some digital devices can capture video using a camera and a microphone • To recognise that video can be captured by a person operating a camera • To identify the features of a good video • To identify how a video can be improved • To recognise that video can be improved through editing • To consider the results of choices I have made • To capture, playback and edit video 	<p>content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information (KS2)</p> <ul style="list-style-type: none"> • To review an existing website (navigation bars, header) • To recognise the relationship between HTML and visual display • To recognise components of web page layout • To consider the ownership and use of images (copyright) • To recognise the need for a navigation path • To recognise the implications of lining to content owned by others
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		view my screen to see my work	computer work • To store/ retrieve and share work				
Programming B	To create software to allow computers to solve problems.	<u>Introduction to Animation</u> • To enact a given word • To recall words that can be enacted • To predict the outcome of a command • To list which commands can be used on a given device • To explain what a given command does • To recognise how to run a command (push a button). • To match a command to an outcome	<u>Introduction to Quizzes</u> • Understand what algorithms are, how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions (KS1) • create and debug simple programs (KS1) • To choose a series of words that can be enacted as a sequence • To explain what happens when we	<u>Events and Actions</u> • To explain that a program has a start • To explain what a sequence is • To identify that a program includes a sequence of command • To build a sequence of commands • To combine commands in program • To recognise that sequences can have an order • To order commands in a program	<u>Repetition in Games</u> • To relate what 'repeat' means • To identify everyday tasks that include repetition as part of a sequence e.g brushing teeth, dance moves • To explain that we can use a loop command in a program to repeat instructions • To identify patterns in a sequence • To identify a loop within a program • To explain that in programming there are indefinite loops and count controlled loops	<u>Selection in Quizzes</u> • To define that conditional statements are used in a computer program • To relate that a conditional statement connects condition to an outcome • To outline that a condition is something that can either be true or false To explain that instruction in a program will produce specific outcomes • To relate that a count-controlled	<u>Sensing</u> • To design, write and debug programs that accomplish specific goals (KS2). • To use sequence, selection and repetition in programs; to work with variables and various forms of input and output (KS2) • To define a 'variable' as something that is changeable • To identify examples of information that is variable eg a football score during a match • To explain that a variable is something that

		<ul style="list-style-type: none"> • To choose a command for a given purpose • To understand that a program is a set of commands a computer can run • To recall that a series of instructions can be issued before they are enacted • To build a sequence of commands in steps • To combine commands in a program 	<p>change the order of instruction</p> <ul style="list-style-type: none"> • To choose a series of commands that can be run as a program • To trace a sequence to make a prediction • To test a prediction by running a sequence • To create and debug a program that I have written • To run a program on a device 	<ul style="list-style-type: none"> • To explain that the order of commands can affect the outcome- the same commands in a different order may produce the same or different outcomes • To identify that different sequences can achieve the same outcome • To create a sequence of commands to produce a given outcome 	<ul style="list-style-type: none"> • To explain that an indefinite loop will run until the program is stopped • To explain that you can program a loop to stop after a specific number of times • To identify patterns in a sequence eg 'step 3 time' means the same as step, step, step. • To justify when to use a loop and when not • To explain the importance of instruction order in a loop • To recognise that not all tools enable more than one process to be run at once 	<p>loop contains a condition</p> <ul style="list-style-type: none"> • To explain that program flow can branch according to a condition • To explain the importance of instruction order in 'if...then' statements. To conclude that a loop can be used to repeatedly check whether a condition has been met • To explain the importance of instruction order in 'if.. then... else..' statements. • To explain that a loop can stop when a condition is met eg a number of times, an event • To explain a sequence within a count-controlled or event controlled loop • To modify a count controlled 	<p>we can use in a program eg score</p> <ul style="list-style-type: none"> • To define a program variable as a placeholder in memory for a single value • To explain that a variable has a name and a value • To recognise that the value of a variable can be used by a program • To recognise that the value of a variable can be updated • To define the way that a variable is changed • To recognise that a variable can be set as a constant (fixed value) • To identify that variables can hold number (integers) or letters (Strings)
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						<p>or event controlled loop</p> <ul style="list-style-type: none"> • To create a count controlled or event controlled loop 	<ul style="list-style-type: none"> • To explain the importance of setting up a variable at the start of a program (initialisation) • To explain that there is only one value for a variable at any one time • To explain that if you change the value of a variable, you cannot access the previous value (cannot undo) • To explain that if you read a variable, the value remains • To explain that the name of a variable is meaningless to the computer • To explain that the name of a variable needs to be unique
Online safety	<p>Self-image and identity</p> <p><i>KS1: Use technology safely and</i></p>	<ul style="list-style-type: none"> • To recognise, online or offline, that anyone can say 'no' - 'please 	<ul style="list-style-type: none"> • To explain what happens when something makes you feel sad, worried, 	<ul style="list-style-type: none"> • To explain what is meant by the term 'identity.' • To explain how people can 	<ul style="list-style-type: none"> • To explain ways in which someone might change their identity depending on what they are 	<ul style="list-style-type: none"> • To explain that others online can pretend to be someone else, including my 	<ul style="list-style-type: none"> • To identify and critically evaluate online content relating to gender, race, religion,

