Computing Curriculum Skill Progression

POS KS1 Key stage 1 Pupils should be taught to: ♣ understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions ♣ create and debug simple programs ♣ use logical reasoning to predict the behaviour of simple programs ♣ use technology purposefully to create, organise, store, manipulate and retrieve digital content ♣ recognise common uses of information technology beyond school ♣ use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.			POS KS2 Key stage 2 Pupils should be taught to: ♣ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ♣ use sequence, selection, and repetition in programs; work with variables and various forms of input and output ♣ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs ♣ 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 ♣ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content ♣ 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 ♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.					
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	E safety through Rising stars scheme						
		Know how to use digital cameras safely and show respect for those they are filming. Know to tell an adult if they encounter any material that concerns them on the web To start to learn about copyright	Know to tell an adult if they encounter any material that concerns them on the web To know that once a picture is posted online it is impossible to control what happens to the image.	When filming, children should act respectfully and responsibly when filming, editing and presenting their work. They should discuss why schools and other organisations have strict policies over filming. Learn that data transmitted via the	Pupils need to think about copyright when sourcing audio. Discuss some of the risks of using the web and how to stay safe while doing so. Know how easily a web page can be modified and discuss the	Pupils learn about how information can be communicated in secret over open channels including the internet Know how to check they security of encrypted websites	To consider capabilities of smartphones and tablet computers and how they can be used purposefully. Know how these device can be used to record and share location information.

		when searching for images	To know what is acceptable and unacceptable to photo e.g some children cannot share photographs of themselves and permission To stay safe online and use search engines discussed alongside school filtering To know some of the risks associated with email. Know that attached files can contain viruses. To know that passwords need to remain private and should not be shared or shared only with people the trust	internet is not always encrypted. Pupils should think about safe use of email. Learn how to use email positively and become aware of its risks e.g. hacked accounts, spam. Pupils will email using school email accounts with individual passwords that pupils will learn need to remain private.	reliability of web sites	Know about the importance of password security and consider what makes a secure password To consider the reliability on online content To use search engines safely and effectively	To use search engines effectively and safely.
	E-safety						
	To understand the importance of asking for help from an adult when on the internet (Childnet – Smartie the penguin)	To make children aware of some of the risks to using the internet and know about personal information we must keep safe	To make children aware of some of the risks to using the internet and know about personal information we must keep safe				

		To know who they can share personal information with (Knowsley SOW)	Children understand what email is and can send a class email To make children aware of the functionality of the internet – social networks, online gaming etc Make children aware of cyberbullying and teach children why it is wrong (Knowsley SOW)				
Be Internet Legends Online safety				<u>Be Internet Legends Lesson 1</u> To know how they can protect their online reputation To work out whether information online is true and reliable	<u>Be Internet Legends Lesson 2</u> To know how to make strong passwords to secure their information online To know ways in which they can be kind to others online	<u>Be Internet Legends Lesson 3 and 4</u> To know what having a positive digital footprint means To know ways in which they can start to build a positive digital footprint To know how to be a critical consumer while online To know about different online	<u>Be Internet Legends Lesson 5 and 6</u> To know ways of developing safe habits online, including the importance of protecting personal information How to respect online privacy boundaries for themselves and others Know ways to seek or ask for

						scams, including what 'phishing' means	help if they or others feel unsafe online To develop respectful, empathetic and healthy online relationships To know ways to manage and respond in a healthy and safe way to hurtful online behaviour
Computer Science and Programming	To show an interest in technological toys with buttons, or real objects such as cameras or mobile phones Use simple software to make things happen Press buttons on a floor robot and talk about movements	<u>Espresso Coding</u> To understand that when a computer does something it is following instructions called code To practise giving instructions to make an object on the screen move when the program starts To make objects move they are clicked To practise coding to make things move when they are clicked	<u>Espresso Coding</u> Learn how to make an object do simple things when a key is pressed on the keyboard To learn how to code an object to change direction when different keys are pressed on a keyboard To make own game adding own images and adding own events To understand how code is written in lines	<u>Scratch Programming animation</u> To design, write and debug programs that accomplish specific goals To solve problems by decomposing them into smaller parts To use sequence, selection and repetition in programs To work with variables and various forms of input and output To use logical reasoning to explain how some simple	<u>Scratch Develop a simple educational game Prototype an interactive toy</u> To develop an educational game using selection and repetition To understand and use variables To debug computer programs To understand different forms of input and output (such as sensors, switches, motors,	<u>Scratch Develop an interactive game Creating repeating patterns and art Viking presentation</u> To design and create a computer program which uses sequence, selection, repetition and variables To detect and correct errors int heir program	Planning the creation of a mobile app To design, write and debug programs that accomplish specific goals including controlling or simulating physical systems To solve problems by decomposing them into smaller parts. To use sequence, selection and repetition in programs

