Progression of Skills and Vocabulary in Computing

EYFS Knowledge Organiser Vocabulary to Communicate in Computing		
	Nursery	**Reception**
	Picture, Computer iPad, tablet Photograph Mouse, Keyboard, Code-a-Pillar	Beebot, Type, Direction, Route, Group, Category, Sort Password, Record, Play, Login
EYFS Computing Progression of Knowledge and Skills Overview		
Programming	• I can give and follow instructions • I can make a floor robot move. • I can use simple software to make something happen. • I can make choices about the buttons and icons I press, touch or click on	
Data handling	• I can tell you about different kinds of information such as pictures,videos, text and sound • I can sort and categorise data	
Multimedia	• I can move objects on a screen • I can create shapes and text on a screen • I can use technology to show my learning	
Technology in our lives	• I understand the main parts of a computer and how to use them • I can take a picture • I can tell you about technology that is used at home and at school • I can operate simple equipment • I can use a safe part of the internet to play and learn	
Online safety	• I can ask an adult when I want to use the internet • I can tell an adult if something worrying or unexpected happenedwhile I am using the internet • I can be kind to my friends • I can talk about the amount of time I spend using a computer,tablet or game device • I am careful with technology devices.	

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Year 1	**National Curriculum:** **A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing hasdeep 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 putthis 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 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.	Internet, Safe, Unsafe, Safe adults, Stranger, Choices, Website, App, Rules, Online, Private information, Email, Appropriate/inappropriate sites, Cyber-bullying, Digital footprint, Keyword searching
Research	To explore different sources of information (including electronic and paper, etc.) and discuss pros and cons of both, as a group.	Information, Source, Digital
Coding and algorithms	To control simple everyday devices to make them produce different outcomes. To understand and follow one-step unambiguous instructions.	Device, Outcome, Instruction, Equipment, Buttons Movement, Instructions, Robots, Patterns, Program
Data Handling	To use a simple pictogram or painting program to develop simple graphical awareness, as a class.	Pictogram, Graph, Data, Collect, Count, Organise Photographs, Video, Sound, Data, Digitally
Understanding technologies	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.	Device, Share, Technology, Create, Internet, Purpose, Online tools, Communicate

Digital Images **(refer to Art skills progression)**	Create Modify	*Sound and music* **(refer to Music skills progression)**	Sounds Express
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	National Curriculum: A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing hasdeep 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 putthis 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 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.	Internet, Safe, Unsafe, Safe adults, Stranger, Choices, Website, App, Rules, Online, Private information, Email, Appropriate/inappropriate sites, Cyber-bullying, Digital footprint, Keyword searching
Research	To use a given search engine to research information about a topic.	Search engine, Research, Retrieve
Coding and algorithms	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.	Predict, Effect, Precise, Unambiguous, Forward, Backward, Right-angle turn, Algorithm, Sequence,Debug
Data Handling	To enter data into a simple graphing program to create a graph To save, retrieve and edit their work.	Save, Retrieve, Edit, Capture moments, Magnified images, Questions, Data collection, Graphs, Charts
Understanding technologies	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.	Input, Mouse, Microphone, Keyboard, Journey,Hyperlink, Back button, Information sources, Communication, Website content

Digital Images (refer to Art skills progression)	Communicate Software	Sound and music (refer to Music skills progression)	
To modify an image to communicate an idea, using Computing software		To record short speech. To compose music from icons.	Record, Speech Compose

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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 putthis 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 passwordsReport 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)**	Presention Capture Create
To create a simple animation to tell a story.		To produce a simple presentation using sounds that have been captured or created.	

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Year 4	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 begin to understand copyright regulations when using copy and paste. To show an understanding that not all information online is correct.	Copyright, Regulations, Copy, Paste
Coding and algorithms	To use coding software to control devices. To predict, test and refine their algorithms.	Software, Refine, Command, Error, Type + edit logo commands, Sensors, Open-ended problems, Bugs in programs
Data Handling	To create a data collection sheet and use it to create a simple database to answer questions, as a group.	Collection sheet, Database, Analyse, Database creation, Database searches, Inaccurate data
Understanding technologies	To choose specific devices and tools for specific purposes. To show an understanding of the school network and how computers are linked to resources.	Tool, Network, Purpose, Information collection, Reliability

Digital Images (refer to Art skills progression)	Digital image Mood	Sound and music (refer to Music skills progression)	Podcast Sound effect
To manipulate digital images using Computing software to convey a specific idea or mood.	Idea	To create a simple podcast using already existing music, sound effects and recording their own.	Recording

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Year 5	National Curriculum: A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing hasdeep 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 putthis 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 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.	Consequence, Report, Social media, Concerns, Responsible online communication, Informed choices,Virus threats, Messaging
Research	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.	Compare, Evaluate, Accuracy
Coding and algorithms	To independently create a sequence of commands to control a device.	Control, Explore procedures, Refine procedures, Variable, Hardware + software control, Change inputs, Different outputs, Articulate solutions
Data Handling	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.	Data collection, Interrogate, Search, Sort, Graph,Spreadsheets, Complex searches (and/or: </>), Problem solving, Present answers, Analyse information, Question data
Understanding technologies	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.	Search, Search engine, Accuracy, Connected, networks, Computing devices, Internet parts, Collaboration,Responsibility, Searching strategies, Webpages

Digital Images (refer to Art skills progression)	Film Source	Sound and music (refer to Music skills progression)	Track Composition
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.	Edit layer multi mix

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Year 6	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 iscomputer 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 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.	Consequence, Report, Social media, Concerns, Responsible online communication, Informed choices,Virus threats, Messaging
Research	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.	Bias, Purpose, Audience
Coding and algorithms	To design, build, test, evaluation and modify the algorithm to ensure it is fit for purpose.	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
Data Handling	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.	Accuracy, Spreadsheets, Wider world, Generate,Process, Interpret, Store, Present information, Plausibility, Appropriate data tool, Investigations
Understanding technologies	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.	Check, Compare, Evaluate, Outcome, Information movement, Connecting devices, Different audiences,Research strategies, Search result rankings, Acknowledge resources
Digital Images (refer to Art skills progression)	Manipulate Presentation	**Sound and music** (refer to Music skills progression)	Share Audience
To use images that have been sourced, captured or manipulated as part of a bigger project, e.g. a presentation.		To create and share a more sophisticated podcast. To consider the effects on the audience based	Effects Choice

		on music and sound effect choice.	