	<p><i>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.</i></p> <p><i>KS2: Use technology safely, respectfully and responsibly, recognise acceptable/unacceptable behaviour, identify a range ways to report concerns about content and contact.</i></p>	<p>stop' - 'I'll tell' - 'I'll ask' to somebody who makes them feel sad, uncomfortable, embarrassed or upset.</p> <ul style="list-style-type: none"> • To recognise that there may be people online who could make someone feel sad, embarrassed or upset. 	<p>uncomfortable, or frightened, you can give examples of when and how to speak to an adult, I can trust and how they can help.</p> <ul style="list-style-type: none"> • To explain how other people may look and act differently online and offline. • To give examples of issues online that might make someone feel sad, worried, uncomfortable, or frightened. • To give examples of you might get help. 	<p>represent themselves in different ways online.</p>	<p>doing online (e.g. gaming; using an avatar; social media) and why.</p> <ul style="list-style-type: none"> • To explain how your online identity can be different to your offline identity. • To describe positive ways for someone to interact with others online and understand how this will positively impact on how others perceive them. 	<p>friends, and can suggest reasons why they might do this.</p> <ul style="list-style-type: none"> • To explain how identity online can be copied, modified or altered. • To demonstrate how to make responsible choices about having an online identity, depending on context. 	<p>disability, culture and other groups, and explain why it is important to challenge and reject inappropriate representations online.</p> <ul style="list-style-type: none"> • To describe issues online that could make anyone feel sad, worried, uncomfortable or frightened. • To know and give examples of how to get help, both on and offline. • To explain the importance of asking until you get the help needed.
	<p>Online relationships</p>	<ul style="list-style-type: none"> • To recognise some ways in which the internet can be used to communicate. 	<ul style="list-style-type: none"> • To use technology safely and respectfully, keeping personal information private; identify where to go for 	<ul style="list-style-type: none"> • To describe ways people who have similar likes and interests can get together online. • To explain what it means to 'know 	<ul style="list-style-type: none"> • To explain how someone's feelings can be hurt by what is said or written online. • To explain the importance of giving 	<ul style="list-style-type: none"> • To explain how content shared online may feel unimportant to one person but may be important to other 	<ul style="list-style-type: none"> • Use technology safely, respectfully and responsibly, recognise acceptable/unacceptable behaviour, identify a range

