



Highfield Primary School Progression Map 2024 - 2025

Subject: Computing

Intent

At Highfield Primary School, our Computing curriculum will develop our children’s computing skills to enable them to access the modern world and prepare them for their digital future; knowing how to be safe and resilient online and being digitally literate. This will include the principles of digital literacy and computation, how digital systems work, and how to put this knowledge to use through programming. We recognise that Computing has deep links with other subjects including Mathematics, Science, and Design Technology and aim to utilise this to embed pupils’ learning across a range of subjects. This will ensure digital literacy is woven through all aspects of school life. Our curriculum is designed to ensure, that as our children move from Highfield to further their education and learning, their knowledge of digital literacy will enable them to use, and express themselves at a level suitable for not only the future workplace but as active participants in a digital world.

Implementation

Progression of Knowledge

	EYFS		KS1		KS2			
Term	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Nursery children will be taught to/about:	In addition to knowledge taught in the Nursery, Reception children will be taught to/about:	In addition to EYFS knowledge, Year 1 children will be taught to/about:	In addition to EYFS and Year 1 knowledge, Year 2 children will be taught to/about:	In addition to KS1 knowledge, Year 3 children will be taught to/about:	In addition to KS1 and Year 3 knowledge, Year 4 children will be taught to/about:	In addition to KS1 and Lower KS2 knowledge, Year 5 children will be taught to/about:	In addition to KS1, Lower KS2 and Year 5 knowledge, Year 6 children will be taught to/about:
Autumn	Understand that by using an inputting device, such as a button that an expected outcome should occur.	Follow instructions and predict a desired outcome.	Understand what algorithms are; how they are implemented as programs on digital devices. Understand that programs execute following precise	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	Use logical reasoning to predict the behaviour of simple programs Create and debug simple programs. Amend a program and make an	Design, write and debug programs that accomplish specific goals Use sequence and repetition in programs.	Design, write and debug programs that accomplish specific goals including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	Use logical reasoning to explain how simple algorithms work and to detect and correct errors in algorithms and programs.

