

‘A high-quality computing education is the pen and paper of our time and
is the lens through which we experience our world.’

DAVID WARLICK

Intent

At St Thomas a Becket, we develop computational thinkers who can confidently communicate and solve problems, grounded in their own experiences. We cultivate an enthusiasm for digital literacy and enable all children to be members of, and contribute towards, a fast-changing dynamic world.

National Curriculum Purpose of Study

A high-quality computing education equips children to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which children are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, children are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that children become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Implementation

We use the Teach Computing curriculum, from the NCCE (National Centre for Computing Education), which uses the following pedagogical principles:

Lead with concepts: Support children in the acquisition of knowledge, through the use of key concepts, terms, and vocabulary, providing opportunities to build a shared and consistent understanding. Glossaries, concept maps, and displays, along with regular recall and revision, can support this approach.

Unplug, unpack, repack: Teach new concepts by first unpacking complex terms and ideas, exploring these ideas in unplugged and familiar contexts, then repacking this new understanding into the original concept. This approach (semantic waves) can help children develop a secure understanding of complex concepts.

Create projects: Use project-based learning activities to provide children with the opportunity to apply and consolidate their knowledge and understanding. Design is an important, often overlooked aspect of computing. Children can consider how to develop an artefact for a particular user or function, and evaluate it against a set of criteria.

Challenge misconceptions: Use formative questioning to uncover misconceptions and adapt teaching to address them as they occur. Awareness of common misconceptions alongside discussion, concept mapping, peer instruction, or simple quizzes can help identify areas of confusion.

Structure lessons: Use supportive frameworks when planning lessons, such as PRIMM (Predict, Run, Investigate, Modify, Make) and Use-Modify-Create. These frameworks are based on research and ensure that differentiation can be built in at various stages of the lesson.



Work together: Encourage collaboration, specifically using pair programming and peer instruction, and also structured group tasks. Working together stimulates classroom dialogue, articulation of concepts, and development of shared understanding.

Model everything: Model processes or practices — everything from debugging code to binary number conversions — using techniques such as worked examples and live coding. Modelling is particularly beneficial to novices, providing scaffolding that can be gradually taken away.

Add variety: Provide activities with different levels of direction, scaffolding, and support that promote active learning, ranging from highly structured to more exploratory tasks. Adapting your instruction to suit different objectives will help keep all children engaged and encourage greater independence.

Make concrete: Bring abstract concepts to life with real-world, contextual examples and a focus on interdependencies with other curriculum subjects. This can be achieved through the use of unplugged activities, proposing analogies, storytelling around concepts, and finding examples of the concepts in children's lives.