		To add images and make them move when the program starts To combine start events and click events to make a simple game To make design an create their own game using click events and start events to make pictures move	and needs to be precise To use logical reasoning to predict the behaviour of simple programs To think logically to understand and explain how their code works Learn how to fix code when there is a problem and understand that fixing a problem is called debugging To design, create and debug simple programs	algorithms work and detect and correct errors by debugging	lights and speakers)		To work with variables and different forms of input and output.
Information Technology	To know how to operate simple equipment To use a simple program on a computer or tablet To use ICT hardware such as a mouse to interact with age appropriate computer software	To use technology purposefully to create, organise, store, manipulate and retrieve digital content **Filming steps of a recipe** **Illustrations using Paint**	To use technology purposefully to create, organise, store, manipulate and retrieve digital content **Using digital cameras to take photos** **Editing pictures using Paint.net** **Collect data**	To use search technologies effectively To select, use and combine a variety of software to design and create a range of programs **Videoing and creating a small movie using moviemaker** **Using email**	To use search technologies effectively To select, use and combine a variety of software to design and create a range of programs **To produce digital music using Isle of Tunes**	To use search technologies effectively To select, use and combine a variety of software to design and create a range of programs **Fusing geometry and art Using Sketch up**	To use search technologies effectively To select, use and combine a variety of software to design and create a range of programs

				Collecting and analysing data using charts and spreadsheets with Excel	To produce data on the analysis of weather using Excel	Spreadsheet module	
Digital literacy	To recognise that a range of technology is used in places such as homes and schools	Finding images on the internet	Researching a topic using the internet Know about emails and respond to an email as a class	To explore how computer networks and the internet work Using email to email each other	To have some understanding of HTML – <u>Use Espresso Coding HTML</u> To add paragraphs of text to a page To learn how to add images to a web page using HTML To understand new vocabulary associated with HTML including images, jpgs, text, headings and paragraphs To create a web page using headings, paragraphs and images To know how to changes the colour of text using the colour property To change the size and font of text	To understand and crack codes to have some understanding of how encryption works on the web Creating a web page using weebly about cyber safety Share experiences with blogging	Researching the app market

					To change the background colour using tex and hex values To add links to websites and pages		
Basic Text skill Progression	Press buttons on a keyboard	To use index fingers (left and right hand) on a keyboard to build words and sentences To know when and how to us the space bar (thumbs) to make spaces between words	To create own documents using text and images To know when and how to use the return/enter key. To use shift & CAPS to enter capital letters To use delete and backspace button To know how to undo and redo To create sentences which can be saved and edited later To insert an image into text using clipart or copy an image from the internet and paste	To create text and save using SAVE. To retrieve and amend text and save changes using SAVE AS (document name 2 etc to show sequential documents). To use individual fingers to input text and use SHIFT key to type characters To amend text by highlighting and use SELECT/DELETE & COPY/PASTE To make text bold, italic or underline it and know when to use these To change the font type and size and colour To align text left, right, centre and know when these are used e.g. titles and	To create text and save To retrieve file, edit and save changes. To use a keyboard effectively, including the use of keyboard shortcuts To use font sizes and effects such as bullet points appropriately To build a list by using bullet points or numbered points To move a word or sentence by highlighting and dragging it to a new position To know how to use spell check	As Year 4 and: To orient page view and page size To indent manually or within a list (suits non-fiction writing with subheadings and possibly subheadings) To insert a table and adjust its formatting adding new columns or rows and merging cells To save a copy of the document as a pdf (selecting dropdown option of file type) and understanding that this will create an unalterable document that would publish well on the web –	

				subtitles centred but all other writing usually aligned to the left To insert an image into text using clipart or copy an image from the internet and paste		would be good for blogging	