



Computing Curriculum Progression

National curriculum objectives

Statutory Framework for the EYFS:
Pupils should be taught to:

National Curriculum Subject Content for Key Stage 1:

Pupils should be taught to:

- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school
- use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

National Curriculum Subject Content for Key Stage 2:

Pupils should be taught to:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Vocabulary						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Digital Literacy	- online - trusted adult - creator - real - personal - respect	- search engine - consent - real - password - protect - devices - communicate - issue	- permission - copyright - search engine - personal - opinion - fact - trusted adult - online	- content - copyright - personal - private - online - healthy and unhealthy online behaviours	- content - copyright - search engines - online - private - trusted adult - online identity	- sources - copyright - search engines - online reputation - opinions - facts - content - online
Computer Science	- technology - camera - iPad/tablet - computer - remote control - smartphone - laptop - television - smartwatch - left - backwards - right - forwards - sounds	- monitor - keyboard - log on / off - mouse - printer - program - headphones - computer - click - forwards - left - backwards - right - debug - test - code - go - pause - cancel	- input - webcam - mouse - television - output - camera - headphones - keyboard - microphone - touchscreen - controller - monitor - printer - speaker - settings - calibrate - joystick - sprite - stage - algorithm - debug - code	- local area network (LAN) - router - server - metropolitan area network (MAN) - modem - firewall - wide area network (WAN) - switch - Internet - sprite - stage - algorithm - debug - code - loop - aim	- Internet - network - protocols - World Wide Web (WWW) - storage - packet - encryption - cloud - IP address - sprite - stage - algorithm - debug - code - loop - variable - operator - extension - control - circuit	- code - central processing unit (CPU) - binary code - quick response (QR) code - decipher - decode - crumble - program - circuit - sprite - stage - algorithm - debug - loop - variable - operator - conditional statement - sensors

				• calibrate • test		• input • output
Information Technology	• text • type • delete • space • image • record • play • pause	• text • font • size • colour • enter • delete • space • capital (caps lock) • camera • perspective • blurred • zoom • focus • position • video • record	• table • column • row • insert • data • document • animation • frames • stop motion animation • audio • track • record • volume	• layout • text • font • insert • slide • presentation • eBook • design • image • media • audio • video • record • volume	• insert • slide • presentation • animation • transition • voice over • edit • trim • sound effects • volume • image • layout • text • font	• data • spreadsheet • function • cell • average • formula • format • layout • text • image • font • podcast • volume • track • record • audio • fade • duplicate

Significant figures and planned enrichment opportunities						
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	

Progression of knowledge and skills

	Digital Literacy	Computer Science	Information Technology
Year 1	• Can explain why work created using technology belongs to the creator • Can give simple examples of how to find information using digital technologies • Can describe what information should not put online without asking a trusted adult first • Knows and understands that there are 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 • Can recognise more detailed examples of information that is personal to someone • Can explain why it is important to be considerate and kind to people online and to respect their choices • Can recognise that there may be people online who could make someone feel sad, embarrassed or upset	• Can name different types of technology • Can understand the uses of different technology • Can sort technology from things that are not • Can understand directions • Can control a remote-controlled device • Can identify directions • Can use directions to program	• Can type on an iPad • Can use a drawing app • Can create digital art • Can record audio using a digital device
Year 2	• Can recognise that content on the internet may belong to other people • Can use simple keywords in search engines • Knows who to talk to if something has been put online without consent or if it is incorrect • Can explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'	• Can name the main parts of a computer • Can name the features of a computer and begin to use these • Can follow directions • Can begin to code • Can show my understanding of coding and debugging • Can follow a sequence of steps • Can code a BeeBot	• Can understand the basic tools of Microsoft Word • Can add text to a Word document • Can use a built-in digital camera • Can create forced perspective pictures • Can record a video

	• Can explain how passwords can be used to protect information, accounts and devices • Can 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 • Can give examples of issues online that might make someone feel sad, worried, uncomfortable or frightened and can give examples of how they might get help		
Year 3	• Can explain why copying someone else's work from the internet without permission isn't fair and can explain what problems this might cause • Can demonstrate how to use key phrases in search engines to gather accurate information online • Can give examples of what anyone may or may not be willing to share about themselves online • Can explain the need to be careful before sharing anything personal • Can explain the difference between a 'belief', an 'opinion' and a 'fact. and can give examples of how and where they might be shared online • Can give reasons why someone should only share information with people they choose to and can trust • Can explain that if they are not sure or feel pressured then they should tell a trusted adult	• Can name a variety of devices • Can understand the terms input and output • Can identify devices which are input or output or both • Can give clear instructions • Can control a Sphero device • Can identify the correct order of different steps in an algorithm • Can create multiple codes on an iPad • Can use multiple codes to make an animation on an iPad	• Can recognise what data is and that it can also be represented as a graph • Can insert items into Microsoft Word • Can enter data into Microsoft Word • Can create an animation • Can create a stop motion animation • Can make music using a digital device

	• Can explain why someone may change their mind about trusting anyone with something if they feel nervous, uncomfortable or worried. • Can explain how people can represent themselves in different ways online		
Year 4	• Can, when searching on the internet for content to use, explain why it's important to consider who owns it and whether people have the right to reuse it • Can describe how to search for information within a wide group of technologies and make a judgement about the probable accuracy • Can explain ways that some of the information about anyone online could have been created, copied or shared by others. • Can 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. • Can describe strategies for keeping personal information private, depending on context • Can give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours • Can explain that others online can pretend to be someone else, including my friends, and can suggest reasons why they might do this.	• Can identify more advanced parts of a computer • Can explain networks and identify the parts of a computer needed to create a network • Can identify the different steps in an algorithm • Can create multiple codes on a computer • Can code an animation which includes a loop • Can debug an algorithm • Can code a Sphero device	• Can create a PowerPoint • Can create an online comic using images • Can create an eBook • Can create a movie with recorded videos

Year 5	• Can give examples of content that is permitted to be reused and know how this content can be found online • Can explain how to use search technologies effectively • Can search for information about an individual online and summarise the information found. • Can evaluate digital content and can explain how to make choices about what is trustworthy • Can explain how many free apps or services may read and share private information • Can explain how someone can get help if they are having problems and identify when to tell a trusted adult • Can demonstrate how to make responsible choices about having an online identity, depending on context	• Can understand the Internet, the World Wide Web and cloud storage • Can explain the differences between the Internet and the WWW • Can identify the different steps in an algorithm • Can understand how to use operators and variables • Can create a code with operators and variables • Can create a game that uses player interaction • Can debug an algorithm • Can code a Makey Makey device	• Can create an animated PowerPoint • Can create a movie with voice overs • Can create a digital poster
Year 6	• Can demonstrate how to make references to and acknowledge sources used from the internet • Can explain how search engines work and how results are selected and ranked • Can explain the ways in which anyone can develop a positive online reputation. • Can 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 true, fair or perhaps even legal.	• Can understand and use different types of computer code including binary • Can code a crumble device • Can identify the different steps in an algorithm • Can understand how to use conditional statements and sensors • Can create a code with conditional statements and sensors	• Can identify how to input data on a computer • Can turn data into a suitable graph on a computer • Can use and create formulas on a computer • Can create a working spreadsheet • Can create a digital newsletter • Can create a podcast

	• Can describe ways in which some online content targets people to gain money or information illegally; can describe strategies to help identify such content • Can explain that there are some people to communicate with online who may want to do people harm and can recognise that this is not our fault • Can describe issues online that could make anyone feel sad, worried, uncomfortable or frightened • Knows and can give examples of how to get help, both on and offline		
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