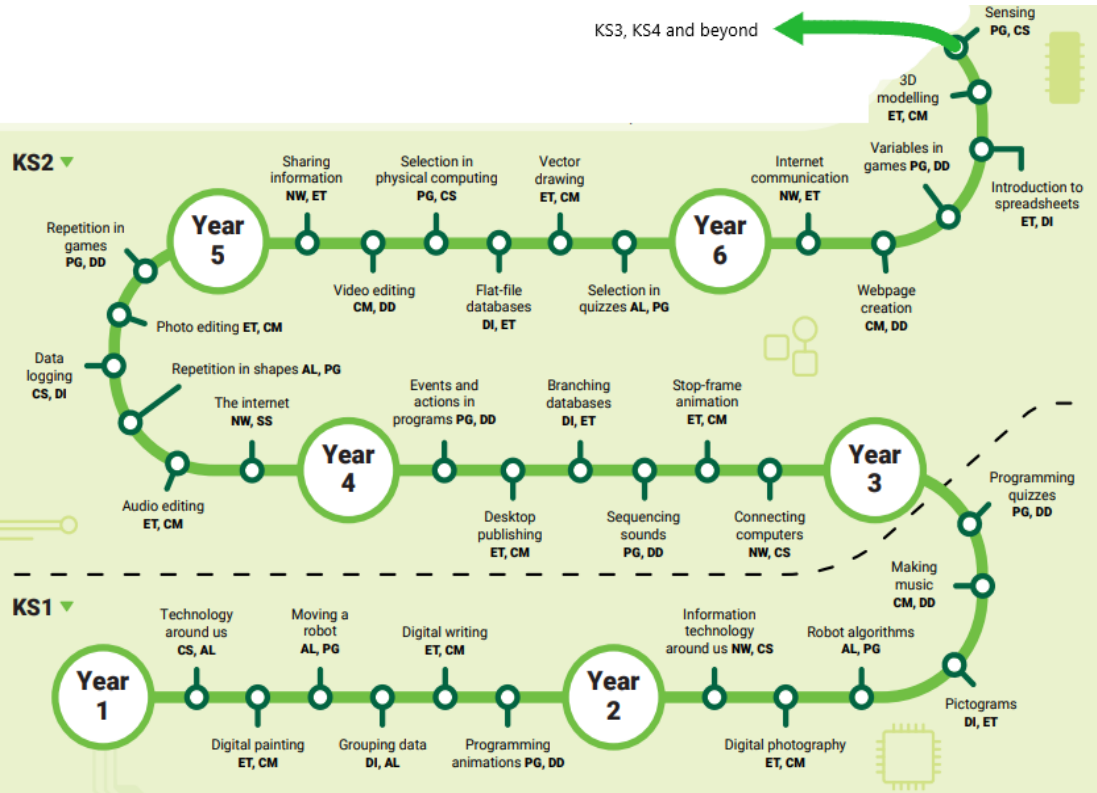
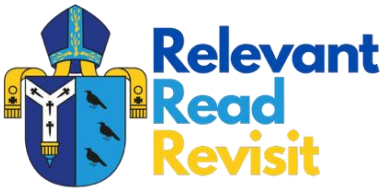
Read and explore code first: When teaching programming, focus first on code 'reading' activities, before code writing. With both block-based and text-based programming, encourage children to review and interpret blocks of code. Research has shown that being able to read, trace, and explain code augments children's ability to write code.

Get hands-on: Use physical computing and making activities that offer tactile and sensory experiences to enhance learning. Combining electronics and programming with arts and crafts (especially through exploratory projects) provides children with a creative, engaging context to explore and apply computing concepts.

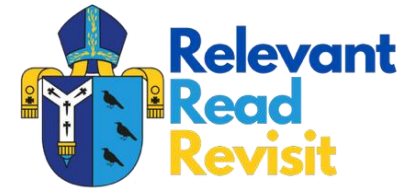
Foster program comprehension: Use a variety of activities to consolidate knowledge and understanding of the function and structure of programs, including debugging, tracing, and Parson's Problems. Regular comprehension activities will help secure understanding and build connections with new knowledge.

The Teach Computing journey is taught using the following concepts and skills, within a coherent and well-sequenced spiral curriculum. Each component provides all children with the knowledge and skills required to progress from one year group to the next. We add to our Computing curriculum through the use of Project Evolve to teach digital literacy and online safety. This is taught at the end of each academic year, before the summer holidays, as we know that this is a time when our children are likely to be using screens more.

COMPUTING CURRICULUM PROGRESSION



COMPUTING CURRICULUM PROGRESSION



Primary themes	Computing systems and networks	Programming	Data and information	Creating media
Taxonomy strands	Computer systems	Programming	Data and information	Creating media
		Algorithms		
	Computer networks	Design and development		Design and development
	Effective use of tools			
	Impact of technology			
Safety and security				

AL – Algorithms

CS – Computing systems

CM – Creating media

DI – Data and information

DD – Design and development

ET – Effective use of tools

NW – Networks

PG – Programming

SS – Safety and security

IT – Impact of Technology

Resources

Hardware:

Bee-bots

Data loggers (can be hired from Computing Hub)

Crumbles (can be hired from Computing Hub)