			<p>and unambiguous instructions</p> <p>Use logical reasoning to predict the behaviour of simple programs</p> <p>Create and debug simple programs.</p> <p>Follow and make instructions, predicting an expected outcome and editing the instructions if the predicted outcome is no achieved.</p>	<p>that accomplish given goals.</p> <p>Sequence a set of instructions and use repeat instructions.</p>	<p>animation combining images, sound and movement.</p> <p>Create a sprite and simple animation including 2 sprites communicating with each other.</p> <p>Make animations and sprites move using blocks and loops as well as coordinates and sound effects that are repeated.</p> <p>Predict and outcome when a function is executed.</p>	<p>Use logical reasoning to explain how a simple algorithm works and detect and correct errors in algorithms and programs. Solve problems by decomposing them into smaller parts</p> <p>Create and debug simple programs.</p> <p>Understand that programs execute following precise and unambiguous instructions.</p> <p>Create a test sequence and test a sequence of statements. Create a program that can change the size of an object. Use if, then, else statements when programming.</p> <p>Plan a number of commands in order to solve a puzzle.</p> <p>Plan algorithms and test programs systematically</p>	<p>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</p> <p>Use conditional if, then, else statements and use the X and Y coordinates to program movement.</p> <p>Know that Boolean statements can only be true or false.</p> <p>Use variables and that they are stored and can be used to keep track of values such as scores.</p> <p>Use sequence, selection, conditions and repetition in programs.</p> <p>Design algorithms before programming in a systematic way to find bugs and debug them.</p> <p>Evaluate work and make improvements.</p>	<p>Write and change computer programs to make them do multiple things.</p> <p>Use loops, variables and conditional statements in computer games to program the rules to progress in a game. Enabling the programming of a multi-level game.</p> <p>Design a program and detail the objects, interactions and rules for a game.</p> <p>Identify mistakes in their own and other's work and systematically test programs to find bugs and correct them.</p> <p>Create an app including images, buttons and sounds and talk about the benefits of mobile technology.</p> <p>Make changes to codes when the desired outcome is</p>
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						Program functions and call them more than once.		not reached or when things are not executed as expected. Write a code using a text-based programming language. Split problems into smaller steps to help solve it and know that this is called decomposition as well as using algorithms to solve problems.
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<p>Spring</p>	<p>Understand different types of technology and where this can be found- in school and out of school.</p>	<p>Recognise that a range of technology is used in places such as homes and schools.</p> <p>Select and use technology for different purposes.</p>	<p>To use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <p>Recognise common uses of information technology beyond school.</p> <p>Use word processing software to type sentences and know when it is suitable to use word processing software.</p> <p>Be able to print, save and open work.</p> <p>Make a variety of graphs and use these to answer questions.</p> <p>Be able to sort objects in order.</p>	<p>Use a variety of software to create mind maps, timelines, eBooks, blog posts and presentations.</p> <p>Use safety features to access blogs such as password and username.</p> <p>Understand what a blog is and how it works including making blog posts and responding to them.</p> <p>Navigate a website and research relevant information to answer a question.</p>	<p>Select, use and combine a variety of software (including internet services) on a range of digital to design and create a range of programs, systems and content that accomplish given goals.</p> <p>Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; the opportunities they offer for communication and collaboration.</p> <p>Use search engines effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</p> <p>Understand that simulations identify patterns and rules that allow people to try things that would be difficult or impossible in real life.</p>	<p>Understand that how numbers can be represented in binary, and be able to carry out simple operations on binary numbers such as binary addition.</p> <p>Sort information on records and answer questions using information contained in records.</p> <p>Add records to databases and use databases to create charts representing answers to the questions.</p> <p>Search and sort databases to answer questions.</p> <p>Plan and make an animation by sequencing digital images and add backgrounds and animated scenes.</p>	<p>Understand that numbers can be represented in binary, and be able to carry out simple operations on binary numbers such as binary addition.</p> <p>Use graphical modelling software to create 3D shapes and group these shapes to create a model.</p> <p>Explore possibilities using graphical models.</p> <p>Create vector images out of lines and shapes and change the order of layers in a vector drawing.</p> <p>Zoom in and out to add detail as well as duplicating, moving, resizing and rotating graphical objects.</p>	<p>Design a model and add components to said model. Explain choice of tools used.</p> <p>Identify changes/improvements and amend accordingly.</p> <p>Solve problems using spreadsheets including answering questions and making choices.</p> <p>Select correct formulas to carry out calculations including SUM to add numerical data. Create, edit and copy graphs using spreadsheets.</p>
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					<p>Use simulations to identify patterns and rules as well as trying out combinations of things.</p> <p>Make their own simulation.</p>			
Summer	<p>Understand simple safety associated with computing such as not sharing passwords.</p>	<p>Begin to understand how to use simple technological devices such as keyboards, mice, touchscreens etc.</p> <p>Use computing hardware to interact with age-related appropriate computing software.</p>	<p>Use technology safely and respectfully, keeping personal information; identity where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</p> <p>Children will be able to turn on and off a computer including logging on and off.</p> <p>Children will be able to type using a keyboard and navigate using a mouse including clicking, dragging and pointing.</p> <p>Children will be able to save, print work and open some applications with support.</p>	<p>Explain why an email or attachment from an unknown sender should not be opened.</p> <p>Use technology to communicate online with known people and not strangers.</p> <p>Understand some ways of staying safe online including use age appropriate websites.</p> <p>Know to treat people how they would like to be treated online, some people are not nice online and this constitutes bullying-know trusted adults to report this to.</p>	<p>Understand how online actions can affect others.</p> <p>Talk about privacy settings and how these can be used to keep them safe online.</p> <p>Give examples of appropriate and inappropriate online content, that sharing online without consent has consequences and who can help if this happens.</p> <p>Understand that online advertising is targeted, how this advertising can make people feel and how to avoid seeing too many online adverts.</p> <p>Identify and create a strong and safe password and the</p>	<p>Be able to identify some ways of online content can be evaluated for reliability.</p> <p>Understand and talk about copyright.</p> <p>Rate the riskiness of online situations and talk about strategies for recognising and responding to this. Including ways to deal with cyberbullying.</p> <p>Identify ways that information can be found out about online as well as that personal information shared online becomes part of our reputation and this can last a long time.</p> <p>Speak to trusted adults if they think</p>	<p>To know the importance of cryptography throughout time.</p> <p>To know that information shared on the internet may be misleading or inaccurate and needs to be checked.</p> <p>Encrypt and decrypt simple messages.</p> <p>Communicate simple messages through signal. Messages can be sent electronically</p> <p>Send and code messages using Morse code and a cipher.</p> <p>Talk about the risks and benefits of using various forms of communication.</p>	<p>To know how to create passwords that are hard to use yet easy to remember.</p> <p>To know that permission is needed to use other people's work within their work.</p> <p>Understand that personal and private information is and when and where it is appropriate to share.</p> <p>Identify multiple people that can be trusted such as teacher or police officer.</p> <p>Talk about the importance of screen locks on devices.</p>

