



Lunt's Heath Primary School

Computing Curriculum Map and Statutory Requirements



Computing Units Map 2024-2025

Units in Blue denote Online safety.

Units in Red Denote Computer Science - Coding

	Autumn		Spring		Summer	
Year 1	<p>My Online life To improve children's knowledge of the risks of their online lives and to develop skills when using online services</p>	<p>What is a computer? Children will learn about computers... They will learn new digital skills as they work with text and images. The children will create simple algorithms and programs using Scratch Jr</p>	<p>Mini-beasts Children will use technology to sort and classify mini-beasts. They will learn about gathering and presenting information, searching the web, taking photographs and using a paint application</p>	<p>Modern tales the children will learn to navigate the rules of online safety and communication. The children will learn about web searching, basic keyboard skills and creating digital content</p>	<p>My friend the Robot They will explore coding games learning about sequencing, algorithms, debugging and how to create simple programs</p>	<p>News Presenter They will learn about the various sources of news, both online and offline. The children will produce a news show, create a new show logo, write a good news story and create digital drawings and video clips.</p>
Year 2	<p>My Online life As in Year 1 plus.. <u>It take an holistic approach to each of the different elements of their online lives.</u></p>	<p>Making games As in Year 1 plus... <u>They will create sprites and learn the basics of using visual coding using Scratch Jr. The activity will introduce new concepts such as conditional language, repeat loops and debugging.</u></p>	<p>Story Land The children take the role of authors to write the sequel to popular children's stories. They then create illustrations for their story and record themselves reading it in order to create an audiobook to publish online.</p>	<p>Online buddies <u>This activity will explore what friendship means online. The children will learn about the do's and don'ts of online communication.</u></p>	<p>Code a story Children will develop their understanding of basic programming by creating sequences of instructions. They will use logical reasoning to predict outcomes. <u>They will learn about programming blocks, creating programs, writing algorithms, sequencing instructions, audio recording and taking screenshots. They will document all of their work in a digital pupil journal.</u></p>	<p>Presentation and Typing This unit of work will allow the children to develop their keyboard and digital skills as they create a presentation about their digital life. <u>They will also learn about using search engines and organising data using a tally chart.</u></p>
Year 3	<p>My Online life As in Year 2 plus... The resources included in this module are aimed at stimulating classroom discussions about certain situations that may arise when online and to get the children to think critically about their online lives.</p>	<p>Be Digitally Awesome As in Year 2 plus... The children will be learning about file types, clouds, word processing and creating spreadsheets and presentations.</p>	<p>Dancing Robots As in Year 2 plus... <u>The children will use some of Scratch Jr's more advanced coding blocks to create their own interactive dancing robot game. The children will learn critical thinking, problem solving and debugging skills</u></p>	<p>Online detectives As in Year 2 plus... This activity is designed to support children in mastering the art of advanced internet searching. They will learn new tricks to improve their searches while they try to solve puzzles and challenges.</p>	<p>Rainforests As in Year 2 plus... Using various apps to research rainforests, create an informative digital poster, record data, and finally record their own David Attenborough style voiceover for a video clip of the rainforest.</p>	<p>Programming with Robots In this unit, the children explore the history of robots and then get to <u>program a robot around a maze.</u></p>