Microbits

Digital cameras or iPads

Software:

KS1:

Paintz.app

Microsoft Paint

Google Slides or Microsoft Powerpoint

Google Docs or Microsoft Word

Scratch Jr

J2data Pictogram

Chrome Music Lab

KS2:

Microsoft Paint

IMotion

Scratch

J2data Pictogram and Branch

Canva

Audacity

FMS Logo

Paint.net

Google Slides or Microsoft Powerpoint

Google Sites

Google Sheets or Microsoft Excel

Tinker CAD

Microsoft MakeCode

Disciplinary knowledge

	N/R/1 class		2/3 class		4/5/6 class		
Substantive Concept	EY	Y1	Y2	Y3	Y4	Y5	Y6
Computer Science	Explore a range of digital devices and understand their purpose and how to use them. Program a Bee-Bot. Tell a trusted adult if they see something that upsets them on their device.	Identify technology including computers and their main parts. 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. Use programming blocks to use, modify, create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs. Describe some uses of computers and identify examples Use technology purposefully to create, organise, store,	Recognise common uses of information technology beyond school. Understand use of instructions in sequences and the use of logical reasoning to predict outcomes. Use given commands in different orders to investigate how the order affects the outcome. Demonstrate how IT devices work together and say why we use IT Develop artwork and test it for use in a program. Design and test algorithms as programs and debug them. Design algorithms and programs that use events to trigger sequences of code to	Identify networked devices and the benefits of computer networks. Identify digital devices have inputs, processes, and outputs, and how devices can be connected to make networks. Move a sprite in four directions (up, down, left, and right). They then explore movement within the context of a maze, using design to choose an appropriately sized sprite. Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by	Write algorithms and programs that use a range of events to trigger sequences of actions. 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 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	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 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 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 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

		<i>manipulate and retrieve digital content.</i>	<i>make an interactive quiz.</i> <i>Evaluate their work and make improvements to their programming projects.</i>	<i>decomposing them into smaller parts</i>	<i>goals, including collecting, analysing, evaluating and presenting data and information</i>	<i>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</i> <i>I can use different search technologies</i> <i>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</i>	<i>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</i> <i>I can describe how I can search for information within a wide group of technologies (e.g. social media, image sites, video sites)</i> <i>I can evaluate digital content and can explain how I make choices from search results.</i> <i>Use search technologies effectively, appreciate how results are selected and ranked,</i>
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							<i>and be discerning in evaluating digital content</i>
Information Technology	I know how to operate simple equipment. I can use an iPad to support my learning.	Describe what different freehand tools do and use the shape tool and the line tools. Make careful choices when painting a digital picture using PaintZ and compare with a picture on paper. Use digital tools to create digital paintings, while gaining inspiration from a range of artists' work. Create and manipulate digital content with a focus on word processing. Use labels to put objects into groups and label these groups. Demonstrate they can count a small number of objects, before and after objects are grouped. Demonstrate an ability to sort objects into	Use technology purposefully to create, organise, store, manipulate and retrieve digital content Sort objects into different groups to answer questions about data. Discuss how to take a good photograph and improve a photograph by retaking it. Experiment with different light sources and can explore the effect that light has on a photo. Apply a range of photography skills to capture a photo and can identify which photos are real and which have been changed. Refine my musical pattern on a computer and can create a musical pattern using three notes.	Create an effective stop-frame animation and explain why little changes are needed for each frame. Predict what an animation will look like. Evaluate the quality of an animation and improve animation based on feedback. Review a sequence of frames and use onion skinning to help make small changes between frames.	Understand how to check the validity of an image. Reflect on the moral implications of photo editing. Recognise how and why data is collected. Use data loggers to collect and analyse data. Capture and edit audio to create a podcast. Manipulate a digital image using the crop, reflect, clone stamp and adjust colouring tools.	Create an image in a drawing program using layers and groups of objects. Plan, capture, and edit video to produce a short film. Use a database to order data and create charts to answer questions. Use tools within a database to order and answer questions about data. Create graphs and charts from data to help solve problems.	Plan, develop, and evaluate 3D computer models of physical objects. Design and create webpages, considering copyright, aesthetics and navigation. Answer questions by using spreadsheets to organise and calculate data. Organise data into columns and rows to create a data set. Create graphs and charts and evaluate their results in comparison to questions asked.

