## Lancasterian Primary School

A safe and welcoming learning community where:

- we all aim high;
- everyone is included;
- creativity is valued.

## KS1/2 Computing Curriculum Map

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Autumn 1	Concepts and Approaches: Algorithms,	Computer Systems and Networks – Tech	Computer Systems and Networks- IT Around Us	Computer Systems and Networks – Connecting	Computer Systems and Networks – The Internet	Computer Systems and Networks – Sharing	Computer Systems and Networks – Communication
	Approaches: Algorithms, Collaboration, Persevering, Creating, Pattern, Logical reasoning, Tinkering, Abstraction Three activities based on our everyday superheroes, which have been designed to help pupils develop their computational thinking skills. Create patterns on a police car, guide a delivery person to their		Networks- IT Around Us To recognise the uses and features of information technology To identify information technology in the home To identify information technology beyond school To explain how information technology benefits us To show how to use		Networks – The Internet To describe how networks physically connect to other networks To recognise how networked devices make up the internet To outline how websites can be shared via the World Wide Web To describe how content can be added and accessed on		Networks – Communication To explain the importance of internet addresses To recognise how data is transferred across the internet To explain how sharing information online can help people to work together To evaluate different ways of working together online
	destination and design a uniform for a firefighter!	To create rules for using technology responsibly <u>Suggested Extended</u> <u>Abstract/Greater</u> <u>Depth Task:</u> Create an image of an activity they like and use the keyboard to label this.	information technology safely To recognise that choices are made when using information technology <u>Suggested Extended</u> <u>Abstract/Greater Depth</u> <u>Task:</u> Imagine if there wasn't an electronic till in a shop, what would the impact of this be?	To explore how digital devices can be connected To recognise the physical components of a network <u>Suggested Extended</u> <u>Abstract/Greater Depth</u> <u>Task:</u> Create a map of the network throughout the school.	the World Wide Web To recognise how the content of the WWW is created by people To evaluate the consequences of unreliable content <u>Suggested Extended</u> <u>Abstract/Greater Depth</u> <u>Task:</u> Imagine a website had been hacked, how could you check the information on it is true?	To explain how search results are ranked To recognise why the order of results is important, and to whom <u>Suggested Extended</u> <u>Abstract/Greater Depth</u> <u>Task: Debate whether you</u> should always click on the top result on a search engine.	To recognise how we communicate using technology To evaluate different methods of online communication <u>Suggested Extended</u> <u>Abstract/Greater Depth</u> <u>Task:</u> Debate whether you should always click on the top result on a search engine.



