

Year 1 - Progression of Skills and Vocabulary in Computing

Year 1	<p>National Curriculum: A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.</p>		
Online Safety	<p>To explore a variety of sources and decide what is safe/unsafe, as a class. To decide which information should be kept private from strangers. To know who safe adults are.</p>	<p>Internet, Safe, Unsafe, Safe adults, Stranger, Choices, Website, App, Rules, Online, Private information, Email, Appropriate/inappropriate sites, Cyber-bullying, Digital footprint, Keyword searching</p>	
Research	<p>To explore different sources of information (including electronic and paper, etc.) and discuss pros and cons of both, as a group.</p>	<p>Information, Source, Digital</p>	
Coding and algorithms	<p>To control simple everyday devices to make them produce different outcomes. To understand and follow one-step unambiguous instructions.</p>	<p>Device, Outcome, Instruction, Equipment, Buttons Movement, Instructions, Robots, Patterns, Program</p>	
Data Handling	<p>To use a simple pictogram or painting program to develop simple graphical awareness, as a class.</p>	<p>Pictogram, Graph, Data, Collect, Count, Organise Photographs, Video, Sound, Data, Digitally</p>	
Understanding technologies	<p>To show an awareness of the range of devices used in everyday life. To understand that what has been created on one device can be shared to another.</p>	<p>Device, Share, Technology, Create, Internet, Purpose, Online tools, Communicate</p>	
<p>Digital Images (refer to Art skills progression)</p>		<p>Create Modify</p>	<p>Sound and music (refer to Music skills progression)</p>
			<p>Sounds Express</p>

To create or modify a picture using a range of simple tools in a paint package/image manipulation software, with support.

Image

To choose suitable sounds from a bank to express ideas.

Ideas

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Year 2 - Progression of Skills and Vocabulary in Computing

Year 2	<p>National Curriculum: A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.</p>		
Online Safety	<p>To explore a variety of sources and decide what is safe/unsafe, as a class. To decide which information should be kept private from strangers. To know who safe adults are.</p>	<p>Internet, Safe, Unsafe, Safe adults, Stranger, Choices, Website, App, Rules, Online, Private information, Email, Appropriate/inappropriate sites, Cyber-bullying, Digital footprint, Keyword searching</p>	
Research	<p>To use a given search engine to research information about a topic.</p>	<p>Search engine, Research, Retrieve</p>	
Coding and algorithms	<p>To control a variety of devices, both on and off screen. To make predictions about the effect of their programming. To understand and follow two-step unambiguous instructions.</p>	<p>Predict, Effect, Precise, Unambiguous, Forward, Backward, Right-angle turn, Algorithm, Sequence, Debug</p>	
Data Handling	<p>To enter data into a simple graphing program to create a graph To save, retrieve and edit their work.</p>	<p>Save, Retrieve, Edit, Capture moments, Magnified images, Questions, Data collection, Graphs, Charts</p>	
Understanding technologies	<p>To show an awareness of a range of inputs, e.g. mouse, microphone. To become familiar with managing a journey on a website, e.g. back button, hyperlinks.</p>	<p>Input, Mouse, Microphone, Keyboard, Journey, Hyperlink, Back button, Information sources, Communication, Website content</p>	
Digital Images (refer to Art skills progression)	<p>Communicate Software</p>	Sound and music (refer to Music skills progression)	<p>Record Speech</p>

To modify an image to communicate an idea, using Computing software

To record short speech.

To compose music from icons.

Compose

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Year 3 - Progression of Skills and Vocabulary in Computing

Year 3	National Curriculum: A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.		
Online Safety	To show an understanding of which websites are safe to use alone or with an adult. To know which information is to be kept private or public and some of the consequences to sharing private information. To know who safe adults are, both at home and at school.	Website, Private, Public, Contact, Acceptable, Unacceptable, E-safety rules, Secure passwords, Report abuse button, Gaming, Blogs	
Research	To generate questions to research and then use Computing resources to find relevant answers, using the class topic. To note any difficulties in trying to find relevant information.	Questions, Relevant, World Wide Web	
Coding and algorithms	To type a short, unambiguous sequence of instructions. To plan ahead (choose a destination) when programming on and off screen.	Destination, Goal, Sequence instructions, Sequence debugging, Test + improve, Logo commands	
Data Handling	To use a simple database (the structure of which has already been set up) to enter and save data. To search their data to answer enquiries.	Search, Enquiry, Question, Construct, Contribute, Record data, Present data, Data logger	
Understanding technologies	To show an understanding that a password is vital in protecting and accessing personal files. To begin to understand URLs.	Password, Protect, Personal, URLs, Collaborate, Appropriate, online communication, Search tools, Appropriate websites, Owner	
Digital Images (refer to Art skills progression)	Animation Story	Sound and music (refer to Music skills progression)	Presentation Capture Create
To create a simple animation to tell a story.		To produce a simple presentation using sounds that have been captured or created.	

