Progression of Skills in Computing

These are the minimum end of year expectations for our EYFS learners that we plan for.		This document shows how Computing objectives are designed in a progressive way to ensure learners become more proficient as they move through the school, securing and applying the key objectives. Each teacher should be aware of their own computing objectives, and of those which have come before. Greyed out areas are not taught in that year group.					
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Key Vocabulary exposed to, but not limited to						
Coding and computational thinking	I can explain what the different buttons do on the Bee Bot. I can give a Bee Bot commands to make it move. I can follow a simple sequence of instructions (algorithm) With the help of an adult, I can debug instructions when they go wrong.	I can explain what an algorithm is. I can explain why an algorithm needs to be accurate (right). I can work out what is wrong in a simple algorithm (steps out of order) I can write a simple algorithm for a recipe. I can use buttons to move my character. I can plan my moves several steps at a time towards the goal rather that one step at a time.	I can explain that an algorithm is a set of instructions to complete a task I know I need to carefully plan my algorithm so it will work when I make it into code. I can design a simple program using 2Code that achieves a purpose. I can find and correct some errors in my program. I can say what will happen in a program. I can spot something in a program that has an action or	I can design and code a program that follows a simple sequence. I can experiment with the use of timers to achieve delay effects in my program. I understand the difference between timer-after and timer-every commands I can explain the choice of commands I have included in my program and what they achieve I can use the repeat command to program a turtle to draw a square.	I can turn a real-life situation to solve into an algorithm, using a design that shows how I can accomplish this in code. I can use repetition in my code. For example, using a loop that continues until a condition is met such as the correct answer being entered. I can use timers within my program designs more accurately to create repetition effects. For example, I can create a counting machine. I can use selection (decision) in my programming. For example, using an 'if	I can make more complex real-life problems into algorithms for a program. I can test and debug my programs as I work I can convert (translate) algorithms that contain sequence, selection and repetition into code that works. I can use sequence, selection, repetition, and some other coding structures in my code I can organise my code carefully for example, naming variables and using tabs. I know this will help me debug more efficiently	I can turn a complex programming task into an algorithm. I can identify the important aspects of a programming task (abstraction). I can decompose important aspects of a programming task in a logical way, identifying appropriate coding structures that would work I can test and debug my program as I work on it and use logical methods to identify a cause of a bug. I can identify a specific line of code that is causing a

		I can make logical attempts to fix the code. I can design a program that controls the look and actions of objects. I can read the code one line at a time.	effect (does something).	I am beginning to understand how code is structured and can apply this knowledge when debugging. I can integrate multimedia components such as sounds, animation and images into my coding.	statement' for a question being asked and the program takes one of two paths. I can use variables within my program and know how to change the value of variables. I can use the user inputs and output features within my program, such as 'Print to screen' I can identify errors in my code by using different methods, such as steeping through lines of code and fixing them. I can read programs that contain several steps and predict the outcomes with increasing accuracy.	I can use logical methods to identify the cause of any bug with support to identify the specific line of code.	problem in my program and attempt a fix I can translate algorithms that include sequence, selection and repetition into code and nest these structures within each other. I can use inputs and outputs within my coded programs such as sound, movement and buttons and represent the state of an object I can interpret (understand) a program in parts and can make logical attempts to put the separate parts together in an algorithm to explain the program. I can turn a simple story with 2 or 3 levels of decision making into a logical design using 2Connect.

							I can apply my knowledge of coding and the fundamental order of instructions through creating my own story-based adventure game.
Communication and networks					I understand that network and communication components can be found in many different devices which allow them to join the internet. I recognise the main component parts of hardware which allow computers to join and form a network.	I know the importance of computer networks and how they help solve problems and enhance communication. I recognise the main dangers that can be perpetuated via computer networks.	I can explain the difference between the internet and the World Wide Web. I can explain what a WAN and LAN is and describe the process of how access to the internet in school is possible.
Spreadsheets		I can use 2Calculate to create a simple spreadsheet. I can enter data into cells. I can use the image tool box to add clipart.	I can open, edit and save sheets. I can create a spreadsheet which includes a graph based on simple data collected. I can produce a spreadsheet which can help me to solve simple mathematical puzzles I can record collected data into a table and	I can create a table of data on a spreadsheet and can use this to automatically create charts/graphs from data I can select the most suitable type of chart to use for my data, edit headers and apply axis labels. I can collect and enter data within 2Calcualte.	I can use 2Calculate to design a graph to solve a mathematical problem. I can use spreadsheets to solve and check mathematical problems and concepts. I can add a formula to a cell to automatically make a calculation in that cell using the `formula Wizard`.	I can create a formula using 2Calculate that converts metres into centimetres I can convert data into a graphical format I can use 2Calculate to produce functional spreadsheets with a clear purpose.	I can create a spreadsheet and collect data using 2Calculate that answers a mathematical problem relating to probability. I can use a spreadsheet to model a real-life situation I can create spreadsheets which contain visual elements such as suitable graphs which represent their data.