		Software	Software	Software	Software	Software	Software
		Busythings – Paint/Publisher	J2e5/Busythings – Publisher/Purplemash	Busythings – Paint/Publisher, Purplemash 2Paint	Various Websites	Microsoft Teams	Microsoft Teams
Autumn 2	Concepts & Approaches: Creating, Pattern, Logic,	Digital Painting	Digital Photography	Stop Frame Animation	We are researchers* Infopics using Google Slides	Vector Drawing	3D Modelling
	Algorithms,	To describe what	To know what devices can	To explain that animation is	1 0 0	To identify that drawing	To recognise that you can
	Decomposition,	different freehand	be used to take photographs	a sequence of drawings or		tools can be used to produce	work in three dimensions on
	Collaborating	tools do	To use a digital device to	photographs		different outcomes	a computer
	Three Autumn themed	To use the shape tool	take a photograph	To relate animated		To create a vector drawing	To identify that digital 3D
	activities which see the	and the line tools		movement with a sequence		by combining shapes	objects can be modified
	children explore patterns	T	To describe what makes a	of images		<b>T</b>	To see the thete the test
	in Garlands Galore,	To make careful	good photograph	To plan an animation		To use tools to achieve a desired effect	To recognise that objects can be combined in a 3D
	create a leaf labyrinth and make Pumpkin Soup	choices when painting a digital picture	To decide how photographs	To plan an animation		desired effect	model
	using computational	a digital picture	can be improved	To identify the need to work		To recognise that vector	model
	thinking skills.	To explain why I chose		consistently and carefully		drawings consist of layers	To create a 3D model for a
		the tools I used	To use tools to change an				given purpose
			image	To review and improve an		To group objects to make	5
		To use a computer on		animation		them easier to work with	To plan my own 3D model
		my own to paint a	To recognise that images can				
		picture	be changed	To evaluate the impact of		To evaluate my vector	To create my own digital 3D
		To company aciating o	Currented Futer ded	adding other media to an		drawing	model
		To compare painting a picture on a computer	Suggested Extended Abstract/Greater Depth	animation		Suggested Extended	
		and on paper	Task: Think of an example of	Suggested Extended		Abstract/Greater Depth	
			a fake image you have seen,	Abstract/Greater Depth		Task: Create a picture using	
			why may this be harmful to	Task: Instruct a partner on		multiple objects that have	
		Suggested Extended	others? What are the	how to create a successful		been grouped together	
		Abstract/Greater	reasons for it being	stop frame animation,			
		Depth Task: Create a	changed?	ensuring captures are only of			
		piece of art in the style		what needs to be in the			
		of an artist of your		animation.			
		choice					
		Software	Software	Software	Software	Software	Software
		Paintz	Cameras / iPads / Pixlr	iPads / iMotion / iMovie	Google Slides	Microsoft Publisher	Tinkercad
Spring 1	Concepts & Approaches:	Programming	Programming	Programming A:	Programming A:	Programming A:	Programming A:
Spring 1	Algorithms, Decomposition,	Control a Bee Bot	Control a Blue Bot using ipads	Sequencing Sounds	Repetition in Shapes	Selection in Physical Computing	Variables in Games
	Debugging, Logic,	To explain what a		To explore a new	To identify that accuracy in		To define a 'variable' as
	Patterns, Abstraction	given command will	To describe a series of	programming environment	programming is important	To control a simple circuit	something that is
		do	instructions as a sequence			connected to a computer	changeable
	Provides four activities	<b>_</b>		To identify that each sprite is	To create a program in a		
	that help children	To act out a given	To explain what happens	controlled by the commands	text-based language	To write a program that	To explain why a variable is
	discover how bodies move and grow. Using	word	when we change the order	l choose	To explain what 'repeat'	includes count-controlled	used in a program
	the resources provided	To combine forwards	of instructions	To explain that a program	means	loops	To choose how to improve a
	they explore and learn	and backwards	To use logical reasoning to	has a start	means		game by using variables
	about parts of the body,		predict the outcome of a				

