Beamont Primary School



Computing Curriculum Intent

Beamont Primary School- COMPUTING progression through EYFS Understanding the World: Computing Overview

Playing & Exploring - Engagement	Active Learning - Motivation	Motivation Creating & Thinking Critically - Thinking			
Finding out & exploring	Being involved & concentrating	 Having their own ideas (creative thinking) 			
 Playing with what they know 	Keep on trying	 Making links (building theories) 			
 Being willing to 'have a go' 	 Enjoying achieving what they set out to do 	 Working with ideas (critical thinking) 			

ELG

NO ELG's are represented for this area.

Focus	Electronic Communication Understanding Technologies	Text and Multimedia	Research and E-Safety	Digital images and audio	Algorithms Handing information	Vocabulary
Nursery Skills	• Shows an interest in technological toys with knobs or pulleys, real objects such as cameras, and touchscreen devices such as mobile phones and tablets	• Knows how to operate simple equipment, e.g. turn on CD player, uses a remote control, can navigate touch-capable technology with support	Know how to handle equipment safely Begin to know that they shouldn't use devices without supervision	Knows that information can be retrieved from digital devices and the internet	• Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images	Choices, equipment, buttons, movement, screen, keyboard, count, organise,
Nursery Knowledge	Autumn 1 All About Me	Autumn 2 Autumn and Celebrations	Spring 1 Animals	Spring 2 Dinosaurs	Summer 1 Growing	Summer 2 Water
	 Explore different toys in role play such as telephones, cameras, keyboards. Know not to touch the teachers computer without supervision. 	•Can operate a simple CD player by pressing start and stop to play music.	•Understands that we can search for information on 'google' by typing in a word to find out more.	•Can use a simple I board touch programme to draw a picture by changing tools and colours using the onscreen options.	•Can operate simple games on the iPad and know to open and end a programme.	•Can type their name on a keyboard by finding the letters of their name.

Children to be exposed to key vocabulary daily in provision. High quality resources will be provided for daily accessibility.

Role-play areas will be a key area where a range of technologies will be used in play-telephones, microwaves, cookers, keyboards, televisions, CD player. These should be modelled.

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Vocabulary- To be used daily

Data Collection

Research and F-Safety

ELG

NO ELG's are represented for this area.

Electronic

Tocus	Communication Understanding Technologies	rext and Multimedia	research and E-salety	Digita	audio		ig information	Voc	zabulary- 10 be used daily.
Reception Skills	·	IT in their home	 Begin to give reasons why we need to stay safe online Can use the internet with adult supervision to find and retrieve information of interest to them 	such as record and/or picture	create content s a video ing, stories, r draw a e on screen	skills by bei understand	digital literacy ng able to access, and interact with echnologies	paint, to set, sou	t, website, mouse, images, echnology, share, collect, nd, communicate, videos, programme
Reception Knowledge	Autumn 1 All about Me	Autumn 2 Families and Celebration	ons Up and Do		Sprin Growing and	~	Summer 1 Fairy Tales/ Adrift and Home	– Houses	Summer 2 Chester Zoo
	 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 particles or draw.	keyboard.	•	•To collect info about the mea of plants and s was the best e for growing in.	surement ee which nvironment	Can use the I Pad class cameras to ta their own images Can send a group email to a differen and wait for a resp	ake o class ot class	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.

Children to be exposed to key vocabulary daily in provision. High quality resources will be provided for daily accessibility.

Computer Skills

Role-play areas will be a key area where a range of technologies will be used in play- telephones, microwaves, cookers, keyboards, televisions, CD player. These should be modelled. Explicit teaching will be needed within this area when using iPads and researching. This should take place in small, guided groups.