					importance of keeping this secret.	identity theft has occurred.	<p>Follow the safety rules and behaves responsibly online, suing the SMART rules to guide.</p> <p>To communicate safely online.</p> <p>Talk about the different ways people can be bullied online.</p>	<p>Making decisions about information shared on sites.</p> <p>Compare different sources of information, cross check information provided on one website against another and to check information on the internet as it can be inaccurate or misleading.</p> <p>Identify situations of harassment and bullying online and specific ways in which this can be dealt with. Including how best to deal with negativity received online and that there are tools available online to report online abuse.</p> <p>Identify situations where communicating face to face is better than online.</p>
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Impact (End points)

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By the end of the Summer term	<p>Pupils in Nursery should be able to:</p> <p>Use an input device such as a button and know that an expected outcome should occur.</p> <p>Identify different types of technologies and their uses such as the different technologies in their homes and school.</p> <p>Begin to understand the importance of E-safety such as keeping passwords secret.</p>	<p>Pupils in Reception should be able to:</p> <p>Follow instruction make predictions of outcomes based on this.</p> <p>Select appropriate technology to complete different tasks.</p> <p>Begin to understand how to use simple technological devices such as keyboards, mice, touchscreens etc and use this to interact with software.</p>	<p>Pupils in Year 1 should be able to:</p> <p>Use algorithms, programming and computational thinking when creating computer models.</p> <p>Collect, organise interpret and present data</p> <p>Use digital tools and technology to communicate, collaborate and express themselves.</p> <p>Stay safe online</p> <p>Use technology for specific purposes, presenting information, creating charts and using a word processor.</p>	<p>Pupils in Year 2 should be able to:</p> <p>Use computer modelling whilst developing their computational thinking skills, algorithms and programming through the use of “unplugged” and “plugged” lessons.</p> <p>Present information and ideas using multi-media, including searching online safely and blogging.</p> <p>Act safely and responsibly whilst online.</p> <p>Use a range of technologies and tools with growing confidence.</p> <p>Plan and create animations.</p>	<p>Pupils in Year 3 should be able to:</p> <p>Use computer simulations and networks.</p> <p>Apply problem solving skills and computational thinking whilst creating computer programs</p> <p>Understand computer networks.</p> <p>Combine media to present information and express ideas.</p> <p>Explore the internet and World Wide Web and know the differences between these.</p> <p>Search online safely and podcasting.</p> <p>Use a range of information technology for specific purposes and confidently select the correct equipment and devices to do this.</p> <p>Represent data in spreadsheets.</p>	<p>Pupils in Year 4 should be able to:</p> <p>More confidently apply computational thinking, algorithms and programming using a wider variety of software.</p> <p>Represent data in a variety of ways.</p> <p>Create practical databases and know how to quickly and efficiently search databases to give the best results.</p> <p>Use digital tools creatively and informatively.</p> <p>Create animations</p> <p>Communicating and collaborating using email.</p> <p>To use computers and technology safely with growing confidence.</p>	<p>Pupils in Year 5 should be able to:</p> <p>Use multimedia tools to create web content.</p> <p>Use a range of tools and technology to complete 3D graphical modelling.</p> <p>Digitally draw</p> <p>Use cryptography (coding information) so that only the person a message was intended for can read it.</p>	<p>Pupils in Year 6 should be able to:</p> <p>Confidently understand computer networks and how devices can be linked together.</p> <p>Use technology creatively to communicate, collaborate and express ideas and yourself.</p> <p>Create web content using HTML/CSS</p> <p>Use and evaluate a range of tools and technologies for a specific purpose/ audience.</p> <p>Confidently use spreadsheets to display and represent data.</p>