St Teresa's RC Primary School: Computing Progression Document

It is our Intent to provide an exciting, rich, relevant and challenging Computing curriculum for all pupils. We want our children to leave St Teresa's with skills for the future and enthuse and equip children with the capability to use technology throughout their lives in a responsible, respectful and competent way while being able to minimise risk to themselves or others. We also want them to know about the History of Computing and pioneers.

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Digital Citizenship Online Safety/PHSE **Education for a Connected World** It focuses specifically on eight different aspects of online education: Self-image and Identity Online relationships Online reputation Online bullying Health, wellbeing and lifestyle	Recognise that they can say 'no' / 'please stop' / 'I'll tell' / 'I'll ask' to somebody who asks me to do something that makes me feel sad, embarrassed or upset. (Butterfly feeling) Explain how this could be either in real life or online. Recognise some ways in which the internet can be used to communicate. Give examples of how they (might) use technology to communicate with people they know. Identify ways that	Recognise that there may be people online who could make them feel sad, embarrassed or upset. If something happens that makes them feel sad, worried, uncomfortable or frightened they can give examples of when and how to speak to an adult they can trust. (Butterfly feeling) Use the internet with adult support to communicate with people they know. Explain why it is important to be considerate and kind to people online. Recognise that information can stay online and could be copied.	Explain how other people's identity online can be different to their identity in real life. Describe ways in which people might make themselves look different online. Give examples of issues online that might make them feel sad, worried, uncomfortable or frightened; give examples of how they might get help. (Butterfly feeling) Use the internet to communicate with people they do not know well (e.g. email a pen pal in another school/ country). Give examples of how they might use technology to communicate with others that they do not	**Use technology safely and respectfully and responsibly.** Explain what is meant by the term 'identity' Explain how they can represent themselves in different ways online. Explain ways in which and why they might change their identity depending on what they are doing online (e.g. gaming; using an **avatar**; social media) Describe ways people who have similar likes and interests can get together online Give examples of technology specific forms of communication (e.g. **emojis**, **acronyms**, **text speak**) Explain some risks of communicating online with others they don't know well. Explain why they should be careful who to trust online and	**Use technology safely and respectfully and responsibly.** Explain how their online identity can be different to the identity they present in 'real life'. Knowing this, they can describe the right decisions about how they interact with others and how others perceive them. Describe strategies for safe and fun experiences in a range of online social environments. Give examples of how to be respectful to others online Describe how others can find out information about them by looking online. Explain ways that some of the information about them online could	**Use technology safely and respectfully and responsibly.** Explain how identity online can be copied, modified or altered Demonstrate responsible choices about their online identity, depending on context. Explain that there are some people they communicate with online who may want to do them or their friends harm. Recognise that this is not their fault. Make positive contributions and be part of online communities. Describe some of the communities in which they are involved and describe how they collaborate with others positively. Search for	**Use technology safely and respectfully and responsibly.** Describe ways in which media can shape ideas about gender. Identify messages about gender roles and make judgements based on them. Challenge and explain why it is important to reject inappropriate messages about gender online. Describe issues online that might make them or others feel sad, worried, uncomfortable or frightened. Know and can give examples of how they might get help, both on and offline. Explain why they should keep asking until they get the help they need. Show they

	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7
	they can put information on the internet. Describe ways that some people can be unkind online. Offer examples of how this can make others feel. Identify rules that help keep us safe and healthy in and beyond the home when using technology. Give some simple examples.	Describe what information they should not put online without asking a trusted adult first. Describe how to behave online in ways that do not upset others and can give examples. Explain rules to keep them safe when using technology both in and beyond the home. Give examples of some of these rules.	know well. Explain how information put online about you can last for a long time. Know who to talk to if they think someone has made a mistake about putting something online. Give examples of bullying behaviour and how it could look online. Understand how bullying can make someone feel. Talk about how someone can/would get help about being bullied online or offline. Explain simple guidance for using technology in different environments and settings. Say how those rules/guides can help them.	what information they can trust them with. Explain how theirs and other people's feelings can be hurt by what is said or written online. Explain why they can take back their trust in someone or something if they feel nervous, uncomfortable or worried. Explain what it means to 'know someone' online and why this might be different from knowing someone in real life. Explain what is meant by 'trusting someone online'. Explain why this is different from 'liking someone online' Search for information about themselves online. Recognise they need to be careful before they share anything about others or themselves online. Know who they should ask if they are not sure if they should put something online. Explain what bullying is and can describe how people may bully others. Describe rules about how to behave online and how to follow them Explain why spending too much time using	have been created, copied or shared by others. Identify some online technologies where bullying might take place. Describe ways people can be bullied through a range of media (e.g. image, video, text, **chat**) Explain why they need to think carefully about how content they post might affect others, their feelings and how it may affect how others feel about them (their reputation) Explain how using technology can distract them from other things they might do or should be doing. Identify times or situations when they might need to limit the amount of time they use technology. Suggest strategies to help them limit this time.	information about an individual online and create a summary report of the information they find. Describe ways that information about people online can be used by others to make judgments about an individual. Recognise when someone is upset, hurt or angry online. Describe how to get help for someone that is being bullied online and assess when they need to do or say something or tell someone. Explain how to block abusive users. Explain how they would report online bullying on the apps and platforms that they use. Describe the helpline services who can support them and what they would say and do if they needed their help (e.g. **Childline / CEOP**). Describe ways technology can affect healthy sleep and can describe some of the issues Describe some	understand their responsibilities for the well-being of others in their online social group. Explain how impulsive and rash communications online may cause problems (e.g. flaming, content produced in live streaming) Demonstrate how they would support others (including those who are having difficulties) online. Demonstrate ways of reporting problems online for both their friends and them. Explain how they are developing an online reputation, which will allow other people to form an opinion of them. Describe some simple ways that help build a positive online reputation Describe how to capture bullying content as evidence (e.g. screen-grab, URL, profile) to share with others who can help them. Identify a range of ways to report concerns in both

