St Thérèse of Lisieux
Catholic Multi Academy Trust

Computer science							
Systems and Networks							
Early Learning Goal	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Begin to list different IT in their home	Talk about, explore and demonstrate how everyday objects and devices can be controlled through remote control e.g. TV, DVD, cameras, projectors, screens			Explain what a network is and the devices that make up the school network	Explain how the school network system is similar and different to 'the cloud Name the different components to a computer and how it works including disk drives, motherboards, memory disk drives and removable devices such as flash drives	Be aware of different settings on devices and apps such as location, brightness, allowing other devices/apps to access camera, contacts, mic…	Understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems
		Search the Internet using 1-2 key words suitable for children safely online	Identify how word order affects search results		Use search engines to find appropriate information and check its reliability	Know that websites can use my data to make money and target their advertising	
		Search the Internet to find information and results and follow links to another web page	Explain how searches and Google search work and how and why I need to be responsible online when searching	Explain where documents and software are saved in school (server), and access school files independently	Explain and understand what cookies are	Explain the ways in which websites and apps advertise products to me	

					Understand basic copyright laws when finding and using online information	Understand copyright and legal property of my own data I post	
Data Handling							
• Knows that information can be retrieved from digital devices and the internet	Sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count.	Demonstrate an ability to organise data using, for example, a database such as 2Invesitigate and can retrieve specific data for conducting simple searches. Children are confident when creating, naming, saving and retrieving content.	Collect, analyse, evaluate and present data and information using a selection of software, e.g. using a branching database (2Question), using software such as 2Graph. Children can consider what software is most appropriate for a given task.	Make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked content using a range of software such as 2Connect and 2Publish+. Children share digital content within their community, i.e. using Virtual Display Boards.	Make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. e.g. creating their own program to meet a design brief using 2Code. They objectively review solutions from others. Collaboratively create content and solutions using digital features within software such as collaborative mode. They are able to use several ways of sharing digital content, i.e. 2Blog,	Make clear connections to the audience when designing and creating digital content. To design and create their own blogs to become a content creator on the internet, e.g. 2Blog. To use criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements.	Make appropriate use of data structures [for example, lists, tables or arrays] Understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits

					Display Boards and 2Email.		
Computational Thinking and Coding							
Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images	To understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. They know that an algorithm written for a computer is called a program	Explain that an algorithm is a set of instructions to complete a task. When designing simple programs, children show an awareness of the need to be precise with their algorithms so that they can be successfully converted into code.	Designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'if' statements, repetition and variables. They make good attempts to 'step through' more complex code in order to identify errors in algorithms and can correct this	Designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'if' statements, repetition and variables. They can trace code and use step through methods to identify errors in code and make logical attempts to correct this.	When children code, they are beginning to think about their code structure in terms of the ability to debug and interpret the code later, e.g. the use of tabs to organise code and the naming of variables.	To interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm together to explain the program as a whole.	Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems Understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem
Completes a simple program on electronic devices	When looking at a program, children can read code one line at a time and make good attempts to envision the bigger picture of the	Identify the parts of a program that respond to specific events and initiate specific actions. For example, they can write a cause and effect	Demonstrate the ability to design and code a program that follows a simple sequence. They experiment with timers to achieve repetition	Use of timers to achieve repetition effects are becoming more logical and are integrated into their program designs.	Translate algorithms that include sequence, selection and repetition into code with increasing ease and their own	Translate algorithms that include sequence, selection and repetition into code and their own designs show that	Design and develop modular programs that use procedures or functions.

