Ditton Primary School



Computing Curriculum Intent

CORE VALUES:

CHILDREN FIRST

RESILIENCE

Pla	iying & Exploring - Engagem	ent	Active Learning - Motivation				Creating & Thinking Critically - Thinking			lly - Thinking	
 Find Plav Bei ELG 	•	 Being involved & concentrating Keep on trying Enjoying achieving what they set out to do 			 Having their own ideas (creative thinking) Making links (building theories) Working with ideas (critical thinking) 						
NO ELG's are	represented for this area.										
Focus Electronic Communication Understanding Technologies		Text and Multimedia	Aultimedia Research and E-Safety		Digital images and audio		Algori in	Algorithms Handing information		Vocabulary- To be used daily.	
Reception Skills	Completes a simple program on electronic devices	• Begin to list different IT in their home	in to list different heir home • Begin to g reasons why we ne to stay safe online • Can use th internet with adult supervision to find retrieve informatic interest to them		Can create content such as a video recording, stories, and/or draw a picture on screen		• Develops digital literacy skills by being able to access, understand and interact with a range of technologies		Interne paint, to set, sou photos,	Internet, website, mouse, images, paint, technology, share, collect, set, sound, communicate, videos, photos, programme	
Reception Knowledge	Autumn 1 All about Me	Autumn 2 Families and Celebra	Autumn 2 and Celebrations		Spring 1 UpSprinand Downand changin		ng 2 Growing ng Fairy Tales/ Adrift – I and Homes		r 1 t – Houses es	Summer 2 Chester Zooand e their•Can use 'google' to find out more information about animals and use the images to support their own representations. •Can explain who 'hector' is and why we use him.	
	 Can turn on an Ipad, open a programme and follow instructions. Can explain how to stay safe when using the internet. 	•Can follow teachers' instructions when using an online interactive programme such as paint or draw.		•Can write a variety of CVC words using a keyboard. of pla was t for gr		•To collect info about the mea of plants and s was the best e for growing in.	ormation surement ee which nvironment	 Can use the I Pad and class cameras to take to own images Can send a group class email to a different class and wait for a response 			
	Safety	Computer Skills		Programing			Word Processing skills		Data Collection		

CORE VALUES:

CHILDREN FIRST

RESILIENCE

Year 1: Computing skills progression				
(S1: POS	Electronic Communication			
 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. 	- Contribute to a class email to another class/school/teacher etc			
ext and Multimedia	Research and E-Safety			
 Work with others and with support to contribute to a digital class resources which 	 Explore information from a variety of sources 			
includes text, graphic and sound	- Save a picture from the internet			
- Open and close windows				
- Turn a device on				
- Type using both hands				
igital Images and audio (photos, paint, animation)	Algorithms (Control)			
- Use a range of simple tools to modify a picture/create a picture/use a paint package	- Control simple everyday devices to make them produce different outcomes.			
andling information (databases and graphs)	Understanding technologies			
- As a class or individually with support, children use a simple pictogram to develop	- Show an awareness of the range of devices and tools they encounter in everyday			
graphical awareness	life			
	- Show an awareness that why they create one a computer or tablet can be shown to			
	others via another device (e.g. printer, projector, Apple TV)			

	Year 1 – End points			
E-Safety	 To understand what information should be kept safe when using the internet. 			
	To understand that everyone leaves a digital footprint.			
	To understand who to tell if something online upsets them.			
Computer Skills	To begin to apply mouse and trackpad skills by launching applications, manipulating windows and opening and saving files and folders.			
& Inputs	To begin to develop basic computer skills in order to use a desktop or laptop computer.			
	Have an emerging understanding of what inputs and outputs are.			
Word	 To begin to develop typing and word processing skills. 			
Processing	 To have some knowledge of the location of letters and symbols on the keyboard. To understand which search 			
Skills	engines are age appropriate			
Programming	 To understand that computers and devices use programs to complete tasks. 			
Toys	 To understand an algorithm as a set of step-by-step instructions. 			
	To understand why it is important to be precise when writing an algorithm.			

Programming with Scratch JR	•	 To continue to understand the principles of programming. To develop a sense of creating, debugging and logical reasoning. 				
Digital Art	•	To be able to use the influence of other artists to create pictures To be able to use paint tools to create art digitally				
	CORE VALUES: CHILDREN FIRST RESILIENCE PIONEERING					

Year 2: Computing skills progression					
 VS1: POS 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 	Electronic Communication Work collaboratively by email to share and request information of another class or story character				
other online technologies.	Research and E-Safety - Use a search engine to find specific and relevant information to use in a topic				
Digital Images and audio (photos, paint, animation)	- Use key words to search for specific information				
 Use a range of tools and software to create or modify a picture to communicate an idea Create a simple animation to tell a story 	 Control a device, on and off screen, making predictions about the effect their programming will have 				
 Iandling information (databases and graphs) Use a graphing package to collect, organise and classify data, selecting appropriate tools to create a graph and answer questions Enter information into a simple branching database and use it to answer questions Save, retrieve and edit work 	 <u>Understanding technologies</u> Show an awareness of a range of inputs to a computer (Interactive whiteboard, mouse, touch screen, keyboard Begin to show an awareness that computers can be linked to shared resources 				

