

Computing Progression Map



EYFS	KS1 National Curriculum Expectations	KS2 National Curriculum Expectations
<p>Pupils should learn to:</p> <ul style="list-style-type: none"> ● remember rules without needing an adult to remind them. ● match their developing physical skills to tasks and activities in the setting. ● explore how things work ● 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’. ● develop their small motor skills so that they can use a range of tools competently, safely, and confidently. ● explore, use, and refine a variety of artistic effects to express their ideas and feelings. ● 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. ● safely use and explore a variety of materials, tools, and techniques, experimenting with colour, design, texture, form, and function. 	<p>Pupils should 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 [CS] ● create and debug simple programs [CS] ● use logical reasoning to predict the behaviour of simple programs [CS] ● use technology purposefully to create, organise, store, manipulate and retrieve digital content [IT] ● recognise common uses of information technology beyond school [DL] ● 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. [DL] 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ● design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts [CS] ● use sequence, selection, and repetition in programs, work with variables and various forms of input and output [CS] ● use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs [CS] ● 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 [CS] ● use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content [IT] ● 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 [IT] ● use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. [DL]

Computer Science

EYFS	Y1	Y2
<p>Follow simple algorithms.</p> <p>Spot patterns.</p> <p>Use a touch screen device to target and select options on a screen</p> <p>Input simple instructions to control a device e.g. a Bee Bot.</p>	<p>Understand that an algorithm is a set of instructions used to solve a problem or achieve an objective.</p> <p>Know that an algorithm written for a computer is called a program.</p> <p>Work out what is wrong with a simple algorithm when the steps are out of order.</p> <p>Develop a sequence of instructions and run them using programmable devices.</p> <p>Know that when a computer does something it follows instructions called a code.</p> <p>Read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program.</p> <p>Identify and correct some errors.</p>	<p>Explain that an algorithm is a set of instructions to complete a task.</p> <p>Show an awareness of the need to be precise with their algorithms so that they can be successfully converted into code.</p> <p>Create a simple program that achieves a specific purpose.</p> <p>Identify the parts of a program that respond to specific events and initiate specific actions.</p> <p>Write a cause-and-effect sentence of what will happen in a program.</p> <p>Make logical attempts to fix code.</p>

Y3	Y4	Y5	Y6
<p>Deconstruct a problem into manageable parts.</p> <p>Identify an error within their program that prevents it following the desired algorithm and then fix it.</p> <p>Design and code a program that follows a simple sequence.</p> <p>List a range of ways that the Internet can be used to provide different methods of communication.</p>	<p>Make more intuitive attempts to debug their own programs.</p> <p>Use logical reasoning to design simple algorithms using loops and selection, i.e., if statements.</p> <p>Declare and assign variables.</p> <p>Recognise the main component parts of hardware which allow computers to join and form a network.</p> <p>Understand the online safety implications associated with communicating online.</p>	<p>Test and debug programs as they go and can use logical methods to identify the approximate cause of any bug.</p> <p>Design algorithms that use repetition and two-way selection, i.e. if, then, and else.</p> <p>Understand the value of computer networks but are also aware of the main dangers.</p> <p>Select the most appropriate form of online communications.</p>	<p>Try to identify a particular line of code causing a problem.</p> <p>Uses post-tested loop, e.g. 'until', and a sequence of selection statements in programs, including an if, then and else statement.</p> <p>Understand and explain the difference between the internet and the World Wide Web.</p> <p>Know what a WAN and LAN are and describe how they access the internet in school.</p>

Use some of these methods of communication,
e.g., 2Email.

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Information Technology

EYFS	Y1	Y2
Sort physical objects. Know the difference between a photo and a video. Take a photograph.	Name, save and retrieve their work and follow simple instructions to access online resources. Organise data on a pictogram.	Organise data using a database and can retrieve specific data. Confidently create, name, save, and retrieve content. Use a range of media in their digital content including photos and text.

Y3	Y4	Y5	Y6
Carry out simple searches to retrieve digital content. Understand that simple searches require them to be connected to the internet and using a search engine. Collect, analyse, evaluate, and present data and information using a selection of software. Consider what software is most appropriate for a given task. Create purposeful content to attach to emails.	Understand the function, features, and layout of a search engine. They can appraise selected webpages for credibility and information at a basic level. Make improvements to digital solutions based on feedback. Make informed software choices when presenting information and data. Share digital content within their community, i.e., using Virtual Display Boards.	Children search with greater complexity for digital content when using a search engine. Explain how credible a webpage is and the information it contains. Make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. Create content and solutions using digital features within software such as collaborative mode. Share digital content in several ways.	Apply filters when searching for digital content. Compare a range of digital content sources and are able to rate them in terms of content quality and accuracy. Make clear connections to the audience when designing and creating digital content. Use criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements.

Digital Literacy

EYFS	Y1	Y2
<p>Recognise technology that is used at home and at school.</p> <p>Know that a range of devices are used to access the internet.</p> <p>Understand that they should limit screen time.</p> <p>Understand that rules keep them safe.</p> <p>Understand that they can say 'no' to someone who asks them to do something that makes them upset.</p> <p>Know that trusted adults are able to help them.</p>	<p>Understand what is meant by technology, identifying a variety of examples both in and out of school.</p> <p>Make a distinction between objects that use modern technology and those that do not e.g., a microwave vs. a chair.</p> <p>Take ownership of and save their work.</p> <p>Understand the importance of keeping information, such as their usernames and passwords, private and actively demonstrate this in lessons.</p>	<p>Make links between technology they see around them, coding, and multimedia work they do in school e.g., animations, interactive code, and programs.</p> <p>Effectively retrieve relevant, purposeful digital content using a search engine.</p> <p>Apply their learning of effective searching beyond the classroom.</p> <p>Know the implications of inappropriate online searches.</p> <p>Begin to understand how things are shared electronically such as posting work to the Purple Mash display board.</p> <p>Develop an understanding of using email safely.</p> <p>Know ways of reporting inappropriate behaviours and content to a trusted adult.</p>

Y3	Y4	Y5	Y6
<p>Demonstrate the importance of having a secure password and not sharing this with anyone else.</p> <p>Explain the negative implications of failure to keep passwords safe and secure.</p> <p>Understand the importance of staying safe and the importance of their conduct when using familiar communication tools such as Email in Purple Mash.</p> <p>Know more than one way to report unacceptable content and contact.</p>	<p>Explore key concepts relating to online safety using concept mapping such as 2Connect.</p> <p>Be able to help others to understand the importance of online safety.</p> <p>Know a range of ways of reporting inappropriate content and contact.</p> <p>Search effectively to find out information.</p> <p>Assess whether an information source is true and reliable.</p>	<p>Have a secure knowledge of common online safety rules and can apply this by demonstrating the safe and respectful use of a few different technologies and online services.</p> <p>Relate appropriate online behaviour to their right to personal privacy and mental wellbeing of themselves and others.</p>	<p>Demonstrate the safe and respectful use of a range of different technologies and online services.</p> <p>Identify more discreet inappropriate behaviours.</p> <p>Recognise the value in preserving their privacy when online for their own and other people's safety.</p>