Computing Skills Progression Document - Years 1 - 6

Computing should inspire a lifelong love of play, design, code and invention with technology, whilst understanding the benefits and risks that technology can bring. Children should be able to use deep cross-curricular links and have the opportunity to embed fundamental skills that allow them to become digitally literate for the future workplace whilst becoming active participants in a digital world.

National Curriculum Expectations	
Key Stage 1 Pupils should be taught to:	**Key Stage 2 Pupils should be taught to:**
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.	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

Year Group	E-safety	Programming	Handling data	Digital Literacy	Technology in our lives
	Children start using computers from a very early age and are increasingly using the Internet more and more whether at home, in school, on their mobile phones or on a games console. With this in mind, Internet safety and knowing how to help protect themselves and others online is essential.	Code is the language used to instruct computers/computer programmes. Developing an understanding of the basics of computer programming and how these programmes can support our everyday lives is important for all pupils. It helps pupils appreciate how things work and how to solve problems in a logical and creative way.	It is through data collection that we get the quality information we need to make informed decisions. It is important that children learn to collect data from a variety of sources and learn how to use, analyse, present and appraise it.	Digital literacy refers to an individual's ability to find, evaluate, and compose clear information through writing and other media on various digital platforms. Digital literacy includes an individual's grammar, composition, typing skills and ability to produce text, images, audio and designs using technology.	Technology is an inalienable part of our everyday lives. Our children are growing up in a world with technology all around them. Technology, which brings together tools to promote development, use and information exchange, has as its main objective of making tasks easier and the solving of many problems.
1	*Keep my password private. *Tell an adult when I think something is not right. *Know what personal information is. *Follow E-safety rules while online. *Be polite and kind to people online.	*Give instructions to my friends. *Learn vocabulary - programming, algorithms, debug. *Input instructions to digital devices. *Use logical reasoning for prediction. *Begin to correct errors I have made in algorithms.	*Talk about the different ways in which data can be shown. *Collect information (photos, sounds and videos) - including cross-curricular links. *Classify information.	*Learn how to save documents. *Retrieve documents I have saved and created. *Use different devices. *Enter text using a keyboard. *Use a mouse appropriately. *Express my ideas - for example using a paint programme.	*Recognise digital devices in school and at home. *Begin to understand why we use technology.

2	*Understand why passwords and information are kept private. *Recognise when something is not right and I am able to tell an adult. *Recognise that not everyone is who they say they are on the internet. *Understand the importance of being kind and polite to people online and know that these can be reported online.	*Use specific language to give instructions. *Understand how simple algorithms work. *Understand what problems simple algorithms may have. *Programme an algorithm to make an object move. *Begin to use software to create movements.	*Talk about the different ways I use technology to collect information using various media devices. *Analyse and explain data I have collected. *Tell you what kind of information I could use to help me investigate a question.	*Use technology to organise and present my ideas in different ways. *Save and open files on different devices. *Confidently use different devices. *Use the keyboard effectively.	* Tell you why I use technology at home, in the school and in the community. * I am starting to understand that other people have created the information I have used. * Understand the importance and identify the benefits of technology. * I understand the differences between the internet and the real world.
3	*Talk about what makes a secure password and username and the importance of it. *Recognise the need to protect my personal information. *Recognise the safety features on websites. *Understand why there are age restrictions on websites, social media and games.	*Break down problems into smaller parts. *Put programming commands into a sequence to achieve a specific outcome. *Detect a problem in an algorithm which could result in unsuccessful programming. *Begin to write a simple program. *Describe the	*Arrange and organise data. *Search a ready made database to answer questions. *Use data I have collected to answer questions. *Add information to a database.	*Create different effects using a variety of technological tools. *Use text, graphics and sound to develop ideas in learning. *Understand that keyboards have multiple purposes (not just typing). *Use a spell-checker and understand it's features. *Edit and improve my	* Save and retrieve work on the internet, school network and on my own device. * Identify the basic parts of a computer. * Tell you ways to communicate with others online. * Begin to understand what copyright is. * Use the search tools to find and use appropriate websites.

