



LKS2 Markland Hill Computing Curriculum – Lower Key Stage 2 YEAR B

Key Stage 2 National Curriculum Objectives Significant people in computing: Steve Jobs		
Computer Science	Information Technology	Digital Literacy
<i>(How computers and computer systems work and how they are designed and programmed)</i>	<i>(the purposeful use of existing programs to develop products and solutions)</i>	<i>(the skills, knowledge and understanding needed in order to participate fully and safely in an increasingly digital world)</i>
A - design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts		
B - use sequence, selection, and repetition in programs; work with variables and various forms of input and output		
C - use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs		
D - 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		
E - use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content		
F - 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		
G - use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact		

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computer Science	<u>Computer Systems and Networks</u> Purple Mash 4.8 Hardware Investigators KS2 Network Hunt		<u>Programming A</u> Events and actions in programs Teach Computing 3.6			<u>Programming B</u> Repetition in shapes Teach Computing 4.3
IT		<u>Creating Media</u> Markland Hill Unit of work – desktop publishing		<u>Creating Media</u> Photo editing Teach Computing 4.5	<u>Data and information</u> Data logging Teach Computing 4.4	
NC objectives	BDEFG	FG	ABCF	EFG	BF	ABCF
Key Vocabulary	Network, device, client, device, server, laptop, switch, wifi point, Motherboards, Keyboard, mouse, CPU, RAM, Graphics card, network card, monitor, speakers	Text, images, communicate Font, font style, communicate, Landscape, portrait, orientation, placeholder, template Desktop publishing, copy, paste Layout, purpose Benefits, copyright, image credit Text box, text wrapping	Program, turtle, commands, code snippet Algorithm, design, debug, Logo commands Pattern, repeat, repetition, count-controlled loop, algorithm, value, trace, decompose, procedure,	Image, edit, arrange, select, digital, crop, undo, save, search, copyright, composition, pixels, rotate, flip, adjustments, effects, colours, hue/saturation, sepia, save, version, illustrator, vignette, retouch, clone, recolour, magic wand, select, sharpen, brighten, fake, real, composite, cut, copy, paste, alter, background, foreground, publication, elements, original, font style,	Data, table (layout) Input device, sensor, data logger, logging, data point, interval Analyse, data set, import, export, logged, collection Analyse, review, conclusion	Motion, event, sprite, algorithm, logic Move, resize, algorithm Extension block, pen up, set up Pen, design, event, action, Debugging, errors, setup Design, code, test, debug, actions, events

				shapes, border, layer		
	- I can understand the different parts that make up a desktop computer. - I can recall the different parts that make up a computer - I can name devices on a computer network - I can explain the purpose of certain devices on a computer network	- I can retrieve saved work from a given space - I can save work in a specific place – discussing the difference between save and save as and the need to save often - In a word processing software: - I can insert and manipulate text - I can discuss copyright and identifying sources for copyright purposes - I can insert and manipulate image and refer to copyright rules (e.g. crediting the owner of the image) - I can insert and manipulate a text box - I can upload published work as a pdf document to the blog (publishing content)	- I can explain how a sprite moves in an existing project - I can create a program to move a sprite in four directions - I can adapt a program to a new context - I can develop my program by adding features - I can identify and fix bugs in a program - I can design and create a maze-based challenge	- I can explain that the composition of digital images can be changed - I can explain that colours can be changed in digital images - I can explain how cloning can be used in photo editing - I can explain that images can be combined - I can combine images for a purpose - I can evaluate how changes can improve an image	- I can explain that data gathered over time can be used to answer questions - I can use a digital device to collect data automatically - I can explain that a data logger collects 'data points' from sensors over time - I can recognise how a computer can help us analyse data - I can identify the data needed to answer questions - I can use data from sensors to answer questions	- I can identify that accuracy in programming is important - I can create a program in a text-based language - I can explain what 'repeat' means - I can modify a count-controlled loop to produce a given outcome - I can decompose a task into small steps - I can create a program that uses count-controlled loops to produce a given outcome

Computing End Points for KS2

- As computer scientists, pupils will develop further skills to create and manipulate programmes, using elements such as variables and debugging and be able to talk about intended and specific outcomes.
- Pupils will have a secure understanding of the role of algorithms and be able to successfully use them.
- As digital citizens, pupils will have a secure understanding of how to keep themselves safe online. This includes identity and password security, identifying inappropriate and inaccurate content and being aware of cyber-bullying and knowing how to respond to it. It is essential that pupils have a sound knowledge of how to be a positive and responsible member of the online community.
- In the use of information technology, pupils will be able to select and manipulate software and online resources to create their own digital content. Pupils will have a range of skills including being able to analyse, evaluate and present information on a range of devices for specific purposes.