		1	1				
	growth and movement.	commands to make a	program (series of	To recognise that a	To modify a count-controlled	To explain that a loop can	To design a project that
	Simple algorithms are	sequence	commands)	sequence of commands can	loop to produce a given	stop when a condition is	builds on a given example
	Simple algorithms are	To combine four	To ovalain that programming	have an order	outcome	met, e.g. number of times	To use my design to create a
	created and adapted to form a routine of	To combine four direction commands	To explain that programming projects can have code and	To change the appearance of	To decompose a program	To explain that a loop can be	To use my design to create a project
	movements.	to make sequences	artwork	my project	To decompose a program into parts	used to repeatedly check	project
	movements.	to make sequences	artwork	Πιγρισμέει		whether a condition has	To evaluate my project
		To plan a simple	To design an algorithm	To create a project from a	To create a program that	been met	To evaluate my project
		program		task description	uses count-controlled loops	been mee	Suggested Extended
		proBrain	To create and debug a		to produce a given outcome	To design a physical project	Abstract/Greater Depth
		Suggested Extended	program that I have written	Suggested Extended		that includes selection	Task: Design a multi-level
		Abstract/Greater	F0	Abstract/Greater Depth	Suggested Extended		game
		Depth Task: Generate	Suggested Extended	Task: Create a model of their	Abstract/Greater Depth		
		ideas to find more	Abstract/Greater Depth	choice using a motion sensor	Task: Construct a program	To create a program that	
		than one solution to	Task: Control the Blue Bot		with a nested loop	controls a physical	
		get from start to finish	using the Blue Bot app			computing project	
			(introduction to Bluetooth)				
						Suggested Extended	
						Abstract/Greater Depth	
						Task: Design a physical	
						project which includes	
						selection	
		Software	Software	Software	Software	Software	Software
		Beebot	Beebot / Bluebot app	J2e- J2Data/Purplemash –	J2e – J2Logo	Crumble Kit	Scratch
				2Question			
Spring 2	Concepts & Approaches:	Data and Information:	Data and Information:	Data and Information:	Data and Information:	Data and Information:	Data and Information:
Spring 2	Abstraction, Tinkering,	Data and Information: Grouping Data	Pictograms	Data and Information: Branching Databases	Data and Information: Data logging	Data and Information: Flat-file Databases	Data and Information: Spreadsheets
Spring 2	Abstraction, Tinkering, Creating, Collaborating,	Grouping Data	<b>Pictograms</b> (linked to Science living	Branching Databases	Data logging	Flat-file Databases	Spreadsheets
Spring 2	Abstraction, Tinkering, Creating, Collaborating, Algorithms, Persevering,		Pictograms	Branching Databases To create questions with	<b>Data logging</b> To explain that data	Flat-file Databases To use a form to record	Spreadsheets To identify questions which
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Spring 2	Abstraction, Tinkering, Creating, Collaborating, Algorithms, Persevering, Decomposition Three Spring themed activities see the children make a Rabbit run, create Junk scarecrows and explore sequencing	Grouping Data To label objects To identify that objects can be counted To describe objects in different ways To count objects with the same properties To compare groups of objects To answer questions about groups of objects Suggested Extended Abstract/Greater	Pictograms (linked to Science living things and their habitats) To recognise that we can count and compare objects using tally charts To recognise that objects can be represented as pictures To create a pictogram To select objects by attribute and make comparisons To recognise that people can be described by attributes To explain that we can present information using a	Branching Databases To create questions with yes/no answers To create a branching database To explain why it is helpful for a database to be well structured To identify objects using a branching database To identify the object attributes needed to collect relevant data To compare the information shown in a pictogram with a branching database	Data loggingTo explain that data gathered over time can be used to answer questions To use a digital device to collect data automaticallyTo explain that a data logger collects 'data points' from sensors over timeTo use data collected over a long duration to find informationTo identify the data needed to answer questionsTo use collected data to answer questionsSuggested Extended	Flat-file Databases To use a form to record information To compare paper and computer-based databases To apply my knowledge of a database to ask and answer real-world questions To explain that tools can be used to select data to answer questions Suggested Extended Abstract/Greater Depth Task: Debate whether we should go back to paper-	SpreadsheetsTo identify questions which can be answered using dataTo explain that objects can be described using dataTo explain that formula can be used to produce calculated dataTo apply formulas to data, including duplicatingTo create a spreadsheet to plan an eventTo choose suitable ways to present dataSuggested Extended Abstract/Greater Depth

