



Christopher Pickering Primary School

Be the Best you can Be!

Christopher Pickering Computing Long Term Plan

Computing



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.



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.

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KS1	Autumn	Spring	Summer
Year 1	<p><u>Antarctic Explorers and Expeditions</u></p> <p>C6 - Unit 1.1 - Online Safety and exploring Purple Mash (Internet and email / Communication and networks)</p> <p>C4 - Unit 1.2 - Grouping and sorting (Coding and Computational thinking)</p> <p>C4 - Unit 1.3 – Pictograms (Databases and grouping)</p>	<p><u>Enchanted Woodland</u></p> <p>C1 - Unit 1.4 - Lego Builders (Coding and Computational thinking)</p> <p>C1, C2, C3 - Unit 1.5 - Maze Explorers (Coding and Computational thinking)</p> <p>C4 - Unit 1.6 - Animated Story Books (Art and Design)</p>	<p><u>The Seaside</u></p> <p>C1, C2, C3, C4 - Unit 1.7 – Coding (Coding and Computational thinking)</p> <p>C4 - Unit 1.8 – Spreadsheets (Spreadsheets)</p> <p>C5 - Unit 1.9 – Technology outside school (Communication and networks)</p>
Year 2	<p><u>The First Moon Landing</u></p> <p>C1, C2, C3 - Unit 2.1 – Coding (Coding and Computational thinking)</p> <p>C6 - Unit 2.2 - Online Safety (Internet and Email)</p> <p>C4 - Unit 2.3 – Spreadsheets (Spreadsheets)</p>	<p><u>London and the Monarchy</u></p> <p>C4 - Unit 2.4 – Questioning (Databases and grouping)</p> <p>C4, C5 - Unit 2.5 – Effective Searching – (Internet and Email)</p>	<p><u>Explorers of the Sea</u></p> <p>C4 - Unit 2.6 – Creating Pictures (Art and Design)</p> <p>C4 - Unit 2.7 – Making Music (Music)</p> <p>C4 - Unit 2.8 – Presenting Ideas (Writing and Presenting)</p>



Programme of Study

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	Spring	Summer
Year 3	<p><u>Hull's Heroes</u></p> <p>Unit 3.1 – Coding (Coding and Computational thinking) C7, C8, C9</p> <p>Unit 3.2 – Online Safety (Internet and E-mail) C13</p> <p>Unit 3.3 – Spreadsheets (Spreadsheets) C12</p>	<p><u>Stone, Bronze and Iron Age</u></p> <p>Unit 3.4 – Touch Typing (Writing and Presenting) C12</p> <p>Unit 3.5 – E-mail (Internet and E-mail) C9, C12, C13</p>	<p><u>Volcanoes and Earthquakes</u></p> <p>Unit 3.6 – Branching Databases (Databases and Graphing) C12</p> <p>Unit 3.7 – Simulations C12</p> <p>Unit 3.8 – Graphing (Databases and Graphing) C12</p>
Year 4	<p><u>World War II</u></p> <p>Unit 4.1 – Coding (Coding and Computational thinking) C7, C8, C9, C12</p> <p>Unit 4.2 – Online Safety (Internet and E-mail) C13</p>	<p><u>Romans</u></p> <p>Unit 4.3 – Spreadsheets (Spreadsheets) C12</p> <p>Unit 4.4 – Writing for different purposes (Writing and Presenting) C12</p>	<p><u>Rainforests</u></p> <p>Unit 4.5 – Logo (Coding and Computational thinking) C7, C8, C9</p> <p>Unit 4.6 – Animation (Art and Design) C12</p> <p>Unit 4.7 – Effective Search (Internet and E-mail) C11</p> <p>Unit 4.8 – Hardware Investigators C10</p>
Year 5	<p><u>Ancient Egypt</u></p> <p>Unit 5.1 – Coding (Coding and Computational thinking) C7, C8, C9, C12</p> <p>Unit 5.2 – Online Safety (Internet and E-mail) C10, C13</p>	<p><u>Vikings, Anglo Saxons and Scots</u></p> <p>Unit 5.3 – Spreadsheets (Spreadsheets) C12</p> <p>Unit 5.4 – Databases (Databases and Graphing) C12</p>	<p><u>Rivers and The Water Cycle</u></p> <p>Unit 5.5 – Game Creator (Art and Design) C7, C12</p> <p>Unit 5.6 – 3D Modelling (Art and Design) C12</p> <p>Unit 5.7 – Concept Maps (Writing and Presenting) C12</p>
Year 6	<p><u>Ancient Mayan Civilization</u></p> <p>C7, C8, C9, C12 - Unit 6.1 – Coding (Coding and Computational thinking)</p> <p>C10, C11, C13 - Unit 6.2 – Online Safety (Internet and E-mail)</p> <p>C12 - Unit 6.3 – Spreadsheets (Spreadsheets)</p>	<p><u>Crime and Punishment</u></p> <p>C10, C12, C13 - Unit 6.4 – Blogging (Writing and Presenting)</p> <p>C7, C8, C9, C12 - Unit 6.5 – Text Adventures</p>	<p><u>Deserts and Third World Countries</u></p> <p>C10 - Unit 6.6 – Networks</p> <p>C12 - Unit 6.7 – Quizzing (Writing and Presenting)</p>

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