		<ul style="list-style-type: none"> • To give examples of how I (might) use technology to communicate with people you know. • To give examples of when you should ask permission to do something online and explain why this is important. • To use the internet with adult support to communicate with people you know (e.g. video call apps or services). • To explain why it is important to be considerate and kind to people online and to respect their choices. • To explain why things one person finds funny or sad online may not always be seen in 	<p>help and support when they have concerns about content or contact on the internet or other online technologies (KS1).</p> <ul style="list-style-type: none"> • To give examples of how someone might use technology to communicate with others they don't also know offline and explain why this might be risky. (e.g. email, online gaming, a pen-pal in another school / country). • To explain who you should ask before sharing things about myself or others online. • To describe different ways to ask for, give, or deny your permission online and can identify 	<p>someone' online and why this might be different from knowing someone offline.</p> <ul style="list-style-type: none"> • To explain what is meant by 'trusting someone online', why this is different from 'liking someone online', and why it is important to be careful about who to trust online including what information and content they are trusted with. • To explain why someone may change their mind about trusting anyone with something if they feel nervous, uncomfortable or worried. 	<p>and gaining permission before sharing things online; how the principles of sharing online is the same as sharing offline e.g. sharing images and videos.</p> <ul style="list-style-type: none"> • To describe strategies for safe and fun experiences in a range of online social environments (e.g. livestreaming, gaming platforms) • To give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours. 	<p>people's thoughts feelings and beliefs.</p> <ul style="list-style-type: none"> • To demonstrate how to support others (including those who are having difficulties) online. • To explain that there are some people you communicate with online who may want to do me or your friends harm. • To recognise that this is not my / our fault. • To describe some of the ways people may be involved in online communities and describe how they might collaborate constructively with others and make positive contributions. (e.g. gaming communities or social media groups). 	<p>ways to report concerns about content and contact (KS2)</p> <ul style="list-style-type: none"> • To explain how someone can get help if they are having problems and identify when to tell a trusted adult. • To demonstrate how to support others (including those who are having difficulties) online. • To explain how sharing something online may have an impact either positively or negatively • To describe how to be kind and show respect for others online including the importance of respecting boundaries regarding what is shared about them
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		the same way by others	<p>who can help me if you am not sure.</p> <ul style="list-style-type: none">• To explain why you have a right to say 'no' or 'I will have to ask someone.•To explain who can help me if you feel under pressure to agree to something you are unsure about or don't want to do.• To identify who can help you if something happens online without your consent.• To explain how it may make others feel if you do not ask their permission or ignore their answers before sharing something about them online.			<p>online and how to support them if others do not.</p> <ul style="list-style-type: none">• To describe how things shared privately online can have unintended consequences for others. e.g. screen-grabs.• To explain that taking or sharing inappropriate images of someone (e.g. embarrassing images), even if they say it is okay, may have an impact for the sharer and others; and who can help if someone is worried about this.
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			<ul style="list-style-type: none"> • To explain why you should always ask a trusted adult before clicking 'yes', 'agree' or 'accept' online. 				
	<p>Online Bullying</p>	<ul style="list-style-type: none"> • To describe ways that some people can be unkind online. • To offer examples of how being unkind can make others feel. • To describe how to behave online in ways that do not upset others and can give examples. 	<ul style="list-style-type: none"> • To 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 (KS1). • To explain what bullying is, how people may bully others and how bullying can make someone feel. • To explain why anyone who experiences bullying is not to blame. 	<ul style="list-style-type: none"> • To describe appropriate ways to behave towards other people online and why this is important. • To give examples of how bullying behaviour could appear online and how someone can get support. • To recognise when someone is upset, hurt or angry online. 	<ul style="list-style-type: none"> • To describe ways people can be bullied through a range of media (e.g. image, video, text, chat). • To explain why people need to think carefully about how content they post might affect others, their feelings and how it may affect how others feel about them (their reputation). • To recognise online bullying can be different to bullying in the physical world and can describe some of those differences. 	<ul style="list-style-type: none"> • To describe how what one person perceives as playful joking and teasing (including 'banter') might be experienced by others as bullying. • To explain how anyone can get help if they are being bullied online and identify when to tell a trusted adult. • To identify a range of ways to report concerns and access support both in school and at home about online bullying. 	<ul style="list-style-type: none"> • Use technology safely, respectfully and responsibly, recognise acceptable/unacceptable behaviour, identify a range of ways to report concerns about content and contact (KS2) • To explain how to block abusive users. • To describe the helpline services which can help people experiencing bullying, and how to access them (e.g. Childline or The Mix). • To describe how to capture bullying content as evidence