E-Safety	 Understand that technology can be used to communicate Understand the rules associated with technology use in school and at home Understand that bullying can happen online and what to do if it is happening 			
Basic Stop Motion	 To understand and be able to explain what a stop motion animation is To understand how 2D stop motion animations are created 			
Algorithms	 To be able to create, test and debug algorithms. To use directional language in an algorithm (forwards, backwards, quarter turn). 			
Data	To know that data is information and this information can be sorted into groups based on criteria. To know that data can be represented in different ways.			
Programming with Conditionals	 To use conditionals (if statements) in programming. To identify 'bugs' in an algorithm and 'debug' them accordingly 			
	CORE VALUES: CHILDREN FIRST RESILIENCE PIONEERING			

Word	 To understand which search engines are age appropriate and safe for cutting and pasting images
Processing	 To understand why we save documents in a folder
Skills	To understand shortcuts to creating documents
	To understand how to save to PDF's to protect copyrights of your work

KS2: P0	<u>DS</u>		
-	design, writ	Year 3: Computing	skills progression
-	use	1 0	Electronic Communication
	sequen input and o	e and debug programs that accomplish specific goals, including controlling or physical systems; solve problems by decomposing them into smaller parts	 Show good understanding and awareness of the need to abide by school e-safety r
-	use logical errors in al	ce, selection, and repetition in programs; work with variables and various forms of utput	
-	understand such as the	reasoning to explain how some simple algorithms work and to detect and correct gorithms and programs	
-	collaboratio use search discerning i	computer networks including the internet; how they can provide multiple services, world wide web; and the opportunities they offer for communication and n technologies effectively, appreciate how results are selected and ranked, and be	
-	select, use devices to goals_inclu	n evaluating digital content and combine a variety of software (including internet services) on a range of digital design and create a range of programs, systems and content that accomplish given	
-	use technol behaviour;	ding collecting, analysing, evaluating and presenting data and information ogy safely, respectfully and responsibly; recognise acceptable/unacceptable	
<u>Text an</u>	d Multimedia		
-	Record and graphics in	present information integrating a range of appropriate media combining text and printable form	Research and E-Safety - Using another curriculum area as a starting point, children ask their own question th sources to find answers, making use of search engines - Children talk about using ICT to find information/resources showing an emerging ur of internet safety
<u>Digital</u> <u>a</u> -	Manipulate	udio (photos, paint, animation) digital images using a range of tools in appropriate software to convey a specific ea	Algorithms (Control) Able to type a short sequence of instructions and to plan ahead when programming and off screen
<u>Handlir</u> -	informatio Use a simpl information - Fo	<u>n (databases and graphs)</u> e database (the structure of which has been set up for the) to enter and save on a given subject ght forward lines of enquiry to search data	Understanding technologies - Begin to show discernment in their use of computing devices and tools for a particul and explain why their choice was made - Show an understanding that their password is the key to accessing a personalised resources and files - Show an awareness of where passwords are critical in everyday use (parents acce details)

	Year 3 – End points			
E-Safety	 Understand what privacy settings are and what they are used for. 			
	Understand why strong passwords are important for protecting data.			
	 Understand how to use technology safely in terms of health and well-being. 			
Audio & Video	To know how to use a digital device to record and playback audios			
	To import audio into a movie making software to enhance movie			

Presentation Skills	•	To use technology to organise and pre-	To use technology to organise and present ideas				
	•	To save and retrieve digital work	To save and retrieve digital work				
	•	Use design and formatting to enhance digital work					
		CORE VALUES:	CHILDREN FIRST	RESILIENCE	PIONEERING		

	To present and follow a planned outcome
Internet & Networks	 Have an understanding of the internet as a network linking computers and devices across the world. Have an understanding of how search engines work.
Programming	 An algorithm is the instructions followed to run a code A program is running the algorithm Using functions will allow for code to be more efficient and also increase their uses
Databases	 Can follow a branching database. Can create a branching database using objects. Can create a digital branching database

Year 4 : Computing	y skills progression
 KS2: POS 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. 	Electronic Communication Share work that has been done electronically (email) Seek and respond to feedback
Text and Multimedia - Include sound and video for on-screen presentations which include hyperlinks Show an awareness of audience - Seek feedback	Research and E-Safety - Make use of copy and paste becoming aware and showing an understanding of plagiarism - Understand not all information on the internet is accurate - Develop a growing awareness of how to stay safe when using the internet (in school and at home) - Understand the school's internet policies
Digital Images and audio (photos, paint, animation) - Make a short film/animation from images (still and/or moving) that has been sourced, captured or created Handling information (databases and graphs) - Work as a class or group to create a data collection sheet and use it to set up a simple database - Enter information and interrogate it (by searching, sorting and graphing etc)	Algorithms (Control) - Use control software devices or simulate this on screen (Scratch) - Predict, test and refine programming Understanding technologies - Make choices about devices and tools used for specific purpose and explain in relation to context - Begin to show an awareness of specific tools used in working life - Show an awareness of the need for accuracy in spelling and syntax to search effectively

