

Computing EYFS & Key Stage 1 Knowledge and Skills Progression

National Curriculum Objectives

By the end of KS1 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

National Curriculum		EYFS	Year 1	Year 2
Programming	Understand what algorithms are	• Understand that instructions lead to specific outcome • Order steps of a known task	• Begin to understand an algorithm is a set of instructions to achieve a specific purpose	• Describe a series of instructions as a sequence • Explain that a sequence of commands has an outcome
		• Know directional words forward, backward, left, right	• Combine forwards and backwards commands to make a sequence • Combine four direction commands to make sequences	• Combine four directions commands to make increasingly more complex sequences
		• Understand that we control computers	• Understand that we control computers by giving them instructions	• Understand that computers have no intelligence and we have to program them to do things
	Understand how algorithms are implemented as programs on digital	• Press buttons on a floor robot and talk about the movements	• Choose a command for a given purpose • Show a series of commands can be joined together	• Explain that a sequence of commands has a start

Computing EYFS & Key Stage 1 Knowledge and Skills Progression

Programming	devices, and that programs execute by following precise and unambiguous instructions			Explain what happens when we change the order of commands
			Understand that the order of instructions in an algorithm is important	Understand that instructions in an algorithm need to be in order, clear and unambiguous
	Create and debug simple programs	Input a short sequence of instructions to control a device	Give a sequence of instructions to a floor robot. The length of programs increasing over the course of the year.	Create a simple program on screen, correcting any errors, with a particular goal or purpose in mind (e.g. drawing a shape or moving a sprite from one place to another).
		Try alternative approaches to achieve a goal	Begin to debug instructions when floor robot does not reach the intended destination	Use the word debug to correct mistakes in an algorithm
				Evaluate the success of an algorithm
	Use logical reasoning to predict the behaviour of simple programs		Begin to predict what will happen for a short sequence of instructions in a program	Predict the outcome of a sequence
			Understand that we control computers by giving them instructions	Compare prediction to the program outcome

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Information Technology	Creating Digital Content		Use technology purposefully to create, organise, store, manipulate and retrieve digital content			
	Multimedia	Image				
		Text				
					- Identify and find keys on a keyboard - Add and remove text using basic typing skills (including use of space bar, backspace to delete and basic, age- appropriate punctuation) - Save work to the appropriate location (hard drive and Google Drive) - Begin to print, retrieve and edit work, with support	- Identify and find keys on a keyboard with increased confidence and speed - Type capital letters - Change font, style (bold, italic and underline) and sizeof text - Save, print, retrieve and editwork from appropriate location (hard drive and Google Drive) independently - Upload images or movies to appropriate place (hard drive and Google Drive), with support
					- Create/edit a drawing using a range of 'tools' such as brushes, pens, eraser, stamps and shapes, and setthe size, colour and shape; - Explain why tools were chosen and used	- Add and resize images (including insert clip art/copy & paste an image) - Capture/edit photograph using a range of 'tools'
						- Use software to create and edit digital music for a purpose - Explain and begin to justifywhy tools were chosen and used

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Information Technology	Data Handling			Label objects	
				- Identify that objects can be counted - Count objects with same properties - Compare groups of objects	Recognise that objects can be counted and compared using tally charts
				Describe objects in different ways	Select objects by attribute and make comparisons
					Recognise objects can be represented as pictures
					- Create a pictogram - Explain that information can be presented using a computer

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Digital Literacy	Online Safety	Use technology safely and respectfully	See related document: Online Safety Skills Progression (Education for a Connected World)		
		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			
	Computing Systems and Networks	Recognise common uses of information technology beyond school	Help adults operate equipment around the school, independently operating simple equipment	Identify technology	- Identify information technology in the home - Identify information technology beyond school - Explain how information technology benefits us
				Identify a computer and its main parts	Recognise the uses and features of information technology
				Use a mouse in different ways	Continue to practise mouse skills independently