



Computing Curriculum Intent

In our Computing curriculum, we aim to give pupils the fundamental principles and concepts of Computer Science, exploring and talking about their ideas, immersing themselves in the digital world around them. This allows children to understand the implication of computing in the real world, and the impact that it has today and in the future.

Through practical experiences, we provide the opportunities for children to write and develop their own computer programs, enabling them to detect and correct errors in algorithms. The benefit of technology is that it facilitates the removal of barriers to learning across the curriculum. Within computing, the complexity of the task can be adapted to individual starting points, meaning all children can succeed.

We intend to carefully sequence knowledge, where skills are built on over time to support children in analysing, evaluating and applying. Learning is broken down into three strands of knowledge: **information technology**, **computer science** and **digital literacy**. Internet safety is woven throughout these and pupils are taught to understand that there is always a choice in using technology. As a school, we utilise technology (especially social media) to model positive use. We recognise the best prevention for the modern issues we see with technology/social media, is through education.

We strive for all children to have the independence and confidence to choose the best tools to fulfil the tasks they want to achieve, both now and in the next stages of their development.



The Flourish Federation

Computing Curriculum Progression & Sequencing Document

Adopted	September 2022	Review	September 2023
---------	----------------	--------	----------------

Implementation

Aim 1 – Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Abstraction	Children can pick out basic features of their day. (Children know which order their lessons come in - they don't need to know how long they last.)	Children are supported to discuss which parts of a program are necessary. (Class teacher models which parts of the program are necessary.)	Children identify the necessary parts of a program. (Children can say which parts of a program are necessary.)	Children are supported to identify that some parts of a program can be filtered out. (Class teachers model which parts of a program are necessary.)	Children recognise that some parts of programs need filtering out. (Acknowledge that some programming needs filtering out to focus on the necessary parts.)	Children recognise the need to start coding at a basic level of abstraction, to remove superfluous details from their program that do not contribute to the aim of the task. (Learn to prioritise tasks which need doing now and which need doing later.)	Children are able to turn a more complex programming task into an algorithm by identifying the important aspects of the task. (Identify the important aspects of a programming task.)
Purple Mash Units		1.4 (L1&2 C) 1.5 (L1&2 C, L3&4 C) 1.7	2.1	3.1	4.5 4.1	5.5 5.1 (L3) (In that order)	6.1 (L1-5) 6.5 (L1-4)
Logic	Children explore simple programs. (Children use programmable toys to explore cause and effect.)	Children can use logical reasoning to predict the behaviour of a simple program. (Children use programmable toys & simple programs to predict behaviour following their instructions.)	Children can use logical reasoning to predict and plan the behaviour of a simple program. (Children consciously make logical choices about the instructions they give programmable toys and simple programs.)	Children use logical reasoning to plan and structure simple algorithms, detecting and correcting errors. (Children can build on and consolidate prior learning to plan, predict and debug a program)	Children can predict the outcomes of a set of independent algorithms within a program. (This would be a program which contains two or more independent algorithms.)	Children can predict the outcomes of a set of complex interdependent algorithms. (This would be a program which contains two or more sequential algorithms. For example, traffic light systems.)	Children can interpret a series of independent algorithms, planning how to put these together into a single program of increased complexity. (Children can identify individual parts of a programme and explain how to make it function as a whole.)
Purple Mash Units		1.7 1.5	2.1 (L3)	3.1	4.1 4.5	5.1 5.2	6.1 (L1-3) 6.5