Word Processing skills

Year 1: Computing	skills progression
KS1: 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
Text and Multimedia	Research and E-Safety
 Work with others and with support to contribute to a digital class resources which includes text, graphic and sound Open and close windows Turn a device on Type using both hands 	- Explore information from a variety of sources - Save a picture from the internet
Digital 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.
Handling information (databases and graphs) - As a class or individually with support, children use a simple pictogram to develop graphical awareness	Understanding technologies - Show an awareness of the range of devices and tools they encounter in everyday 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. 	
Skills	To understand which search 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	To continue to understand the principles of programming.	
with Scratch JR	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	

RESILIENCE

PIONEERING

CHILDREN FIRST

CORE VALUES:

Year 2: Computing skills progression					
 WS1: 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. 	Work collaboratively by email to share and request information of another class or story character				
 Text and Multimedia Generate their own work combing in text, graphics and sound. Save, retrieve and edit work 	Use a search engine to find specific and relevant information to use in a topic Use key words to search for specific information				
 Digital Images and audio (photos, paint, animation) 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 	Algorithms (Control) - Control a device, on and off screen, making predictions about the effect their programming will have				
Handling 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	Understanding technologies 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				

	Year 2 – End points
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 create a simple game program To identify 'bugs' in an algorithm and 'debug' them accordingly

RESILIENCE

PIONEERING

CHILDREN FIRST

CORE VALUES:

Word						
Processing	To understand which search engines are age appropriate and sa	ite for cutting and pasting images				
Skills	•					
OKIIIS		r work				
	To understand how to save to PDF's to protect copyrights of your	r work				
	Year 3: Computing	g skills progression				
KS2: POS		Electronic Communication				
simulating - use seque input and - use logica errors in a - understan such as th collaborati use search discerning - select, use devices to goals, incl	I reasoning to explain how some simple algorithms work and to detect and correct lgorithms and programs d computer networks including the internet; how they can provide multiple services, e world wide web; and the opportunities they offer for communication and	Show good understanding and awareness of the need to abide by school e-safety rules				
T 4 1 8 8 14' 15		2				
	<u>a</u> Indicate the description of the description of a section of the description of the d	Using another curriculum area as a starting point, children ask their own question then use ICT sources to find answers, making use of search engines Children talk about using ICT to find information/resources showing an emerging understanding of internet safety				
Digital Images and	audio (photos, paint, animation)	Algorithms (Control)				
	e digital images using a range of tools in appropriate software to convey a specific	Able to type a short sequence of instructions and to plan ahead when programming devices on and off screen				
 Use a sim information 	on (databases and graphs) ple database (the structure of which has been set up for the) to enter and save n on a given subject aight forward lines of enquiry to search data	Begin to show discernment in their use of computing devices and tools for a particular purpose and explain why their choice was made Show an understanding that their password is the key to accessing a personalised set of resources and files Show an awareness of where passwords are critical in everyday use (parents accessing bank details)				
	Year 3 -	- End points				
E-Safety	Understand what privacy settings are and what they are used for	•				
	 Understand what privacy settings are and what they are used for Understand why strong passwords are important for protecting d 					
	 Understand how to use technology safely in terms of health and 					
Audio & Video	To know how to use a digital device to record and playback audios	mon bonny.				
	 To know now 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 present ideas					
	To save and retrieve digital work					

CHILDREN FIRST

RESILIENCE

PIONEERING

Use design and formatting to enhance digital work

CORE VALUES:

	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 skills progression				
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			
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			

	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	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 	

Year 5: Computing skills progression				
WS2: 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 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 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)	Algorithms (Control) - Create command sequences to control devices in response to sending (i.e. uses inputs as well as outputs) 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				
	•				
	CORE VALUES:	CHILDREN FIRST	RESILIENCE	PIONEERING	

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Year 6: Computing skills progression						
WS2: 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 electronically Understand networks as part of the World Wide Web 				
Text and Multime	U	Research and E-Safety				
- Use effects to convey meaning rather than to impress		 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 informa	ation (databases and graphs)	Understanding technologies				
	d use own spreadsheet containing formulae to investigate	- Show an understanding of how filtering and monitoring tools affect their use				
 Ask 'What 	t If' questions and change variables in their model	of the school network and internet				
	Year 6 – I	End points				
E-Safety	 To understand that plagiarism is the act of using someone else's v 	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 					
Databases	To understand that different searches can be carried out on a data	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		Be able to effectively evaluate own and others' work.				
Slides	Be able to discuss the purpose and audience of a presentation/piece of work.					
	 Create a document/presentation based on a particular purpose an Editing presentations within a document without downloading it 	Create a document/presentation based on a particular purpose and audience. Editing presentations within a document without downloading it				
Video		nderstand 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 					
	To be able to chilically evaluate own and others work suggesting ways in which it can be improved/edited					