			<ul style="list-style-type: none"> To talk about how anyone experiencing bullying can get help. 				<p>(e.g screen-grab, URL, profile) to share with others who can help me.</p> <ul style="list-style-type: none"> To explain how someone would report online bullying in different contexts.
	Online Reputation	<ul style="list-style-type: none"> To identify ways that you can put information on the internet. To recognise that information can stay online and could be copied. To describe what information, you should not put online without asking a trusted adult first. 	<ul style="list-style-type: none"> To 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 (KS1). To explain how information put online about someone can last for a long time. To describe how anyone's online information 	<ul style="list-style-type: none"> To explain how to search for information about others online. To give examples of what anyone may or may not be willing to share about themselves online. I can explain the need to be careful before sharing anything personal. 	<ul style="list-style-type: none"> To explain who someone can ask if they are unsure about putting something online. To describe how to find out information about others by searching online. 	<ul style="list-style-type: none"> To explain ways that some of the information about anyone online could have been created, copied or shared by others. To search for information about an individual online and summarise the information found. 	<ul style="list-style-type: none"> Use technology safely, respectfully and responsibly, recognise acceptable/unacceptable behaviour, identify a range of ways to report concerns about content and contact (KS2) To describe ways that information about anyone online can be used by others to make judgments about an individual and why these may be incorrect. To explain the ways in which anyone can develop

			<p>could be seen by others.</p> <ul style="list-style-type: none"> • To know who to talk to if something has been put online without consent or if it is incorrect. 				<p>a positive online reputation.</p> <ul style="list-style-type: none"> • To explain strategies anyone can use to protect their 'digital personality' and online reputation, including degrees of anonymity.
	<p>Managing Online Information</p>	<ul style="list-style-type: none"> • To talk about how to use the internet as a way of finding information online. • To identify devices, you could use to access information on the internet. • To give simple examples of how to find information using digital technologies, e.g. search engines, voice activated searching. • To understand that we can 	<ul style="list-style-type: none"> • To 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 (KS1). • To use simple keywords in search engines. • To demonstrate how to navigate a simple webpage to get to 	<ul style="list-style-type: none"> • To demonstrate how to use key phrases in search engines to gather accurate information online. • To explain what autocomplete is and how to choose the best suggestion. • To explain how the internet can be used to sell and buy things • To explain the difference between a 'belief', an 'opinion' and a 'fact. and can give examples of how and where they 	<ul style="list-style-type: none"> • To describe some of the methods used to encourage people to buy things online (e.g. advertising offers; in-app purchases, pop-ups) and can recognise some of these when they appear online. • To explain why lots of people sharing the same opinions or beliefs online do not make those opinions or beliefs true. • To explain that technology can be designed to act like or impersonate living things (e.g. bots) and describe what 	<ul style="list-style-type: none"> • To identify ways the internet can draw us to information for different agendas, e.g. website notifications, pop-ups, targeted ads • To describe ways of identifying when online content has been commercially sponsored or boosted, (e.g. by commercial companies or by vloggers, content creators, influencers). • To explain what is meant by the term 'stereotype', 	<ul style="list-style-type: none"> • Use technology safely, respectfully and responsibly, recognise acceptable/unacceptable behaviour, identify a range ways to report concerns about content and contact (KS2) • To explain how and why some people may present 'opinions' as 'facts'; why the popularity of an opinion or the personalities of those promoting it does not necessarily make it