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Year 4	<p style="text-align: center;">My Online Life</p> <p>As in Year 3 plus... It highlights what a child should know in terms of current online technology, its influence on behaviour and development, and what skills they need to be able to navigate it.</p>	<p style="text-align: center;">Hour of code</p> <p>As in Year 3 plus... Answer questions such as; What is coding? Why is coding important? What is visual coding? What is an algorithm? What is a program? What is a conditional statement?</p>	<p style="text-align: center;">Fake or real?</p> <p>Fake news has become commonplace in society and children are very much part of those who are reading fake news on a daily basis. This module will aim to make them aware of Fake News, give them the skills to consider each piece of news they read on its own merits and decide what is real or fake.</p>	<p style="text-align: center;">Endangered Animals</p> <p>The children will learn new online skills and discuss AI, computer-generated images and copyright. They will visit protected national parks by using Google Earth. Then the children will create illustrations and use a video editing app to produce a social media advert that raises awareness of our planet's endangered animals.</p>	<p style="text-align: center;">Dinosaurs</p> <p>This unit of work will see children take on the role of actors, directors, editors, camera operators and special effect artists as they create a movie trailer for a dinosaur-themed film.</p>	<p style="text-align: center;">Game design</p> <p>The children will learn all about the career of a Games Designer. They will play games, write reviews and then design and prototype their own game. Finally they will pitch their game idea to the class.</p>
Year 5	<p style="text-align: center;">My Online Life</p> <p>As Year 4 plus... Thinking about different scenarios and looking at reporting tools such as CEOPs.</p>	<p style="text-align: center;">Making games AR</p> <p>In this activity, the children will be introduced to the world of Augmented Reality (AR). The children will play and review AR applications, create a vlog and discuss the risks of video sharing online. As their final challenge, they will design and create their own AR scene based on a book, movie or game.</p>	<p style="text-align: center;">Steam challenges</p> <p>This activity will pit the girls against the boys in a series of creative STEAM challenges. They will tackle code, maths, art, DT and lots of problem solving.</p>	<p style="text-align: center;">Youtube</p> <p>Every child wants to be a 'Youtuber'. In this activity children will learn about what that actually means and they will explore the positive and negatives associated with being a YouTuber. The children are given the opportunity to create their own vlog, edit and then critique it.</p>	<p style="text-align: center;">Binary Messages</p> <p>This activity introduces binary code. It explains what binary code is and how it is used. The children then challenge each other to solve word problems by using binary code as a form of secret messaging. The children will be introduced to spreadsheets and learn basic formulas. They will then create their own binary conversion machine</p>	<p style="text-align: center;">Web designer</p> <p>In this activity the children will learn about the history of the web, basic HTML, how to create their own graphics and how to publish their own website.</p>
Year 6	<p style="text-align: center;">My Online life</p> <p>As Year 5 plus... Looking at what creates a good citizen and how we can use these skills in adult life.</p>	<p style="text-align: center;">VR Worlds</p> <p>Welcome to an exciting journey into the world of virtual reality (VR) and interactive storytelling! In this series of lessons, you'll become a digital explorer, learning how to craft your own immersive VR tour using the CoSpaces website/app.</p>	<p style="text-align: center;">Coding Playground</p> <p>Children will be introduced to the role of an App Developer. They will design and prototype an app for their school using Keynote. The children will learn valuable digital skills and be introduced to new online concepts and vocabulary. They will also be introduced to text-based programming, how apps are coded and complete self paced programming challenges using the Swift Playground app.</p>	<p style="text-align: center;">Online safety dilemmas</p> <p>This unit of work explores several online safety scenarios relevant to children in upper KS2. Throughout the unit, the children will be presented with information and discussion topics that will teach them to consider their role when staying safe online, be able to give good advice and follow safe internet practices when faced with similar online dilemmas. At the end of each lesson, the children will record a short video clip within their pupil journal demonstrating that they know how to act when faced with an online situation.</p>	<p style="text-align: center;">Flowol (System Programming)</p> <p>allows students of all ages to develop logical reasoning and problem solving talents, develop programming skills and explore the world of automatic, autonomous systems and robots.</p>	<p style="text-align: center;">Leavers Book and Video</p> <p>In this activity, six lessons cover different elements of digital media creation. You can choose which parts you wish to include in your class leaver's book; this may be time dependent. If this is additional to the weekly timetabled computing lessons, choose the first three that focus on the children producing a digital leaver's book; this can be completed in the morning of teaching. Weeks four to six focus on the children producing a memories video using a green screen and video editing.</p>



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Purpose and Aims

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.

Aims

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
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.



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EYFS

Computing Knowledge and Skills

<p style="text-align: center;">Personal, Social and Emotional Development – Reception</p> <ul style="list-style-type: none"> • 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'. 	<p style="text-align: center;">Physical Development – Reception</p> <ul style="list-style-type: none"> • Develop their small motor skills so that they can use a range of tools competently, safely and confidently.
<p style="text-align: center;">Expressive Arts and Design – Reception</p> <ul style="list-style-type: none"> • Explore, use and refine a variety of artistic effects to express their ideas and feelings. <p style="text-align: center;">Personal, Social and Emotional Development – ELG Managing Self</p> <ul style="list-style-type: none"> • 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. 	<p style="text-align: center;">Expressive Arts and Design – ELG Creating with Materials</p> <ul style="list-style-type: none"> • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

Key Stage 1

Computing Knowledge and Skills

<p>Pupils will be taught to:</p> <ul style="list-style-type: none"> • 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.
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Key Stage 2

Computing Knowledge and Skills

Pupils will 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.