		different groups, based on the properties they choose.	Use technology purposefully to create, organise, store, manipulate, and retrieve digital content. Recognise common uses of information technology beyond school.				
Digital Literacy	I know how to operate simple equipment. I can use an iPad to support my learning.	Develop the basic skills needed to effectively use a computer keyboard and mouse. Use technology safely and respectfully, keeping personal information private. Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Save and re-open work. Identify what things count as personal information. Identify what is appropriate and inappropriate	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. Say how rules can help keep me safe and talk about the different rules for using IT Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Save and re-open work.	Recognise that text and images can communicate messages clearly. Use technology safely, respectfully, and responsibly, 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. Reflect on their digital footprint and behaviour online. Identify what is appropriate and inappropriate behaviour on the	Explain why copying someone else's work from the internet without permission can cause problems. 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 I can consider copyright when using images or audio clips from the internet.	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	I can describe how I can search for information within a wide group of technologies (e.g. social media, image sites, video sites) I can use different search technologies I can evaluate digital content and can explain how I make choices from search results

		behaviour on the internet. Seek help from an adult when they see something that is unexpected or worrying. Demonstrate how to safely open and close applications and log on and log off from websites.	Identify what things count as personal information. Identify what is appropriate and inappropriate behaviour on the internet. Seek help from an adult when they see something that is unexpected or worrying. Demonstrate how to safely open and close applications and log on and log off from websites.	internet, recognising the term cyberbullying. Demonstrate the use of search tools to find and access online content which can be reused by others.	I understand what a data logger is and how to use one to collect data to answer questions. Understand that not everything they see on the internet is true, honest, or accurate and be able to spot trustworthy resources.	Work collaboratively on an online project with peers. I can explain what a Crumble controller is. 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	
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Substantive knowledge

1. Computer science

	N/R/1 class		2/3 class		4/5/6 class		
	EY	Y1	Y2	Y3	Y4	Y5	Y6
Substantive Concept 1	- Children will understand how networks can be used to retrieve and share information, and how they come with associated risks. - Children will be able to comprehend and evaluate algorithms. - Children will understand what a computer is, and how its constituent parts function together as a whole. - Children will know programmers create software to allow computers to solve problems. - Children will understand how data is stored, organised, and used to represent real-world artefacts and scenarios.						
Computer Science							
Knowledge	Reception: I can identify and name different devices that I can use to support my learning.	Technology around us: Technology is something which helps us. <i>Technology vs not information technology – technology is something that is man-made that helps us.</i> A computer is made up of parts. <i>Buttons, keys, screen, mouse/trackpad, keyboard</i> Technology can be used to purposefully to create, organise, store, manipulate and retrieve digital content. <i>Word documents, photos, music</i> Assessment Questions:	Information technology around us: There is IT in our homes <i>A computer is a part of IT. Other examples are washing machines, TV, phones, tablets, dishwasher etc.</i> IT benefits society. <i>In places such as shops, libraries, and hospitals</i> IT must be used safely and responsibly; our choices determine how safe it is. Technology can be used to purposefully to create, organise, store, manipulate and retrieve digital content. <i>Word documents, photos, music</i> Assessment Questions:	Connecting Computers: Digital devices must have an input, a process, and an output Devices can have one input that leads to several outputs (eg starting a video leads to outputs from the screen and the speaker) and that many inputs can lead to one output (eg using a mouse and a keyboard to produce a document). A computer network is made up of a number of devices joined together to enable information to be shared between them	The internet: The internet is a network of networks including the WWW. We need to evaluate online content in order to assess its validity. Assessment Questions: What is the internet? Devices in a network are..... Why do we need to evaluate online content?	Systems and Searching: Systems are built using a number of parts Parts within different systems work together Digital systems are made up of inputs, processes and outputs Information is shared between digital systems Digital systems are used in a wide range of public contexts, e.g. airport, rail, or bus station arrival and departure boards Search engines are systems	Communication and collaboration: Every time you access a website, send a message, or watch a video online, data is transferred over the internet Networked computers use special addresses called IP addresses. IP stands for Internet Protocol Computers communicate using agreed protocols. Protocols are like rules. They are an agreed way of doing something A Domain Name Server (DNS) is a computer, but it works like an
Core / Specific							
Networking							