		<p>encounter a range of things online including things we like and don't like as well as things which are real or make believe / a joke.</p> <ul style="list-style-type: none"> • To know how to get help from a trusted adult if we see content that makes us feel sad, uncomfortable, worried or frightened. 	<p>information you need (e.g. home, forward, back buttons; links, tabs and sections).</p> <ul style="list-style-type: none"> • To explain what voice activated searching is and how it might be used, and know it is not a real person (e.g. Alexa, Google Now, Siri). • To explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real' • To explain why some information you find online may not be real or true. 	<p>might be shared online, e.g. in videos, memes, posts, news stories etc.</p> <ul style="list-style-type: none"> • To explain that not all opinions shared may be accepted as true or fair by others (e.g. monsters under the bed). • To describe and demonstrate how we can get help from a trusted adult if we see content that makes us feel sad, uncomfortable, worried or frightened. • To analyse information to make a judgement about probable accuracy and I understand why it is important to make my own decisions regarding content and that my decisions are 	<p>the benefits and the risks might be.</p> <ul style="list-style-type: none"> • To explain what is meant by fake news e.g. why some people will create stories or alter photographs and put them online to pretend something is true when it isn't. • To explain the benefits and limitations of using different types of search technologies e.g. voice-activation search engine. • To explain how some technology can limit the information you are presented with. • To explain what is meant by 'being sceptical'; to give examples of when and why it is important to be 'sceptical'. • To evaluate digital content and can explain how to make 	<p>how 'stereotypes' are amplified and reinforced online, and why accepting 'stereotypes may influence how people think about others.</p> <ul style="list-style-type: none"> • To describe how fake news may affect someone's emotions and behaviour and explain why this may be harmful. • To explain what is meant by a 'hoax'. I can explain why someone would need to think carefully before they share. • To explain how search engines work and how results are selected and ranked. • To describe how some online information can be opinion and can offer examples. 	<p>true, fair or even legal.</p> <ul style="list-style-type: none"> • To define the terms 'influence', 'manipulation' and 'persuasion' and explain how someone might encounter these online (e.g. advertising and 'ad targeting' and targeting for fake news). • To understand the concept of persuasive design and how it can be used to influence peoples' choices. • To demonstrate how to analyse and evaluate the validity of 'facts' and information and to explain why using these strategies are important. • To explain how companies and news providers target people with
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				<p>respected by others.</p> <ul style="list-style-type: none"> • To describe how to search for information within a wide group of technologies and make a judgement about the probable accuracy (e.g. social media, image sites, video sites). 	<p>choices about what is trustworthy e.g. differentiating between adverts and search results.</p> <ul style="list-style-type: none"> • To explain key concepts including: information, reviews, fact, opinion, belief, validity, reliability and evidence. 		<p>online news stories they are more likely to engage with and how to recognise this</p> <ul style="list-style-type: none"> • To describe the difference between online misinformation and dis-information • To explain why information that is on a large number of sites may still be inaccurate or untrue. I can assess how this might happen (e.g. the sharing of misinformation or disinformation) • To identify flag and report inappropriate content.
	<p>Health, Wellbeing and Lifestyle</p>	<ul style="list-style-type: none"> • To identify rules that help keep us safe and healthy in and beyond the home when using technology 	<ul style="list-style-type: none"> • To use technology safely and respectfully, keeping personal information private; identify where to go for 	<ul style="list-style-type: none"> • To explain why spending too much time using technology can sometimes have a negative impact on anyone 	<ul style="list-style-type: none"> • To identify times or situations when someone may need to limit the amount of time they use technology e.g. I can suggest strategies to 	<ul style="list-style-type: none"> • To recognise the benefits and risks of accessing information about health and well-being online and how we should 	<ul style="list-style-type: none"> • Use technology safely, respectfully and responsibly, recognise acceptable/unacceptable behaviour, identify a range

		<ul style="list-style-type: none"> • To explain rules to keep myself safe when using technology both in and beyond the home. 	<p>help and support when they have concerns about content or contact on the internet or other online technologies (KS1).</p> <ul style="list-style-type: none"> • To explain simple guidance for using technology in different environments and settings e.g. accessing online technologies in public places and the home environment. • To say how rules / guides can help anyone accessing online technologies 	<ul style="list-style-type: none"> • To explain why some online activities have age restrictions, why it is important to follow them and know who I can talk to if others pressure me to watch or do something online that makes me feel uncomfortable (e.g. age restricted gaming or web sites). • To explain how using technology can be a distraction from other things, in both a positive and negative way. 	<p>help with limiting this time.</p> <ul style="list-style-type: none"> • To describe ways technology can affect health and well-being both positively (e.g. mindfulness apps) and negatively. • To describe some strategies, tips or advice to promote health and wellbeing with regards to technology. 	<p>balance this with talking to trusted adults and professionals.</p> <ul style="list-style-type: none"> • To explain how and why some apps and games may request or take payment for additional content (e.g. in-app purchases, lootboxes) and explain the importance of seeking permission from a trusted adult before purchasing. • To describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose. 	<p>ways to report concerns about content and contact (KS2)</p> <ul style="list-style-type: none"> • To recognise and can discuss the pressures that technology can place on someone and how / when they could manage this. • To recognise features of persuasive design and how they are used to keep users engaged (current and future use). • To assess and action different strategies to limit the impact of technology on health (e.g. night-shift mode, regular breaks, correct posture, sleep, diet and exercise).
	<p>Privacy and Security</p>	<ul style="list-style-type: none"> • To identify some simple examples of my personal 	<ul style="list-style-type: none"> • To use technology safely and respectfully, keeping personal 	<ul style="list-style-type: none"> • To describe simple strategies for creating and 	<ul style="list-style-type: none"> • To explain that internet use is never fully private and is 	<ul style="list-style-type: none"> • To explain how many free apps or services may read and share private 	<ul style="list-style-type: none"> • Use technology safely, respectfully and responsibly, recognise