	overall effect of the program.	sentence of what will happen in a program.	effects in their programs. Beginning to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition effects. Understand how variables can be used to store information while a program is executing.	Understand 'if statements' for selection and attempt to combine these with other coding structures including variables to achieve the effects that they design in their programs. As well as understanding how variables can be used to store information while a program is executing, they are able to use and manipulate the value of variables. Make use of user inputs and outputs such as 'print to screen'	designs show that they are thinking of how to accomplish the set task in code utilising such structures. They are combining sequence, selection and repetition with other coding structures to achieve their algorithm design.	they are thinking of how to accomplish the set task in code utilising such structures, including nesting structures within each other. Coding displays an improving understanding of variables in coding, outputs such as sound and movement, inputs from the user of the program such as button clicks and the value of functions	Understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers [for example, binary addition, and conversion between binary and decimal]
	To work out what is wrong with a simple algorithm when the steps are out of order. To know that an unexpected outcome is due to the code they have created and can make logical attempts to fix the code	Create a simple program that achieves a specific purpose. They can also identify and correct some errors. Program designs display a growing awareness of the need for logical, programmable steps	To be able to turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. Their design shows that they are thinking of the desired task and how this translates into code. Identify an error within their program that	When turning a real-life situation into an algorithm, the children's design shows that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition.	Begging to attempt to turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts. To be able to test and debug their programs as they go and can use logical	To be able to turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding	To use 2 or more programming languages, at least one of which is textual, to solve a variety of computational problems;

			prevents it following the desired algorithm and then fix it	Make more intuitive attempts to debug their own programs.	methods to identify the approximate cause of any bug but may need some support identifying the specific line of code.	structures and applying skills from previous programs. To test and debug their program as they go and use logical methods to identify the cause of bugs, demonstrating a systematic approach to try to identify a particular line of code causing a problem.	

Digital Literacy							
Internet Safety							
Early Learning Goal	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Know how to handle equipment safely Can use the internet with adult supervision to find and retrieve information of interest to them	To log in safely. To understand the importance of logging out when they have finished.	To identify the steps that can be taken to keep personal data and hardware secure.	To know what makes a safe password, how to keep passwords safe and the consequences of giving your passwords away.	To understand how pupils can protect themselves from online identity theft. • Understand that information put online leaves a digital footprint or trail and that this can aid identity theft.	To know how to maintain secure passwords.	Identify benefits and risks of mobile devices broadcasting the location of the user/device, e.g. apps accessing location. Identify secure sites by looking for privacy	Understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content,

						seals of approval, e.g. https, padlock icon. Identify the benefits and risks of giving personal information and device access to different software.	contact and conduct, and know how to report concerns
Begin to give reasons why we need to stay safe online	To start to understand the idea of 'ownership' of their creative work.	To understand that information put online leaves a digital footprint or trail. To begin to think critically about the information they leave online	To learn about the meaning of age restrictions symbols on digital media and devices. To discuss why PEGI restrictions exist. To know where to turn for help if they see inappropriate content or have inappropriate contact from others.	To understand that copying the work of others and presenting it as their own is called 'plagiarism' and to consider the consequences of plagiarism. To identify appropriate behaviour when participating or contributing to collaborative online projects for learning.	To learn about how to reference sources in their work To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online. To understand the advantages, disadvantages, permissions, and purposes of altering an image digitally and the reasons for this.	To have a clear idea of appropriate online behaviour and how this can protect themselves and others from possible online dangers, bullying and inappropriate behaviour. To begin to understand how information online can persist and give away details of those who share or modify it.	
Begin to know that they shouldn't use devices without supervision			For pupils to consider if what they read on websites is true?	To assess whether an information source is true and reliable. To identify the positive and negative influences	To search the Internet with a consideration for the reliability of the results of sources to check validity and	To understand the importance of balancing game and screen time with other parts of their lives, e.g.	

			To look at a 'spoof' website. To create a 'spoof' webpage. To think about why these sites might exist and how to check that the information is accurate.	of technology on health and the environment. To understand the importance of balancing game and screen time with other parts of their lives.	understand the impact of incorrect information.	explore the reasons why they may be tempted to spend more time playing games or find it difficult to stop playing and the effect this has on their health. To identify the positive and negative influences of technology on health and the environment.	
	Communicate and Collaborate						
Develops digital literacy skills by being able to access, understand and interact with a range of technologies			List a range of ways that the internet can be used to provide different methods of communication. Can use some of these methods of communication, e.g. being able to open, respond to and attach files to emails using 2Email. Can describe appropriate email	To recognise the main component parts of hardware which allow computers to join and form a network. Demonstrate an ability to understand the online safety implications associated with the ways the internet can be used to provide different methods of communication is improving.	To understand the value of computer networks but are also aware of the main dangers. Recognise what personal information is and can explain how this can be kept safe. Select the most appropriate form of online communications contingent on	Can understand and explain in some depth the difference between the internet and the World Wide Web. To know what a WAN and LAN are and can describe how they access the internet in school.	To be responsible, competent, confident and creative users of communication technology.

