

National Curriculum Overview

EYFS	Key Stage 1	Key Stage 2
	<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 ● 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. 	<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 ● 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 behaviour; identify a range of ways to report concerns about content and contact.

SKILL		EYFS	KEY STAGE 1		LOWER KEY STAGE 2		UPPER KEY STAGE 2	
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
COMPUTER SCIENCE	NC		<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 create and debug simple programs use logical reasoning to predict the behaviour of simple programs recognise common uses of information technology beyond school 		<ul style="list-style-type: none"> design write and debug programs that accomplish specific goals, solve problems by decomposing them in smaller parts use sequence, selection and repetition in programs use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs 		<ul style="list-style-type: none"> design, write and debug programs that accomplish specific goals; including controlling or simulating physical systems and solving 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 	
	Understand what algorithms are.		Complete a sequencing activity	Follow an algorithm - set of instructions		Create a program. eg. http://www.code-it.co.uk/unplugged/jamsandwich.html		
	Algorithms & the use of directional instructions on screen		Sequence Instructions - Kodable / Bee Bot	Use probotix software - TTS Sequencing Instructions - Daisy the Dino	Use Scratch to draw simple 2D Shapes. Make more complex shapes using scratch. Use Logo eg Textease Turtle to move an on-screen turtle using basic toolbar. Sequence directional Instructions - Alex	Using Logo or Textease Turtle to draw 2D Shapes. Make more complex shapes. Improve efficiency by using procedures to draw basic shapes. Use more complex directional control.e.g. Lego - Fix the Factory	Sequence instructions with loops & procedures e.g <i>Light Bot</i>	Sequence instructions using procedures & develop efficiency. E.g <i>Cargo Bot</i>
	Sequencing instructions & coding			Begin to create simple animation in a picture format.	Create a simple animation with characters & speech. (<i>Scratch</i>) Debug e.g. http://www.code-it.co.uk/scratch/scratchconversation.html	Design an animation using a storyboard Add movement & sounds. Debug & be able to explain how it works. (<i>Scratch</i>)	Design an animation Use the Broadcast Command to pass control between elements. (<i>Scratch</i>)	
	Designing an interactive game (Scratch based)				Create an animation using a flipbook character Use the move command to make the character move across the stage. eg. http://www.code-it.co.uk/scratch/dressingup/dressingupoverview.html Make the background of the stage move.	Create a game that uses an input to steer an on-screen object. eg. http://www.code-it.co.uk/scratch/smoking_car/smokingcaroverview.html Add some criteria for winning eg. http://www.code-it.co.uk/scratch/slugtrail/slugtrailoverview.html	Design a game eg a driving or moving an object around the screen activity. eg. http://www.code-it.co.uk/scratch/primarygamesmaker/primarygamesmakeroverview.html	Create an onscreen computer game using a graphical language Add a timer to test if the response is too slow. e.g <i>times table testing game that makes use of variables, conditional responses & loops</i> eg. http://www.code-it.co.uk/scratch/tablesqa

								me/tablesgameoverview.html
	Skill: Design an interactive game (Kodu based)			Create a simple imaginary 3D world (Kodu) that can be explored & described. Add characters that move on predetermined paths.		Create an on-screen game in Kodu that makes use of movement and includes a scoring system. eg "Shooting Fish" Add criteria for winning and losing.	Develop an on screen game in Kodu (e.g. collecting coins) with characters that can interact with the environment. Add criteria for winning and losing.	Develop an on-screen computer game using graphical language Include movements & scoring.
	Skill: Control/ Simulate physical systems					Simulate simple physical system (e.g. Traffic Lights) (Go)	Simulate more complex system with both inputs and outputs (Go)	
DIGITAL LITERACY	NC		<ul style="list-style-type: none"> use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content on the internet or other online technologies 		<ul style="list-style-type: none"> use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 			
	Skill: Use of the Internet				Use the shared area on the DLG to collaborate. Use a simple blog to share ideas & collaborate	Begin to understand how data passes around the internet http://community.computingatschool.org.uk/resources/2864 Use Open Visual Trace Route.	Use a blog & incorporate multimedia elements to make it more attractive to the audience	Know that networks are interconnected. http://www.code-it.co.uk/netintsearch.html
ICT	NC		<ul style="list-style-type: none"> use technology purposefully to create, organise, store, manipulate and retrieve digital content 		<ul style="list-style-type: none"> 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 			
	Skill: Coding & sequencing digital media			Create & sequence simple linear PowerPoint	Create & sequence simple linear PowerPoint Add animated effects. Add sound or video effects	Create an animation with several timed events on one page Use the Kiosk mode in PPT to create a virtual museum.	Create non-linear PowerPoint with internal hyperlinks between pages Create hotspots on a map or image to explore content.	Use on-line presentation tools to collaborate with others to produce presentation eg. Google Slides or Prezzi.
	Skill: Writing Webpages						Edit a webpage by using X-Ray Goggles. Print the finished version.	Write a webpage to be published internally