		given objects and	Task: Create independent	closed questions and decide	be data over a period of time		
		given objects and decide on the criteria	pictogram on own gathered	closed questions and decide which would be appropriate	and summarise what this		
			data and generate questions from a peer	for a branching database	shows		
		Software /Activities	Software /Activities	Software /Activities	Software /Activities	Software /Activities	Software /Activities
		J2E / JiT5	J2E / JiT5 - Pictograms	J2E – J2Data	Lego WeDo/ Code IT/ In O Bot	J2E – J2Data	Microsoft Excel
Summer	Concepts and Approaches:	Creating Media: Digital Writing	Presenting Information	Desktop Publishing	Photo Editing	Creating Media: Video Production	Al Literacy
Summer 1	Algorithms, Collaboration, Persevering, Creating, Pattern, Logical reasoning, Tinkering, Abstraction Includes 3 space themed activities to develop pupils computational thinking and problem solving skills. Include creating algorithms to direct a rocket through space and spotting patterns in pictures of aliens.	To use a computer to write To add and remove text on a computer To identify that the look of text can be changed on a computer To make careful choices when changing text To explain why I used the tools that I chose To compare writing on a computer with writing on paper	New unit under development by Haringey Education Partnership.	To recognise how text and images convey information To recognise that text and layout can be edited To choose appropriate page settings To add content to a desktop publishing publication To consider how different layouts can suit different purposes To consider the benefits of desktop publishing <u>Suggested Extended</u> <u>Abstract/Greater Depth</u> <u>Task:</u> Create your own magazine cover and give reasons for your choice of	To explain that digital images can be changed To change the composition of an image To describe how images can be changed for different uses To make good choices when selecting different tools To recognise that not all images are real To evaluate how changes can improve an image <u>Suggested Extended</u> <u>Abstract/Greater Depth</u> <u>Task:</u> Debate the risks and benefits of photoshopping images or not	To recognise video as moving pictures, which can include audio To identify digital devices that can record video To capture video using a digital device To recognise the features of an effective video To identify that video can be improved through reshooting and editing To consider the impact of the choices made when making and sharing a video Suggested Extended Abstract/Greater Depth	New unit under development by Haringey Education Partnership.
		Abstract/Greater Depth Task: Create multiple phrases which show changes to text Software Purple Mash – 2Publish / Busy Things / Publisher	Software Microsoft Word / Powerpoint	Software Adobe Express	Software Paint.net	Task: Create own film using different types of shots, effects, and music Software Microsoft Word	Software
Summer 2	Concepts & Approaches: Tinkering, Persevering, Patterns, Logic,	Programming B: Programming Animations	Programming B: Programming Quizzes	Programming B: Events and Actions in Programs	Programming B: Repetition in Games	Programming B: Selection in Quizzes	Programming B: Sensing Movement
	Decomposition, Debugging, Collaborating, Algorithms	To choose a command for a given purpose	To explain that a sequence of commands has a start	To explain how a sprite moves in an existing project	To develop the use of count- controlled loops in a different programming environment	To explain how selection is used in computer programs	To create a program to run on a controllable device

		To explain that a sequence	To create a program to move		To relate that a conditional	To explain that selection can
surroundings and get	of commands can be	of commands has an	a sprite in four directions	To explain that in	statement connects a	control the flow of a
creative, take a journey	joined together	outcome		programming there are	condition to an outcome	program
and make a map, and			To adapt a program to a new	infinite loops and count		
discover seaside	To identify the effect	To create a program using a	context	controlled loops	To explain how selection	To update a variable with a
tangrams, in these three	of changing a value	given design			directs the flow of a program	user input
fun activities.			To develop my program by	To develop a design which		
	To explain that each	To change a given design	adding features	includes two or more loops	To design a program that	
	sprite has its own			which run at the same time	uses selection	To use an conditional
	instructions	To create a program using	To identify and fix bugs in a			statement to compare a
		my own design	program	To modify an infinite loop in	To create a program that	variable to a value
	To design the parts of			a given program	uses selection	
	a project	To decide how my project	To design and create a			To design a project that uses
		can be improved	maze-based challenge	To design a project that	To evaluate my program	inputs and outputs on a
	Suggested Extended			includes repetition		controllable device
	Abstract/Greater	Suggested Extended				
	Depth Task: Create a	Abstract/Greater Depth		To create a project that		To develop a program to use
	program using own	Task: Design own program		includes repetition		inputs and outputs on a
	algorithm	using a variety of features				controllable device
		e.g., recording, shrinking		Suggested Extended		
				Abstract/Greater Depth		
				Task: Design a program		
				which adds in a score		
				variable to calculate how		
				many sprites have been		
				clicked on		
	Software	Software	Software	Software	Software	Software
	ScratchJr	ScratchJr /J2e 2code	Scratch	Scratch	Scratch	Micro:bit