Algorithms	Children can explore simple interactive toys.	Children understand that an algorithm is a set of simple, unambiguous instructions. (Children begin to understand the 'If...then...' concept)	Children understand that computers need precise instructions, demonstrating care and precision to avoid errors. (Children are able to program a device to achieve a simple and specific goal)	Children can construct an algorithm that follows a simple structure. (Childrens' develop their knowledge of repetition, variables and IF commands)	Children can construct an algorithm which includes repetition. (Children can interpret flowcharts and represent them using 'repeat until' and IF/ELSE commands)	Children can construct an algorithm which includes repetition, questions and an exit condition. (Children begin to apply knowledge to write and debug more complex programs consisting of multiple nested algorithms, which have practical applications)	Children construct a range of algorithms that apply to a practical situation. (Children can apply knowledge to write and debug program consisting of multiple nested algorithms, which have practical applications)
Purple Mash Units		1.4 (L1&2) 1.5 1.7	2.1 (L1)	3.1	4.1 (L4) 4.5 (L3)	5.1 (L2, L4&5 C)	6.1 (L4)
Data Representation	Children begin to use the language of 'on & off' and explore sorting.	Children develop their understanding of how to sort – both offline and online (through Purple Mash Activities). (Children can sort objects in groups using colour/ size)	Children understand what is meant by a binary tree, 'yes/no' and how this can be used to sort. (children can begin to sort objects into 2 groups using simple closed questions eg Has the boy got blonde hair?)	Children understand how a branching database uses 'yes/no'. (children can use arrows to sort using a simple question) Has it got fur? Yes no  Children are taught to differentiate between data (computing language) and information. (Children know that information is what you input and data is the way computers show the information).	.	Children know that digital computers use binary to represent all data and how complex number systems are used to increase processing and efficiency	Children know that binary is a number system, and how it is applied in computing.
		1.2 (1&2 C)	2.4 (L2-4)	3.6 (L1)		5.1 (L1)	6.8



The Flourish Federation

Computing Curriculum Progression & Sequencing Document

Adopted	September 2022	Review	September 2023
---------	----------------	--------	----------------

--	--	--	--	--	--	--	--

Aim 2 – Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Analysing & Writing computing programs	Children can explore simple interactive toys. (Children understand that when buttons are pressed the computer inside performs an action. eg the toy moves))	Children begin to create simple programs and explore debugging through directed tasks. (Children can work through guided tasks step by step)	Children can create and debug a simple program and predict the behaviour of a range of programs. (Children can create simple lines of code using when clicked command and talk about what happens when the code is run).	Children can code a program that follows a simple sequence and structure to accomplish specific goals.	Children can apply sequencing and repetition in programs, incorporating variables and various forms of input and output.	Children are guided to develop programs that can control & simulate physical systems; and are supported to solve problems through decomposition and abstraction.	Children use prior learning to develop programs that can control & simulate physical systems; and solve problems through decomposition and abstraction.
Purple Mash Units		1.4 (L2) 1.5 (L2) 1.7 (L2&4)	2.1 (L2-5)	3.1 (L1-6)	4.1 (L1, 4&5), 4.5 (L3&4), 4.9 (L2)	5.1 (L2-5)	6.1 (L1&2, 4), 6.5(L1, 3&4)

Aim 3 – Can evaluate and apply information technology, including new or unfamiliar technology, analytically to solve problems.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Evaluate & apply information technology	Children recognise that a range of technology is used in places such as homes and schools. Children select and use a range of technology for particular purposes. Children can identify some equipment that requires batteries/electricity to work.	Children consider the range of technology used both in and beyond school. Children can begin to understand that electrical equipment is programmed to make them work.	Children are able to give examples of technology used in a range of occupations, beyond school life. (Children identify a wider range of electrical equipment eg. Laptops, phones, whiteboards cooker.) Children begin to use the search engine within a program.	Children begin to understand how to use online search engines with support.	Children use search engines to support research - understanding the use of key-words and search functions. They question the credibility of material retrieved.	Children use search technologies confidently, appreciating how results are selected and ranked, in order to develop their research.	Children use search technologies effectively, appreciating how results are selected and ranked, and be discerning in evaluating digital content.



