

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	<p>Concepts and Approaches: Algorithms, Collaboration, Persevering, Creating, Pattern, Logical reasoning, Tinkering, Abstraction</p> <p>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 destination and design a uniform for a firefighter!</p>	<p>Computer Systems and Networks – Tech Around Us</p> <p>To identify technology</p> <p>To identify a computer and its main parts</p> <p>To use a mouse in different ways</p> <p>To use a keyboard to type</p> <p>To use the keyboard to edit text</p> <p>To create rules for using technology responsibly</p> <p><u>Suggested Extended Abstract/Greater Depth Task:</u> Create an image of an activity they like and use the keyboard to label this.</p>	<p>Computer Systems and Networks- IT Around Us</p> <p>To recognise the uses and features of information technology</p> <p>To identify information technology in the home</p> <p>To identify information technology beyond school</p> <p>To explain how information technology benefits us</p> <p>To show how to use information technology safely</p> <p>To recognise that choices are made when using information technology</p> <p><u>Suggested Extended Abstract/Greater Depth Task:</u> Imagine if there wasn't an electronic till in a shop, what would the impact of this be?</p>	<p>Computer Systems and Networks – Connecting Computers</p> <p>To explain how digital devices function</p> <p>To identify input and output devices</p> <p>To recognise how digital devices can change the way we work</p> <p>To explain how a computer network can be used to share information</p> <p>To explore how digital devices can be connected</p> <p>To recognise the physical components of a network</p> <p><u>Suggested Extended Abstract/Greater Depth Task:</u> Create a map of the network throughout the school.</p>	<p>Computer Systems and Networks – The Internet</p> <p>To describe how networks physically connect to other networks</p> <p>To recognise how networked devices make up the internet</p> <p>To outline how websites can be shared via the World Wide Web</p> <p>To describe how content can be added and accessed on the World Wide Web</p> <p>To recognise how the content of the WWW is created by people</p> <p>To evaluate the consequences of unreliable content</p> <p><u>Suggested Extended Abstract/Greater Depth Task:</u> Imagine a website had been hacked, how could you check the information on it is true?</p>	<p>Computer Systems and Networks – Sharing Information</p> <p>To explain that computers can be connected together to form systems</p> <p>To recognise the role of computer systems in our lives</p> <p>To identify how to use a search engine</p> <p>To describe how search engines select results</p> <p>To explain how search results are ranked</p> <p>To recognise why the order of results is important, and to whom</p> <p><u>Suggested Extended Abstract/Greater Depth Task:</u> Debate whether you should always click on the top result on a search engine.</p>	<p>Computer Systems and Networks – Communication</p> <p>To explain the importance of internet addresses</p> <p>To recognise how data is transferred across the internet</p> <p>To explain how sharing information online can help people to work together</p> <p>To evaluate different ways of working together online</p> <p>To recognise how we communicate using technology</p> <p>To evaluate different methods of online communication</p> <p><u>Suggested Extended Abstract/Greater Depth Task:</u> Debate whether you should always click on the top result on a search engine.</p>

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

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

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