		How can technology help us? What parts make up a computer? How can we save and retrieve files?	How does IT help us in _____ (insert setting) Our _____ determine if IT is safe or not. How can we save and retrieve files?	Devices in a network are connected together. A network switch manages the way in which data moves around a network A server is a computer that can store things on a network Wireless access points send and receive wireless signals from wireless devices such as tablets or laptops Wireless networks are connected to the network via a physical cable Network cables and network sockets are needed to connect devices in a network The internet is made up of connected networks Assessment Questions: What is a computer network?		Searches in the web can be refined ‘select’ refers to how a search engine chooses the results to display Search engines ‘rank’ results that are selected Search engines use programs called web crawlers to create an index of the web The indices are stored on a big system of computers called a data centre Search engines follows rules to rank results to show the most useful results first Website creators design sites so they will rank highly in searches. This is known as search engine optimisation (SEO) Search engines can tell when a search term	address book: it matches IP addresses to the domains Computers send data across the internet in packets. There are two main parts to a packet: the header and the data payload Data you send or receive cannot fit in a single packet, so it is split into multiple packets. The packet number and total number of packets is contained in the header The first two parts of the IP addresses in the header relate to the location of networks. If they are different, the devices are not on the same network The internet can be used to communicate and can be searched for information. When working together on the
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				Devices in a network are.....		has been repeated in an unnatural way Using phrases that are ambiguous or have more than one meaning will limit search results Results that are sponsored or adverts are ranked highly because companies have agreed to pay search engines for their links to be prominent for certain search terms Assessment Questions: How can information be shared between devices?	internet it can be public or private The internet allows us to work collaboratively on projects Online communication can be private or public, one-to-one, one-to-many, one-way or two-way. Some online communication sites have age limits Assessment Questions: How can we use the internet to communicate? How can we use the internet to search for information?
Programming	Reception: Make a floor robot move. Make choices about the buttons or icons I press or click on. I know how to use simple software to make something happen.	Programming: Moving a robot and animations: Algorithms are implemented as programs on digital devices; and programs execute by following precise and	Programming - Robot algorithms and creating quizzes: Algorithms are implemented as programs on digital devices; and programs execute by following	Programming - Sequencing sounds and events and actions in programs: Motion, sound, and event blocks can be used to create	Repetition in games: Specific blocks should be used to create a more efficient code and avoid repetition.	Selection in physical computing: A microcontroller can be programmed in a variety of different ways.	Selection in physical computing: The Microbit is a pocket-sized computer than can be programmed.