The Flourish Federation

Computing Curriculum Progression & Sequencing Document

Adopted	September 2022	Review	September 2023
---------	----------------	--------	----------------

	(Children begin to use electrical equipment eg ipads electronic toys independently).		(Children can access google safe search and with support find information.)				
Purple Mash Units		1.0 (L1&2 C)	2.2 (L1) 2.3 2.5 2.6 2.7 2.8	3.2 (L2)	4.2 (L3) 4.7	5.2 (L3&4 C)	6.6 (L3)

Aim 4 – Are responsible, competent, confident and creative users of information and communication technology.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Information technology	Children can use digital technology to store and access content with some support. Create content using digital technology. Begin to use a mouse, trackpad or touchscreen to navigate around a computer screen. (Children can begin to open a program such as 2paint and create a picture using touchscreen)	Children can use digital technology to store and retrieve content. * Identify different kinds of content. ** Create original content using digital technology. *** Use a mouse or trackpad or touchscreen to navigate around the computer screen. **** (children can access a 2do set by their teacher, make changes and save to their own folder)	Children can store, organise and retrieve content on digital devices for a given purpose. * Create and edit original content for a given purpose using digital technology. ** Present findings using software and interpret the data. *** Input data accurately and present this information in graphical format. **** (Children can find, edit, and save set work using different programs* 2code, 2 connect ** 2calculate***)	Children can use a range of programs on a computer. * Design and create content on a computer. ** Collect and present information. ***	Children can use and combine a range of programs on a computer. * Design and create content on a computer in response to a given goal. ** Collect, analyse and present data. ***	Children can use and combine a range of programs on multiple devices. * Design and create content on a computer in response to a given goal. ** Analyse and evaluate information. ***	They can design and create content in response to a given goal. * Analyse and evaluate data using their chosen software and graphs. **



The Flourish Federation Computing Curriculum Progression & Sequencing Document

Adopted	September 2022	Review	September 2023
---------	----------------	--------	----------------

Purple Mash Units		*1.3 (L3), 1.6 (L1&2), 1.8 (L1&2) **Throughout ***1.3, 1.6, 1.8 ****Throughout	*2.3 (L1) **2.3 (L1-4) ***2.3 (L1) ****2.3 (L4)	*3.3 (L1), 3.5 (L2), 3.7 (L3), 3.8 (L1&2), 3.9 (L1-6) **3.1 (L5&6), 3.3 (L1), 3.7 (L3), 3.9 (L1-6) ***3.3 (L1-3), 3.8 (L1-2), 3.9 (L1-6)	*4.3 (L1-5), 4.5 (L1-4), 4.6 (L1-3), 4.9 (L4) **4.1 (L6), 4.3 (L1-5), 4.6 (L1-3), 4.9 (L4) ***4.3 (L1-5), 4.7 (L3), 4.8 (L2)	*5.5 (L1-5), 5.6 (L1-4), 5.8 (L2) **5.1 (L1), 5.5 (L1-5), 5.6 (L3&4) ***5.2 (L1-4), 5.3 (L2), 5.4 (L1)	*6.1 (L5), 6.3 (L2), 6.4 (L3&4), 6.6 (L3), 6.7 (L2&3, 5&6), 6.9 (L3&7)
Communication technology	Children understand and can give verbal messages between their peers and adults.	Children are introduced to internal messaging systems. (Children can access their email on purple mash and click on their inbox to read a message.)	Children begin to formulate digital messages through an internal email system. (Children understand that you need to click a message to open it and click reply to respond.)	Children become aware of 'blogging'. * Children develop use of email learning to how to send images and files to other users. **	Children develop their awareness of how writing produced for different audiences can be published online and in the wider media.	Children begin to develop critical understanding of what they share online. They are increasingly aware of the advantages and disadvantages of different forms of communication technology.	Children begin to store information online (For example, blogging). * Children have a greater awareness of the consequences of what they share or promote online. **
		1.1 (L2) 1.8 (L1)	2.2 (L1 & L2)	*3.2 (L1) **3.5 (L2&5)	4.2 (L1-3), 4.4 (L1-5),	5.2 (L1-4),	*6.4 (L1-4) **6.2 (L2)