



UKS2 Markland Hill Computing Curriculum – Upper Key Stage 2 YEAR B

Key Stage 2 National Curriculum Objectives Significant people in computing: Sir Freddie Williams		
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	Computer Systems and Networks How the Internet Works' Teach Computing 6.1		Programming B Selection in Quizzes Teach Computing 5.6			Programming B Sensing Teach Computing 6.6
IT		Creating Media Webpage Creation Teach Computing 6.2.		Creating Media 3D modelling Teach Computing 6.5	Data and information Spreadsheets Teach Computing 6.4	
NC objectives	ADEF	EFG	ABCF	FG	F	ABDF
Learning Objectives	- I can explain the importance of internet addresses - I can recognise how data is transferred across the internet - I can explain how sharing information online can help people to work together - I can evaluate different ways of working together online - I can recognise how we communicate using technology - I can evaluate different methods of online communication	- I can review an existing website and consider its structure - I can plan the features of a web page - I can consider the ownership and use of images (copyright) - I can recognise the need to preview pages - I can outline the need for a navigation path - I can recognise the implications of linking to content owned by other people	- I can explain how selection is used in computer programs - I can relate that a conditional statement connects a condition to an outcome - I can explain how selection directs the flow of a program - I can design a program which uses selection - I can create a program which uses selection - I can evaluate my program	- I can recognise that you can work in three dimensions on a computer - I can identify that digital 3D objects can be modified - I can recognise that objects can be combined in a 3D model - I can create a 3D model for a given purpose - I can plan my own 3D model - I can create my own digital 3D model	- I can create a data set in a spreadsheet - I can build a data set in a spreadsheet - I can explain that formulas can be used to produce calculated data - I can apply formulas to data - I can create a spreadsheet to plan an event - I can choose suitable ways to present data	- I can create a program to run on a controllable device - I can explain that selection can control the flow of a program - I can update a variable with a user input - I can use a conditional statement to compare a variable to a value - I can design a project that uses inputs and outputs on a controllable device - I can develop a program to use inputs and outputs on a controllable device
Key Vocabulary	Key Vocabulary: Input Process Output Protocol Addresses Data packets	Key Vocabulary: Website, web page, browser, media, Hypertext Markup Language (HTML) logo, layout, header, , purpose	Key Vocabulary: Selection, condition, true, false, count controlled loop, outcomes, conditional statement - the linking together of a condition	Key Vocabulary: 2D, 3D, 3D object, 3D space, view, resize, colour, lift, Rotate, position, select, duplicate, Dimensions,	Key Vocabulary: Spreadsheet, data, data heading, data set, cells, columns and rows, data item, object, application, format, common attribute	Key Vocabulary: Micro:bit, MakeCode, input, process, output, flashing, USB Selection, condition, if... then... else, variable,

	Digital Communication Chat Internet Network System WAP Wireless access point, Server, Router, Switch,	Copyright, fair use home page, preview, evaluate, device, Google Sites, breadcrumb trail, navigation, hyperlink, subpage, evaluate, implication, external link, embed	and outcomes- algorithm, program, debug, question, answer, task, input, implement, design, test, run, setup, share, evaluate, constructive	placeholder, hole, group, ungroup, design Modify, evaluate, improve	Formula, calculation, input, output. cells, cell reference , calculate, operation, range, duplicate, sigma Propose, question, organised, Graph, chart, evaluate, results, comparison, questions, software, tools,	random, sensing, accelerometer Compass, direction, navigation, design, task, algorithm, step counter Plan, create, code, test, debug
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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.