		unambiguous instructions. A command is a unique word or block used to perform a specific operation. Assessment Questions: What is an algorithm? What do instructions follow? What is a command?	precise and unambiguous instructions. Assessment Questions: What is an algorithm? A programme needs _____ in order to start. The _____ block will _____	programs, featuring sequences. Sequences are the main logical structure of algorithms or programs. A sequence can contain any number of instructions, but each instruction must be run in the order they are presented. No instruction can be skipped. A variable is a changeable value. Input and output refer to the communication between a computer program and its user. <i>Input is the user giving something to the program, while output is the program giving something to the user</i> Assessment Questions: What is a sequence? What is a variable? What is input? What is an output?	Count controlled loops have a different use than infinite loops. Assessment Questions: What is a count-controlled loop? When would we need to use a count-controlled loop? What is an infinite loop? When would we need to use an infinite loop? Blocks and text are both examples of _____	A microcontroller can be connected to output devices. Selection in quizzes: Selection is when computers are instructed to carry out certain commands in response to conditions being met. Assessment Questions: What is a microcontroller? You can connect a microcontroller to _____ What is selection?	The Microbit has an LED light display, buttons, sensors and many input/output features that, when programmed, let it interact with you and your world. Variable in games: A variable is something that is changeable. It has a name and a value. Assessment Questions: What is a microbit? What are the parts of a microbit? What can we do with a microbit? What is a variable? When would we need to use a variable?
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Vocabulary							
	Tier 3	Comp systems and networks	Programming	Computing systems and networks	Programming	Computing systems and networks	Programming
	Bee-Bot		Tier 3:		Tier 3:		Tier 3:
	Tier 2	Tier 3:	Turn	Tier 3:	Scratch Code	Tier 3:	Variable
	Instruction	Mouse/trackpad	Clear	Output	Bug	Search engine	Debug
		Debugging	Algorithm	Process	Debug	DuckDuckGo	Micro:bit
	Tier 1	Blocks	Program	Network	Motion	Index	MakeCode
	Forwards		ScratchJr	Security	Event	Crawler	Variable
	Backwards	Tier 2:	Bee-Bot	Router	Logic	Bot	
	Turn	Technology	Sprite	Browser	Extension block	Ranking	Tier 2:
	Go/stop	Click		Content	Loop	Search engine optimisation	USB
	On/off	Double-click	Tier 2:	Tier 2:	Tier 2:	Web crawlers	If then else
	Button	Device	Commands	Internet	Point in direction	Content creator	Random
	iPad		Directions	Website	Glide		Sensing
	Laptop	Tier 1:	Plan	Web page	Resize	Tier 2:	Navigation
	Computer	Computer	Predict	Web address	Action	Google	Compass
		Keyboard	Instructions	World Wide Web	Errors	One-way	
		Screen	Tier 1:	Sharing	Test	Two-way	
		Space bar	Forwards	Ownership	Tier 1:	One-to-one	
			Backwards	Permission	Go to	One-to-many	
					Move	SMS	
						Email	
						Blog	

2. Information Technology

	N/R/1 class		2/3 class		4/5/6 class		
	EY	Y1	Y2	Y3	Y4	Y5	Y6
Substantive Concept 2 Information Technology	- Children will understand that there are different methods of creating digital media. - Children will be able to select and create a range of media including text, images, sounds, and video. - Children will understand the activities involved in planning, creating, and evaluating computing artefacts. - Children will be able to understand how individuals, systems, and society as a whole interact with computer systems.						
Creating Media	Reception: I know how to talk about different types of information (picture, video, text and sound) I know how to move objects on a screen I know how to create shapes and text on a screen I know how to use technology to show my learning.	Creating Media - painting: Digital tools can be used to create artwork. Art can be created by making marks on a screen. Digital tools include shape, line and paint tools. We can change the colour and size of digital marks. Digital artwork can be created, saved, printed or shared digitally. <i>Via email or posted online.</i> How can you make art on a digital device?	Digital photography: Devices can take photographs. <i>Smart phone, iPad, tablet, digital camera, webcam</i> Digital photographs can be changed using a computer. What types of devices can take pictures? Explain how you can change digital pictures. Making music: A computer can be used to create a musical composition. How can a computer make music?	Stop-frame animation: A stop-frame animation is a collection of images Animation is made up of a sequence of still images and can be created using many different mediums Each picture or image in a sequence of animation is called a frame Onion skinning in animation is an editing technique used to see several frames of an animation simultaneously Animations take a long time to produce; even a short clip can take a long time	Audio production: An input device can be used to record audio which can be edited digitally. What is the difference between digital and analogue music? Name some audio input and output devices? Why is copyright important? Photo editing: Images can be digitally manipulated using software. <i>Cropping, reflecting, clone stamp tool, filter, light adjustments</i> How can images be reused?	Vector drawing: Images can be created using layers and groups of objects. What is a vector drawing? How are vector drawings created? How can you quickly duplicate items? Video Production: Video is the recording, reproducing, or broadcasting of moving visual images Video is a visual media format A 'talking head' section, where the	3D modelling: 3D models can be manipulated and combined using software. What is a 3D image? What are the benefits and drawbacks of grouping objects? How can 3D modelling help design? Webpage creation: A website is a collection of information relating to a particular topic that can be accessed on a range of devices