			conventions when communicating in this way.		audience and digital content,		

Information technology							
Multimedia							
Early Learning Goal	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Can create content such as a video recording, stories, and/or draw a picture on screen	Use technology to collect information, including photos, videos and sounds	Use a range of media in their digital content including photos, text and sound.	To use still and digital cameras To know what makes a good photo (hold the camera steady/point at people's faces/to discuss the quality of their image and make decisions (e.g. delete a blurred / bad image		To use presentation software and skills to present work or information relating to their learning. To select software to support structure and layout of document/presentation		To undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users create, reuse, revise and repurpose digital artefacts for a given audience, with attention to
	To create a simple animation to illustrate a story	To use a sound recording tool to record voice for a specific purpose To upload an image	To download images and video To select suitable sounds (including recording with a microphone) To recognise and use key features of layout and design such as text boxes, columns, borders, WordArt	To improve presentation of a document by laying it out effectively To select and import images from digital cameras and graphics packages Select and import sounds (eg own			

				recording) and video/ visual effects			trustworthiness, design and usability
		Able to edit more complex digital data such as music compositions within 2Sequence.	To use music software to select/record/organise and reorganise sounds To locate, record, save and retrieve sounds to add sounds from different sources. Sequence still images and use simple editing techniques to create a presentation	Through peer assessment and selfevaluation, evaluate work both during and after completion, and make suitable improvements To develop an increasing awareness of intended audience and after completion, and make suitable improvements To cut and reorganise digital video To use a timeline to organise frames of video footage			
	Fundamental skills						
Knows how to operate simple equipment, e.g. turn on CD player, uses a remote control, can navigate touch-capable technology with support	Use a computer mouse and laptop touchpad to draw simple shapes and develop an association with hand movement and action on the screen	Use a computer mouse and laptop touchpad with increasing confidence and accuracy to open programmes and documents, drag objects and resize objects.	Use and distinguish shortcuts paste, cut and copy, and how to use ctrl c, x and v	Send documents to the correct printer			Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through information and communication technology – at a level suitable for

	Safely switch on and shutdown a computer	Turn on, log in, log off or safely shutdown a PC or laptop	Use caps lock when required along with using bullet points/numbering for lists	Use special characters such as ? ! " £ @ using 'shift'			the future workplace and as active participants in a digital world. *Taken from the purpose of study.*
Shows an interest in technological toys with knobs or pulleys, real objects such as cameras, and touchscreen devices such as mobile phones and tablets	Name the main components of a computer Monitor, PC unit, keyboard, mouse, speaker						
	Save a file (which has already been saved)	Open saved work, edit text and understand the difference between 'save' and 'save as'		Save documents on the pupil shared area of the server, select appropriate names for file saves and rename files if necessary			
		Begin to show an awareness of where letters are on a keyboard when typing	Type with a minimum of 10 words per minute	Type with a minimum of 12 words per minute with 90% accuracy	Type with a minimum of 15 words Handle equipment and per minute with 90% accurately		
		Format text (select font type, change colour, change size, bold, underline)	Insert and format text boxes and images that have been inserted or copied and pasted	Start to transfer fundamental skills and explore across Word,	Select which software (Word, PowerPoint and	Select from a range of software, decide and evaluate which is best for different	

			Align text left or central when appropriate	PowerPoint and Publisher	Publisher) is best for different purposes Using PowerPoint: - Include slides with hyperlinks - Create a branching story - Add transitions and animations - Insert video and audio - evaluate slide layout and quality	purposes (including Word, PowerPoint, Publisher, Excel) Using Excel: -add, edit and enter data and formulas into a spreadsheet -order and present data -design and use a spreadsheet for a specific purpose or problem	