			use this data to create a block graph manually.	I can use the graphing tool to create suitable graphical representations of the data I have within a table.	I can use spreadsheets to collate data and extract information from it to answer questions		I can use advanced features such as the 'formula wizard' for efficiency and know the best layouts to use to support easier interrogations of data. I can understand and use the new vocabulary relating to spreadsheets With direction, I can use flash fill, convert text to tables, split cells, and sort for organising and presenting my data in a spreadsheet.
Internet and Email	I can talk about what I use the internet for. I always ask a grown up before I go on the internet. I can check with a trusted adult before I try a new website. I can talk about and explain the SMART rules with my teacher I know my username and password for my Purple Mash Account.	I understand what is meant by technology and can identify examples in and out of school. I understand the importance of online safety by keeping my Purple Mash username and password private. I can explain what the meaning of private information and show this in computing lessons. I can save my work, using a name that I	I understand how to use the Purple Mash search bar and know theninplications of inappropriate searches. I can see where technology is used at school such as in the office or canteen. I can explain what a digital footprint is. I can give reasons for keeping my password safe. I can express the good and bad sides of digital technology.	I understand the importance of a secure password and not sharing this with anyone else. I understand the negative implications of failure to keep passwords safe and secure and can suggest examples of good and poor passwords. I can assess the accuracy of the information on a website and make decisions on whether it is a trustworthy source of information.	I can help others to understand the importance of online safety and apply my knowledge through the creation of online safety resources. I can give some examples of things to look out for in an email to ensure that it from a valid source and is not a phishing scam email. I can explain what can be learnt by looking at the padlock details for a website.	I can explain what personal information is and know strategies for keeping this safe. I can search precisely when using a search engine. For example, I know I can add additional words or removes words to help find better results. I can explain in detail how accurate, safe and reliable the content is on a webpage. I have a secure knowledge of online	I can demonstrate safe and respectful use of a range of different technologies and online services. I can identify more discrete inappropriate behaviours online. For example, someone who may be trying to groom me or someone else. I can use critical thinking to help me stay safe online. I know the value of protecting my privacy and others online

	I can use my Magic Square to log in to a Chromebook in school.	will remember, to my personal work folder.	I can share work and communicate electronically – for example using 2Email or the display boards.	I have gained an understanding that it is not acceptable to use the work of others or post images of others without consent.	I can reflect upon positive and negative aspects of a digital footprint and can give examples of the care I would take when sharing online in relation to my own and others' digital footprint.	safety rules taught at school.	
		I can communicate and behave appropriately when I am online.	I can find information I need using a search engine.	I can express the need to tell a trusted adult if I am upset by anything online.	I can explain what malware is and what it does.	I can demonstrate the safe and respectful use of different online technologies and online services	
			I can successfully find the solutions for answers to a problem or quiz using a search engine	I can list a range of ways the internet can be used to provide different methods of communication.	I can give reasons for limiting screen time.	I always relate appropriate online behaviour to my right to have personal privacy.	
			I can report unkind behaviour and things that upset me online, to a trusted adult.	I can exchange email communications using 2Email.	I can explain what plagiarism is	I know how to not let my mental wellbeing or others be affected by use of online technologies and services.	
			I understand the terminology, layout and features of a search engine	I can open and respond to an email, altering the size of the font, as well as the formatting of the text	I can explain what I need to do to report cyberbullying or inappropriate content on screen.		
				I can select a person from my address book and compose a suitable email to send them.			
				I can add attachments to an email I have written and use the CC functionality correctly.			