		<p>information (e.g. name, address, birthday, age, location).</p> <ul style="list-style-type: none"> • To describe who would be trustworthy to share this information with; I can explain why they are trusted. • To explain that passwords are used to protect information, accounts and devices. • To recognise more detailed examples of information that is personal to someone (e.g. where someone lives and goes to school, family names). 	<p>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 (KS1).</p> <ul style="list-style-type: none"> • To explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others. • To explain how passwords can be used to protect information, accounts and devices. • To explain and give examples of what is meant by 'private' and 'keeping things private'. 	<p>keeping passwords private.</p> <ul style="list-style-type: none"> • To give reasons why someone should only share information with people they choose to and can trust. I can explain that if they are not sure or feel pressured then they should tell a trusted adult. • To describe how connected devices can collect and share anyone's information with others. • To describe strategies for keeping personal information private, depending on context. 	<p>monitored, e.g. adult supervision.</p> <ul style="list-style-type: none"> • To describe how some online services may seek consent to store information about me; to know how to respond appropriately and who you can ask if you are not sure. • To know what the digital age of consent is and the impact this has on online services asking for consent. • To explain what a strong password is and demonstrate how to create one. 	<p>information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others.</p> <ul style="list-style-type: none"> • To explain what app permissions are and can give some examples. • To describe effective ways people can manage passwords (e.g. storing them securely or saving them in the browser). • To explain what to do if a password is shared, lost or stolen. 	<p>acceptable/unacceptable behaviour, identify a range ways to report concerns about content and contact (KS2)</p> <ul style="list-style-type: none"> • To describe how and why people should keep their software and apps up to date, e.g. auto updates. • To describe simple ways to increase privacy on apps and services that provide privacy settings. • To describe ways in which some online content targets people to gain money or information illegally; you can describe strategies to help you identify such content (e.g. scams, phishing). • To know that online services have terms and
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			<ul style="list-style-type: none"> • To describe and explain some rules for keeping personal information private (e.g. creating and protecting passwords). • To explain how some people may have devices in their homes connected to the internet and give examples (e.g. lights, fridges, toys, televisions). 				<p>conditions that govern their use.</p>
	<p>Copyright and Ownership</p>	<ul style="list-style-type: none"> • To know that work you create belongs to you. • To name your work so that others know it belongs to you. • To explain why work you create using technology belongs to you. • To say why it belongs to you (e.g. 	<ul style="list-style-type: none"> • To 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 (KS1). 	<ul style="list-style-type: none"> • To explain why copying someone else's work from the internet without permission isn't fair and can explain what problems this might cause. 	<ul style="list-style-type: none"> • When searching on the internet for content to use, to explain why you need to consider who owns it and whether you have the right to reuse it. • To give some simple examples of content which you must not use without permission from the owner, e.g. videos, music, images. 	<ul style="list-style-type: none"> • To assess and justify when it is acceptable to use the work of others • To give examples of content that is permitted to be reused and know how this content can be found online. 	<ul style="list-style-type: none"> • Use technology safely, respectfully and responsibly, recognise acceptable/unacceptable behaviour, identify a range of ways to report concerns about content and contact (KS2) • To demonstrate the use of search tools to find and access online

		<p>'I designed it' or 'I filmed it').</p>	<ul style="list-style-type: none"> • To save your work under a suitable title or name so that others know it belongs to you (e.g. filename, name on content). • To understand that work created by others does not belong to you even if you save a copy • To recognise that content on the internet may belong to other people. • To describe why other people's work belongs to them 				<p>content which can be reused by others</p> <ul style="list-style-type: none"> • To demonstrate how to make references to and acknowledge sources you have used from the internet.
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A good computer technician will have the ability to program programs which fit a given purpose. The learners will also have a secure understanding of online safety and how to keep themselves safe whilst using the internet. In addition, learners should have a secure understanding on how to collect, store, analyse, edit and manipulate digital data.

National Curriculum National Curriculum Expectations

Steps to National Curriculum

Above and beyond the national curriculum

Cultural Capital