CORE VALUES:

CHILDREN FIRST

RESILIENCE

	Year 4 – End points
E-Safety	 Have an understanding of what cyberbullying is and what to do if you feel you or someone else is a victim Have an understanding of what Fake News is and why you should be aware of it Understand why social media has age restrictions

Word Processing	 To understand that word processing documents are used to organise information. 				
Skills	To be able to utilise a number of features on a word processing program. To be				
	able to navigate word for a wider range of outcomes				
Audio & Video	To understand inputs and outputs required to play and record audio/sound				
	To create a film trailer incorporating audio and a variety of filming techniques				
Programming	ning • To be able to decompose a problem into smaller parts.				
	Programs are used for everyday life to automate repeating tasks Variables				
	are values which change as the program progresses.				
Databases	Can follow a branching database.				
	Can create a branching database using objects. Can create				
	a digital branching database				
Publisher	To use publishing software to create advisements or a range of publications				
	To apply prior skill development in communication software				

CORE VALUES:

CHILDREN FIRST

RESILIENCE

Year 5: Computing skills progression				
 KS2: POS 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. 	Skills progression Electronic Communication - Recognise binary code - Write basic HTML - Understand webpages as a form of communication			
Text and Multimedia - Use advanced tools in word processing such as text formatting, line spacing etc	Research and E-Safety - Understand the purpose of copyright regulations and the need to repurpose information for a particular purpose - Independently and with due regard for safety, search the internet using a variety of techniques to find a range of information and resources on a specific topic			
Digital Images and audio (photos, paint, animation) - Use images created or captured as part of a bigger project - Create multiple track compositions that contain a variety of sounds	Algorithms (Control) - Create command sequences to control devices in response to sending (i.e. uses inputs as well as outputs)			
Handling information (databases and graphs) - Set up and use a spreadsheet model to explore patterns and relationships - Know how to enter simple formulae to assist this process (SUM, AVERAGE, MIN & MAX)	 Understanding technologies Show an understanding of the school network and how it links computers in school and beyond Compare this with other known networks that may be encountered at home or in the wider world (e.g. banks, hospitals) 			

	Year 5 – End points
E-Safety	Consider the effects of screen time on health, wellbeing and lifestyle and be able to make steps to manage this.
Spreadsheets	Use a spreadsheet to collect and record data using a program such as sheets or Excel.
	Enter text and numbers into a spreadsheet.
	Add simple formulae (+ - * / SUM, AVERAGE, MIN MAX)
Excel Pie Charts	Ability to use a range of multimedia and word processing packages
	 Understand that data can be presented in a variety of ways
	 Understand that pie charts are used in mathematics and can be used to
Networks	 Understand how a range of devices store/transport data using packets and IP addresses.
	Understand the difference between LAN and WAN
Programming	Variables are added to code to add changing values
	Different coding languages are used for different jobs
	Codes can be written in different languages which allows for more efficient codes
Audio &	 Explain and evaluate what features makes good quality audio content.
Podcasts	Explain what a podcast is

Year 6: Computing skills progression					
<u>KS2: POS</u>	Electronic Communication				
	CORE VALUES:	CHILDREN FIRST	RESILIENCE	PIONEERING	

 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. 	 Share work electronically Understand networks as part of the World Wide Web 		
Text and Multimedia - Use effects to convey meaning rather than to impress	Research and E-Safety - Check websites for security features - Understand the effects of cyberbullying and stereotyping		
	 Use appropriate methods to validate information and check for bias and accuracy 		
Digital Images and audio (photos, paint, animation)	Algorithms (Control)		
 Use images created, manipulated or captured as part of a bigger project - 	 Design, build, test, evaluate and modify a system; ensuring that it is fit for intended purpose 		
Handling information (databases and graphs)	Understanding technologies		
- Set up and use own spreadsheet containing formulae to investigate	- Show an understanding of how filtering and monitoring tools affect their use		
 Ask 'What If' questions and change variables in their model Check for mistakes in formulae regularly 	of the school network and internet		

	Year 6 – End points
E-Safety	• To understand the concept of copyright and what that means when using the internet.
	 To understand that plagiarism is the act of using someone else's work and pretending it is your own. Understand how to make a positive contribution to online communities.
Programming	To be able to write commands using simple coding language.
	• To ensure a sequence is present when coding and understand the importance of this in relation to the desired outcome.
Databases	To understand that different searches can be carried out on a database to refine your search.
	To be able to distinguish the difference between AND & OR searches on a database.
HTML	Understand HTML is a coding language used to write webpages
	Write simple HTML Code

Presentations using Google Slides	 Be able to effectively evaluate own and others' work. Be able to discuss the purpose and audience of a presentation/piece of work. Create a document/presentation based on a particular purpose and audience. Editing presentations within a document without downloading it 					
Video	 To understand some of the different aspects that go into making movies (locations, props, camera, sound etc) To be able to use video editing software to create a short film To be able to critically evaluate own and others' work suggesting ways in which it can be improved/edited 					
		CORE VALUES:	CHILDREN FIRST	RESILIENCE	PIONEERING	