	*Communicate with adults about downloading website content and games. *Act positively and respectively when commenting online.	algorithm I will need to complete a simple task. *Keep testing my program and recognise when I need to de-bug it. *Use repetition in programmes.		work.	
4	*Choose a secure username and password. *Know how to protect myself online. *Report concerns to an adult and through websites (CEOP). *Know that anything I post online can be seen by others. *Act positively and respectfully online. *Know how to use technology safely. *Choose websites and games that are appropriate for my age. *Understand why I need to consult an adult when downloading anything.	*Decompose an open-ended problem into smaller parts. *Debug errors in an algorithm. *Know that I need to keep testing my program while I am putting it together. *Write a simple program using a variety of tools. *Recognise that an algorithm will help me sequence more complex programmes. *Use repetition and sequencing within programs. *Create a simple program to accomplish a given goal.	*Collect data and identify errors. *Organise data in different ways. *Analyse data to answer questions. *Present data in a number of ways. *Search a database to answer questions about my information/data.	*Use photos, videos and sound to have an impact on an audience. *Confidently explore new media. *Change the appearance of text. *Create documents for a particular purpose. *Use particular shortcuts and skills when using a keyboard. *Use a spell checker to write and review my work. *Use an appropriate tool to work collaboratively.	*Identify whether a resource I am using is on the internet, the school network or my own device. *Use a search engine appropriately and understand the reliability of information. *Create a hyperlink to a resource on the internet. *Understand what copyright is and the importance behind it.

5	*Protect my password and other personal info. *Protect myself and others and report any concerns. *Understand that anything I post online can be seen, used and shared by others. *Talk about the dangers of spending too long online or whilst playing a game. *Explain the importance of communicating kindly and respectively. *Explain why I need to protect my computer or device. *Understand how to safely download resources.	*Begin to design, write and debug problems. *Refine a procedure using repeat commands to improve a program. *Explore variables to increase program possibilities. *Change and adapt an input to create a different output. *Use commanding vocabulary to achieve an outcome. *Use logical thinking, imagination and creativity to extend a problem.	*Use a spreadsheet and a database to collect and record data. *Choose an appropriate tool to help me collect data. *Present data in an appropriate way. *Refine my search by using different operators. *Identify errors and offer solutions.	*Use a range of media to refine my work. *Use prior skills and knowledge to use unfamiliar technology. *Select appropriate tools to share ideas. *Confidently improve my own and others work.	*Identify and describe different parts of the internet. *Enhance my knowledge on communication tools. *Use a search engine to find appropriate info and check its reliability. *Recognise and evaluate sources I find on the World Wide Web. *Find out information and see where a webpage's ownership is.
6	* Understand the consequences of sharing too much information about myself online. * Understand the consequences of not being kind online.	* Design, write and debug problems, whilst recognising similarities to solutions that have been used before. * Explain and programme each of the steps within an	* Select appropriate resources to collect and present my data. * Check my data that I have collected for accuracy. * Interpret data that I have collected.	* Explore new technology. * Understand a range of media and use each one to its full potential - including using them together. * Evaluate mine and	* Understand how computer networks work and how they can provide multiple services and opportunities (communication and collaboration).

* Understand what a computer virus is and how to protect my devices. * Follow basic E-safety rules.	algorithm. * Evaluate the effectiveness and efficiency of my algorithm. *Use a variable to achieve an end goal. * Use a variety of inputs, including sensors, to control a program. * Use logical reasoning to detect and correct errors in algorithms and programmes.	* Appreciate how results are selected and ranked. * Evaluate digital content.	others work effectively. * Explain why I have used a particular tool for a particular purpose.	* Describe how information is transported on the internet. * Check the reliability of a website.