

		Computing Topic & Progression Map						
Threshold Concept		Milestone 1		Milestone 2		Milestone 3		
	Reception	Year 1 Basic	Year 2 Advancing & Deep	Year 3 Basic	Year 4 Advancing & Deep	Year 5 Basic	Year 6 Advancing & Deep	Challenge
	Purple Mash units for EYFS. Educational apps on the iPads.	Autumn 1: Online Safety Autumn 2: Animated Stories Spring 1: On the move Spring 2: Simple Inputs Summer 1: Lego Builders Summer 2: Coding	Autumn 1: We are detectives Autumn 2: Spreadsheets Spring 1: Espresso Coding Different inputs Spring 2: Espresso Coding Buttons and instructions. Summer 1: We are animators/Effective searching Summer 2: We are Games Testers Making music	Autumn 1: Sequence and animation (espresso) Autumn 2: We are communicators Spring 1: Coding variables Spring 2: We are opinion pollsters Summer 1: We are presenters Summer 2: Computing systems and networks	Autumn 1: Introduction to variables (espresso) Spring 2: Computational thinking using chess Summer 2: We are musicians Autumn 2: We are artists Spring 1: Networking Summer 1: Repetition and loops (Espresso)	Autumn 1: We are bloggers Autumn 2: speed direction and co - ordinates (Espresso) Spring 1: We are architects Autumn 1: We are web developers Spring 2: We are cryptographers /Networking Summer 2: Random numbers and simulation (Espresso)	Autumn 1: Espresso Coding Autumn 2: Computing systems and networks Spring 1: Spreadsheets Spring 2: Vector drawing Summer 1: Espresso Coding Summer 2: Microbit sensing	
Code	Beebots -Understand that pushing a button on a toy will give it an instruction. -Predict what will happen when a button is pushed. -Use a simple application on a computer or mobile device.	Espresso Coding Beebots -Understand that when a computer does something, it is following instructions called 'code' -use code to make objects move when they are clicked -Combine start events and click events to make a simple game.	Espresso Coding Beebots -Write code to make objects perform different actions when keys are pressed. -Write code where buttons can be used to make an object move around the screen. -Show an awareness of the need for algorithms to be precise. -Create a simple program that	• Use specified screen coordinates to control movement. • Set the appearance of objects and create sequences of changes. • Control the shade of pens. • Use IF THEN conditions to control events or objects. • Use variables to store a value. • Use the Reporter operators () + () () - () () * () () / () to perform calculations.	• Create and edit sounds. Control when they are heard, their volume, duration and rests. • Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or a line or responses to questions). • Use the functions define, set, change, show and hide to control the variables. • Specify conditions to trigger events.	• Set IF conditions for movements. Specify types of rotation giving the number of degrees. • Change the position of objects between screen layers (send to back, bring to front). • Use IF THEN ELSE conditions to control events or objects. • Use lists to create a set of variables. • Use the Reporter operators () + () () - () () * () () / () to perform calculations. Pick Random () to () Join () ()	• Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions. • Set events to control other events by 'broadcasting' information as a trigger. • Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation. • Combine the use of pens with movement to create interesting effects.	-Design and use computer extractions that model real world problems and physical systems. -Understand some key algorithms for sorting and searching. -Use a number of programming languages to solve a variety of computational problems. -Use data structures such as tables and arrays.

		-Understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. -Work out what is wrong with a simple algorithm. -Read code and predict the overall effect of the program.	- achieves a specific purpose. -Identify and correct some errors.			- Letter () of () - Length of () () Mod () This reports the remainder after a division calculation - Round () () of ().	• Use the Boolean operators () < () () = () () > () ()and() ()or() - Not() - to define conditions.	-Use procedures to write modular programs. -Understand Boolean logic (such as AND, OR and NOT) and its use in determining which parts of a program are executed. - Explain how instructions are stored and executed within a computer system. Born to code
<u>Connect</u>	-Recognise that a range of technology is used in homes and in schools.	• Understand online risks and the age rules for sites.	• Participate in class social media accounts.	• Understand that comments made online that are hurtful or offensive are the same as bullying. • Understand how online services work.	• Understand the term 'copyright'. • Contribute to blogs that are moderated by teachers. • Give examples of the risks posed by online communications.	• Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express written permission, from the copyright holder. • Understand the effect of online comments and show responsibility and sensitivity when online. • Understand how simple networks are set up and used.	• Collaborate with others online on sites approved and moderated by teachers. • Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems.	-Understand the devices and applications that make up networked computer systems and how they interact. -Explain how networks such as the internet works. -Understand how computers can monitor and control physical systems.
Communicate	-I can tell an adult before I go online.	• Use a range of applications and devices in order to communicate	• Use a range of applications and devices in order to communicate ideas, work and messages.	• Use some of the advanced features of applications and devices in order to communicate ideas,	• Use some of the advanced features of applications and devices in order to communicate ideas,	• Use many of the advanced features in order to create high quality, professional or efficient communications.	• Choose the most suitable applications and devices for the purposes of communication.	-Undgoals. - ertake creative projects that involve selecting, using and combining

	-I can show an adult the websites I am using to check they are appropriate. -Use computer devices to interact with age appropriate applications. -Create simple representations of events, people and objects. _ I can turn a desktop computer on and off -Begin to use a keyboard and develop familiarity with letters, numbers, backspace, arrow keys and space bar. -Develop mouse control through simple activities on –screen.	ideas, work and messages. -Use a basic word processing package to write and illustrate a story. -Begin to understand and use touch typing. -Save and open work.	-I can type sentences correctly using the spacebar. -Talk about technology they are using to create digital content. -Save and open files on different devices.	work or messages professionally. -Use software to communicate with others. -Type sentences using the spacebar and shift key. -Continue to develop skills of touch typing. -Recognise different forms of input and output devices.	work or messages professionally. -Write and deliver a presentation on a given subject. -Use photos, videos and sound to present ideas. -Type paragraphs using the shift key and correct punctuation symbols. -Change the appearance of text to increase its effectiveness.	-Write a blog on a given topic. -Continue to develop skills of touch typing. -Use text, photo, sound and video editing tools to edit and improve work. -Review and improve their work considering the impact on the their intended audience. -Support others to improve their work.	-Write and deliver a presentation incorporating a range of media. Explain why I have selected a particular software/digital device and how it helps accomplish a given goal. Evaluate the effectiveness of own and other’s work.	multiple applications across a range of devices to achieve goals. -Create, reuse, revise and repurpose digital information and content with attention to design, intellectual property and audience.
Collect	Begin to sort, classify or group various objects progressing from practical activities to the use of ICT.	• Use simple databases to record information in areas across the curriculum.	• Use simple databases to record information in areas across the curriculum. -Make and save a chart or graph using the data collected.	• Devise and construct databases using applications designed for this purpose in areas across the curriculum.	• Devise and construct databases using applications designed for this purpose in areas across the curriculum. -Organise data in different ways.	• Select appropriate applications to devise, construct and manipulate data and present it in an effective and professional manner.	• Select appropriate applications to devise, construct and manipulate data and present it in an effective and professional manner.	-Explain how data of various types can be represented and manipulated in the form of binary digits including

	Create simple pictures with help.	-Talk about different ways in which information can be shown. -Add information to a pictogram using digital software (Purple Mash) .	-Talk about the data in their chart or graph.	-Talk about different ways that data can be organised. -Search a ready-made database to answer questions. -Collect data and make a branching database. J2data.	-Collect data and			numbers, text, sounds and pictures. -Collect and analyse data.
--	-----------------------------------	---	---	--	-------------------	--	--	--