



Christopher Pickering Computing Long Term Plan 2024-2025

Computing Long Term Plan 2024-2025



The intention for our young digital learners

The computing curriculum will:

- equip pupils to use computational thinking and creativity to understand and change the world.
- make deep links with mathematics, science and design and technology, and provides insights into both natural and artificial systems.
- teach the principles of information and computation, how digital systems work and how to put this knowledge to use through programming.
- build on this knowledge and understanding to ensure pupils are equipped to use information technology to create programs, systems and a range of content.
- enable pupils to 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.

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Early Years Objectives linked to Computing		
Three and Four Year Olds	Personal, Social and Emotional Development	• Remember rules without needing an adult to remind them.
	Physical Development	• Match their developing physical skills to tasks and activities in the setting.
	Understanding the World	• Explore how things work.
Reception	Personal, Social and Emotional Development	• Show resilience and perseverance in the face of a challenge. • Know and talk about the different factors that support their overall health and wellbeing: -sensible amounts of 'screen time'.
	Physical Development	• Develop their small motor skills so that they can use a range of tools competently, safely and confidently.
	Understanding the World	• Explore, use and refine a variety of artistic effects to express their ideas and feelings.
ELG	Personal, Social and Emotional Development	Managing Self Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. Explain the reasons for rules, know right from wrong and try to behave accordingly.
	Expressive Arts and Design	Creating with Materials Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.



Programme of Study

Key Stage 1

The national curriculum for computing aims to ensure that all pupils can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation. Pupils should be aiming to analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems. They will be able to evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems. Pupils are aiming to be responsible, competent, confident and creative users of information and communication technology.

Pupils should be taught to:

- (C1) Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- (C2) Create and debug simple programs
- (C3) Use logical reasoning to predict the behaviour of simple programs
- (C4) Use technology purposefully to create, organise, store, manipulate and retrieve digital content
- (C5) Recognise common uses of information technology beyond school
- (C6) 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.

Key Stage 2

Pupils should be taught to:

- (C7) design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- (C8) use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- (C9) use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- (C10) 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
- (C11) use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- (C12) 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
- (C13) use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

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	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Foundation Stage 2	Barefoot Computing – Busy Bodies	Barefoot Computing – Awesome Autumn	Barefoot Computing – Winter Warmers	Barefoot Computing – Springtime	Barefoot Computing – Boats Ahoy!	Barefoot Computing – Summer Fun
	<i>Project Evolve – ‘Privacy and Security’ & ‘Copy right and ownership’</i>	<i>Project Evolve – Online Bullying</i>	<i>Project Evolve - Online Relationships & Online reputation</i>	<i>Project Evolve - Self-Image and Identity & Managing Online Information</i>	<i>Project Evolve - Health, Well-being and Lifestyle</i>	<i>Project Evolve – Recap</i>
Year 1	Computing systems and networks – Technology around us	Creating media – digital painting	Programming – Moving a Robot (Beebots)	Data and information – grouping data	Creating media – digital writing	Programming – Programming animations (Scratch Jnr)
	<i>Project Evolve – ‘Privacy and Security’ & ‘Copy right and ownership’</i>	<i>Project Evolve – Online Bullying</i>	<i>Project Evolve - Online Relationships & Online reputation</i>	<i>Project Evolve - Self-Image and Identity & Managing Online Information</i>	<i>Project Evolve - Health, Well-being and Lifestyle</i>	<i>Project Evolve – Recap</i>
Year 2	Programming - Robot Algorithms (Beebots)	Creating media – digital music	Creating media – digital photography	Programming – Quizzes (Scratch Jnr)	Computing systems and networks – IT around us	Data and information – Pictograms
	<i>Project Evolve ‘Privacy and Security’ & ‘Copy right and ownership’</i>	<i>Project Evolve – Online Bullying</i>	<i>Project Evolve - Online Relationships & Online reputation</i>	<i>Project Evolve - Self-Image and Identity & Managing Online Information</i>	<i>Project Evolve - Health, Well-being and Lifestyle</i>	<i>Project Evolve – Recap</i>
Year 3	Creating Media – Desktop Publishing	Computing systems and networks – connection computers (MCSA)	Programming A – sequencing sounds (Scratch)	Data and information – branching databases (MCSA)	Programming B – Events and actions in programs (Scratch) (MCSA)	Creating media – animation
	<i>Project Evolve ‘Privacy and Security’ & ‘Copy right and ownership’</i>	<i>Project Evolve – Online Bullying</i>	<i>Project Evolve - Online Relationships & Online reputation</i>	<i>Project Evolve - Self-Image and Identity & Managing Online Information</i>	<i>Project Evolve - Health, Well-being and Lifestyle</i>	<i>Project Evolve – Recap</i>

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Year 4	Programming – Repetition in shapes (MCSA) Turtle Academy FMS Logo!	Computing systems and networks – The internet (MCSA)	Data and in information – Data Logging	Creating media – 3D design	Programming – Repetition in games (Scratch)	Creating media – Photo editing
	<i>Project Evolve – ‘Privacy and Security’ & ‘Copy right and ownership’</i>	<i>Project Evolve – Online Bullying</i>	<i>Project Evolve - Online Relationships & Online reputation</i>	<i>Project Evolve - Self-Image and Identity & Managing Online Information</i>	<i>Project Evolve - Health, Well-being and Lifestyle</i>	<i>Project Evolve – Recap</i>
Year 5	Creating Media – video production	Computing systems and networks – Systems and Searching (MCSA)	Data and Information – Flat File databases (MCSA)	Creating Media – Introduction to vector graphics	Programming A – Selection in Physical Computing (Crumble Kits)	Programming B – Selection in quizzes (Scratch) (MCSA)
	<i>Project Evolve – ‘Privacy and Security’ & ‘Copy right and ownership’</i>	<i>Project Evolve – Online Bullying</i>	<i>Project Evolve - Online Relationships & Online reputation</i>	<i>Project Evolve - Self-Image and Identity & Managing Online Information</i>	<i>Project Evolve - Health, Well-being and Lifestyle</i>	<i>Project Evolve – Recap</i>
Year 6	Data and Information – Spreadsheets (MCSA)	Computing systems and networks – Communication and collaboration (MCSA)			Programming A – Variables in games (Scratch) (MCSA)	Programming B – Sensing Movement (Micro: Bit)
	<i>Project Evolve – ‘Privacy and Security’ & ‘Copy right and ownership’</i>	<i>Project Evolve – Online Bullying</i>	<i>Project Evolve - Online Relationships & Online reputation</i>	<i>Project Evolve - Self-Image and Identity & Managing Online Information</i>	<i>Project Evolve - Health, Well-being and Lifestyle</i>	<i>Project Evolve – Recap</i>