Year 4 - Progression of Skills and Vocabulary in Computing

Year 4	<p>National Curriculum: A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.</p>		
Online Safety	<p>To show an understanding of which websites are safe to use alone or with an adult. To know which information is to be kept private or public and some of the consequences to sharing private information. To know who safe adults are, both at home and at school.</p>	<p>Website, Private, Public, Contact, Acceptable, Unacceptable, E-safety rules, Secure passwords Report abuse button, Gaming, Blogs</p>	
Research	<p>To begin to understand copyright regulations when using copy and paste. To show an understanding that not all information online is correct.</p>	<p>Copyright, Regulations, Copy, Paste</p>	
Coding and algorithms	<p>To use coding software to control devices. To predict, test and refine their algorithms.</p>	<p>Software, Refine, Command, Error, Type + edit logo commands, Sensors, Open-ended problems, Bugs in programs</p>	
Data Handling	<p>To create a data collection sheet and use it to create a simple database to answer questions, as a group.</p>	<p>Collection sheet, Database, Analyse, Database creation, Database searches, Inaccurate data</p>	
Understanding technologies	<p>To choose specific devices and tools for specific purposes. To show an understanding of the school network and how computers are linked to resources.</p>	<p>Tool, Network, Purpose, Information collection, Reliability</p>	
Digital Images (refer to Art skills progression)	<p>Digital image Mood</p>	Sound and music (refer to Music skills progression)	<p>Podcast Sound effect</p>

<p>To manipulate digital images using Computing software to convey a specific idea or mood.</p>	<p>Idea</p>	<p>To create a simple podcast using already existing music, sound effects and recording their own.</p>	<p>Recording</p>
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Year 5 - Progression of Skills and Vocabulary in Computing

<p>Year 5</p>	<p>National Curriculum: A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.</p>			
<p>Online Safety</p>	<p>To know why some websites are safer to use. To understand the consequences to sharing information online, e.g. employers looking at social media and online profiles. To know a variety of safe adults and know how to report websites that make them feel worried or concerned.</p>	<p>Consequence, Report, Social media, Concerns, Responsible online communication, Informed choices, Virus threats, Messaging</p>		
<p>Research</p>	<p>To independently, and safely, search the internet to find a range of information, using the class topic. To use a variety of methods to check accuracy of research.</p>	<p>Compare, Evaluate, Accuracy</p>		
<p>Coding and algorithms</p>	<p>To independently create a sequence of commands to control a device.</p>	<p>Control, Explore procedures, Refine procedures, Variable, Hardware + software control, Change inputs, Different outputs, Articulate solutions</p>		
<p>Data Handling</p>	<p>To independently solve a problem by planning and carrying out data collection. To enter information and interrogate it (searching, sorting, graphing). To reflect on how useful the collected data was.</p>	<p>Data collection, Interrogate, Search, Sort, Graph, Spreadsheets, Complex searches (and/or: </>), Problem solving, Present answers, Analyse information, Question data</p>		
<p>Understanding technologies</p>	<p>To perform a search using a search engine and show an awareness for accuracy in spelling. To understand how networks used at home are connected to the wider world, e.g. banks.</p>	<p>Search, Search engine, Accuracy, Connected, networks, Computing devices, Internet parts, Collaboration, Responsibility, Searching strategies, Webpages</p>		
<p>Digital Images (refer to Art skills progression)</p>		<p>Film Source</p>	<p>Sound and music (refer to Music skills progression)</p>	
<p>Track Composition</p>				

To make a short film/animation from images that have been sourced, captured or created.

Capture
Create

To create multiple track compositions that contain a variety of sounds.

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Year 6 - Progression of Skills and Vocabulary in Computing

Year 6	<p>National Curriculum: A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.</p>		
Online Safety	<p>To know why some websites are safer to use. To understand the consequences to sharing information online, e.g. employers looking at social media and online profiles. To know a variety of safe adults and know how to report websites that make them feel worried or concerned.</p>	<p>Consequence, Report, Social media, Concerns, Responsible online communication, Informed choices, Virus threats, Messaging</p>	
Research	<p>To independently, and safely, search the internet to find a range of information on a chosen topic. To use appropriate methods to check both accuracy and bias of information. To repurpose information for a given audience.</p>	<p>Bias, Purpose, Audience</p>	
Coding and algorithms	<p>To design, build, test, evaluation and modify the algorithm to ensure it is fit for purpose.</p>	<p>Design, Build, Evaluate, Modify, Purpose, Predict outputs, Plan, program, test & review a program, Program writing, Control mimics + devices, Sensors, Measure input, Create variables, Link errors</p>	
Data Handling	<p>To understand and demonstrate the need for accuracy when creating databases. To relate and discuss the use of spreadsheets to situations in the wider world, e.g. police databases.</p>	<p>Accuracy, Spreadsheets, Wider world, Generate, Process, Interpret, Store, Present information, Plausibility, Appropriate data tool, Investigations</p>	
Understanding technologies	<p>To perform a search using a search engine and check the results against another search engine, explain why they may be different. To evaluate the tools available and demonstrate an awareness of the different outcomes of the tools.</p>	<p>Check, Compare, Evaluate, Outcome, Information movement, Connecting devices, Different audiences, Research strategies, Search result rankings, Acknowledge resources</p>	
Digital Images (refer to Art skills progression)	<p>Manipulate Presentation</p>	Sound and music (refer to Music skills progression)	<p>Share Audience</p>

<p>To use images that have been sourced, captured or manipulated as part of a bigger project, e.g. a presentation.</p>		<p>To create and share a more sophisticated podcast. To consider the effects on the audience based on music and sound effect choice.</p>	<p>Effects Choice</p>
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