		What happens after you create digital artwork? Digital writing: A computer can be used to create and format text. Computers can be used to create and manipulate digital content including text. How can you use a computer for writing? How can you change text using a computer?		Video and images can be imported from iPad camera roll Music and titles can be added or deleted to improve the quality of an animation Can pictures move? How can pictures be used to make movies? Desktop publishing: A document can contain text and images. We use different layouts for different purposes. Why is using different font size, colour and type important? How can you add text and images on a document?	Does editing always improve the outcome? Is an edited image still realistic?	camera is fixed and the presenter is talking In a panning section the camera moves from One subject to another In a close-up section the camera is moved to keep the subject in shot Proximity of the subject to the device and background noise impacts the effectiveness of the device ‘Static camera’ means the camera is fixed and the composition of the shot (the area that is being filmed) does not change Zooming means making the subject of the shot larger (by zooming in) or smaller (by zooming out) without moving the camera	Websites consist of many pages that are linked. A browser allows you to navigate or find your way around the World Wide Web Websites are made up of code called Hypertext Markup Language or HTML for short Every website has an audience and a purpose A website’s layout needs to be easy to navigate. <i>Fonts, subpages</i> Copyright law protects the control you have over the things that you create. It also protects the work of others Using part of someone’s content e.g. a picture for your school work is considered ‘fair use’
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						Pan and tilt mean the camera is in a fixed location, but can pivot either vertically or horizontally Video can be improved through reshooting and editing Video is filmed using an input device before being edited using a computer. <i>Trimming is used to cut the length of a video. Text and effects can be overlayed.</i> Once finished, projects can be saved and exported as a completed *.mp4 file Mp4 files can shared via email, video sharing sites, Bluetooth and portable storage devices How can digital devices be used to create video?	When designing a web page, it can be accessed from a range of different devices: and can look different on different devices A website navigation menu is an organised list of links to other web pages, usually internal site pages Navigation menus appear in page headers or sidebars across a website, allowing visitors to access the most useful pages quickly Hyperlinks allow different web pages to be linked together An external link is a link that directs from one site to another site on a different domain External links can change or not work. You have no control over the content of external links
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							What makes a good website? Why is navigation important? Why is copyright important?
Data and Information	Reception: I know how to talk about different information (picture, video, text, sound)	Grouping data: Data is digital information. A label is the name given to a piece of data. Computers can group and sort data by its properties. Assessment Questions: What is data? What is a label? How can I group data?	Pictograms: Data can be collected in the form of a tally chart which can be turned into a pictogram. Data can be represented as a block diagram. Data can be used to answer questions. Assessment Questions: What is data? What is information? What is an attribute?	Branching databases: A branching database can be used to group objects using yes or no questions. Certain types of data suit branching databases. Assessment Questions: What is a database? What categories can you use to group objects?	Data logging: A data logger has special input devices called sensors to monitor the environment. Data loggers can capture data over time. Assessment Questions: What is a sensor? What sources of data can a data logger record?	Flat-file databases: A database can be used to order data and create charts to answer questions. Assessment Questions: What is a database? When might we use one? A database can create _____.	Introduction to spreadsheets: Spreadsheets can be used to organise and calculate data. Data is organized in columns and rows. Formulas can be used on a range of cells. Assessment Questions: What is a spreadsheet? When would a spreadsheet be useful? Data is organised in _____ and _____ What is a formula? Give an example of a formula and what it's useful for.
Vocabulary		Creating media Tier 3: Word processor Tier 2: Tool Erase	Data and information Tier 2: Object Label Group Search Image	Creating Media Tier 3: Audio Time shift Copyright Composition Pixels Hue/saturation	Data and information Tier 3: Input device Sensor Data logger Logging Data point Interval	Creating media Tier 3: Media, Hypertext Markup Language (HTML) Log Breadcrumb trail	Data and information Tier 3: Data heading Cell Operation Tier 2:

		Undo Shape tools Line tool Brush style Brush size Microsoft Word Google Docs Text Cursor Toolbar Bold Italic Underline Font Tier 1: Paintbrush Fill Keyboard Keys Letters Numbers Space Backspace	Property Data set Value Tier 1: Less Most Fewest Same	Sepia Illustrator Vignette Retouch Clone Recolour Magic wand Tier 2: Record Playback Speaker Sound Record Podcast File Mixing Arrange Select Crop Rotate Flip Select Adjust Sharpen Brighten Composite Cut	Logged Import Export Tier 2: Table (layout) Analyse Collection Review Conclusion	Subpage Hyperlink Embed Tier 2: Layout Header Copyright Fair use Home page Google Sites External link 2D 3D View Rotate Position Select Dimensions	Spreadsheet Cells Columns and rows Application Format Common attribute Formula Calculation Reference Range
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3. Digital literacy (SS, ET)

	N/R/1 class		2/3 class		4/5/6 class		
	EY	Y1	Y2	Y3	Y4	Y5	Y6
Substantive Concept 3 Digital Literacy	- Children will understand the risks when using technology, and how to protect individuals, their personal data and computer systems from threats. - Children will understand how to use tools effectively to support computing work for a range of purposes.						
Knowledge Core / Specific	Reception: I know how to talk about technology used at home and at school and for different purposes. Children will know they should only use devices or technology with permission from a trusted adult. Assessment Questions: Before I use technology I must...	I should only share information with people I choose to and can trust. <i>Your name, date of birth, address and passwords are all personal information and should not be shared.</i> Assessment Questions: What is personal information? Who should you share personal information with?	Rules help keep us safe when using IT. <i>e.g. ask permission before taking pictures and/or sharing information, passwords must be stored in a secure manner.</i> I should only share information with people I choose to and can trust. <i>Your name, date of birth, address and passwords are all personal information and should not be shared.</i> Assessment Questions: What must you do before you share? What is personal information?	Images can communicate messages clearly. A digital footprint is the trail of information you leave behind when you use the internet. Cyberbullying is when someone uses technology to harass, threaten, embarrass, or target another person. Assessment Questions: What is a digital footprint? What is cyberbullying?	Not everything on the internet is trustworthy. <i>Images, text and videos can all be fabricated. It is important to check the validity of the source.</i> Some things on the internet are protected by copyright. <i>We can use Google to refine our search to find items that haven't been copyright protected.</i> Assessment Questions: How do we know if something on the internet can be trusted? If something is 'copyright protected' what does that mean?	Two or more people can edit the same cloud-based document at the same time. <i>Google docs, Google slides, Google sites</i> Assessment Questions: How can people work together collaboratively on the internet?	The internet can be searched using different tools. Digital content can be of varying quality and I will need to make informed choices about what I use from the internet. Assessment Questions: How can we find quality material on the internet using search engines?

			Who should you share personal information with?				
Vocabulary		Tier 2 Personal Safe Detail	Share Permission Consent	Tier 2 Footprint Information Cyberbullying validity	source copyright protected	Tier 2 cloud-based	Collaborate reliable