Art and Design	I can use a variety of paint projects to learn about different cultural celebrations and clothing. I can use paint projects for numbers 1-10 to practise number formation I can use 2Paint on an iPad to help me with my fine motor skills and movements.		I am able to use a range of effects and functions, such as e-collage, in 2Paint a Picture I can use 2Paint a Picture to create an image replicating an established style.		I can create an animation using 2animate. I can use the onion skin animation tool within 2Animate to show movement across the screen. I can select backgrounds and sounds to make their animation more immersive.	I can plan a computer game (2DIY3D) using a template. I can combine text, sound, and graphic components within a 2DIY3D game I can design a 3D model to fit certain criteria using a template from 2Publish. I can use the ready-made templates within 2Design and Make to design the recognisable form of a building.	
Music	I can experiment with beats and rhythms on 2Beat. I can experiment with different instrument sounds and create my own simple tune on 2Explore.		I can use the sounds within 2Sequence to create a composition I can explore different sounds to use within my tune and functions such as tempo. I can edit digital data such as data in music composition software like 2Sequence.		I can create a simple rhythm, experimenting with BPM in 'Busy Beats' I can use the tools within Busy Beats to create a melodic phrase experimenting with pitch		

Databases and graphing		I can sort items into three groups using given criteria. I can create a pictogram on 2Chart. I can create, store, retrieve and share my pictogram.	I can create pictograms to represent data I can use a binary tree to sort information and can manipulate their data, answering questions relating to this I can design a binary tree using 2Question to sort pictures	I can create a branching database that accomplishes a given goal. I can create a branching database and can debug it to improve the quality of their digital content creation. I can create a branching database which includes suitable text, titles and gathering of appropriate images from online and import them. I use 2Graph to enter data on a given number of fields and then present it as a graph I can select the most suitable graph format to present my data I can present my graph by sharing it on a class blog I can present information in a range of graphical formats which includes attention to detail regarding appropriate labelling and block sizing.		I can contribute to the design of a collaborative and individual database. I can design and enter information accurately into my own database and create questions about it for my classmates to answer.	
Writi	I can listen to a story that my teacher has created on 2Create a Story.	I can use 'My Story' to create an interactive story.	I can include photos, text and sound in my creations.	I understand how to touch type using the home, bottom and top	I can create content linked to a 2Simulate scenario for a select audience	I can use the most appropriate form of online communication according to the digital	I can identify the key features of a blog and share these using 2Write.

	I can use digital microscope to look at minibeasts and plants. I can practice fine motor skills and movements through playing games which include dragging and dropping. I can play games on the IWB. I can take a photo with a camera or .tablet/Ipad.	I can change the pictures, add animations and sound to my story. I can save my work. I can find my work in my folder and open it.	I understand how digital content can be represented in different ways.	row keys using both hands. I can apply my touch-typing skills in other lessons. I can add text. pictures and shapes to a slide and format them with tools such as shadows and borders I can insert slides into a presentation. I can use transition effects between slides and animations of the objects in slides. I can explore the use of timings to a presentation. Using 2Simulate, I can analyse and evaluate information relating to the situations in the activities I understand the importance of simulations to replicate events that could occur in real and hypothetical situations	Using a variety of software, I can make informed choices about the best way to present information I can alter font types, styles and sizes to suit an intended audience for digital content using 2Publish and incorporate, with ease, images from clipart banks and internet sources. I can share digital content using a variety of applications such as: 2Blog, 2Email and Display Boards.	content. For example, use 2Email, 2Blog and Display Boards. I can use 2Connect to design and create concept maps that collect and present a range of linked ideas I can work successfully with others to create an online collaborative concept map using 2connect During presentations, I can give constructive feedback sensitively and respond well to others' feedback. I can create a word processing document. I can alter the look of the text and navigate around the document. I can consider the overall structure of the document using paragraph formatting, page breaks, headers and footers to increase the usefulness and	I can create a blog for a specific purpose and can post comments on an existing class blog I understand the features of a blog and the differences between a blog page and a blog post I can work collaboratively and individually to plan, design, and create a blog. I can use criteria to evaluate the quality of my own and others digital solutions, suggesting refinements. I can consider the intended audience carefully when I design and make digital content. I can plan, design and create various quizzes using a variety of software- 2DIY, 2Quiz and 2Investigate.

					visual appeal of a document I can add images, text boxes and shapes to a word document. I can resize and reposition objects using wrapping options. I understand that I should not simply copy images from the internet and routinely consider copyright and attributions when I use images created by others.	With ease, I can combine text with images and audio to enhance my quizzes.