				technology can sometimes have a negative impact on them; give some examples of activities where it is easy to spend a lot of time engaged (e.g. games, films, videos).		strategies, tips.	school and at home about online bullying. Describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose Assess and action different strategies to limit the impact of technology on their health (e.g. night-shift mode, regular breaks, correct posture, sleep, diet and exercise). Explain the importance of self-regulating their use of technology; demonstrate the strategies they use to do this (e.g. monitoring their time online, avoiding accidents).
Digital Literacy *with elements of Creativity*		I can use skills I have learnt across multiple application programs, including: I can input text and images using a simple publishing programs I can type a simple sentences on the screen, making use of a word bank I can alter my writing in a number of ways (size, colour, font etc.)	**I can use skills I have learnt across multiple application programs, including:** I can start to use simple keyboard shortcuts Ctrl + B, I, U to edit my text style I can use spell checker to check my work I can use the 'undo' icon to fix a mistake I can use the return/enter key to	**I can use skills I have learnt across multiple application programs, including:** I can type a number of sentences using the keyboard I can use tab to indent paragraphs I can use cut, copy and paste to re-order text I can use simple keyboard shortcuts e.g. Ctrl + V, X, C to re-order text	**I can use skills I have learnt across multiple application programs, including:** I can select appropriate tools to add emphasis and effect to my work I can explain why I have chosen my layout and formatting I can review and edit my work and talk about the changes I	**I can use skills I have learnt across multiple application programs, including:** I can select appropriate tools to add emphasis and effect to my work I can explain why I have chosen my layout and formatting I can review and edit my work and talk about the changes I	**I can use skills I have learnt across multiple application programs, including:** I can choose, select and use a combination of software to present my work I can select appropriate tools to add emphasis and effect to my work

I can tell you the main keys for typing e.g. shift, space bar, full stop
I can type simple sentences using the correct format (capital letters, space and full stop)
I can use buttons within a programme to make text bold/ italics / text alignment etc.
I can move to different places in the text using the arrow keys or mouse
I can use the 'undo' icon to fix a mistake
I can use the digital camera independently | insert relevant line breaks
I know how to save an image from the internet rather than using copy & paste
I can add a page border
I can insert a basic table
I can say which page orientation would best suit my work. e.g. portrait to landscape

I can explain what digital communication is | I can use columns
I can use bullet points, speech bubbles, auto shapes and text boxes
I can format wrapping/layout of text boxes and images in word
I can format images - move, rotate and re-size shapes
I can use the format tab to alter word art to enhance my work
I can use a variety of table tools (EG merge cells, fill)
I can explain the difference between save and save as
I can create a folder to save my work in
I can give a file a name to identify it
I can create a new eBook with a front cover and add or remove pages
I can create a multimedia presentation / eBook incorporating images, sounds and text using a multimedia package / apps or online program
I can edit pictures using various tools in paint or photo-manipulation software | made
I can extend the use of multimedia packages to include importing images, hyperlinks and the use of sounds recorded independently
I can edit the colour, text and merge digital photographs using a range of devices e.g. Skitch, Microsoft image tools, collage app
I can storyboard a short film clip / animation - what would happen and when
I can effectively plan for an animation or film and use purposefully
I can take a series of pictures to form an a short film clip / animation /eBook | made
I can think about whether my work is suitable for the audience
I can draft and redraft my written work by deleting, inserting and replacing text to improve clarity and create mood.
Creativity
I can design a 3D model using ICT to meet a specific goal, e.g. 2Design & Make
I can evaluate and improve my finished designs
I can evaluate multimedia pages, such as Wiki entries, websites and blogs, and recognise the features of good page design and how it is suited to an audience
I can use a mobile device to film a short clip
I can consider the effect of camera angles, light and shadow when filming
I can add titles, credits, transitions and special effects
I can review and add to, replace and edit clips to make messages clearer
I can explain my | I can explain why I have chosen my layout and formatting
I can review and edit my work and talk about the changes I made
I can think about whether my work is suitable for the audience

I can draft and redraft my written work by deleting, inserting and replacing text to improve clarity and create mood |

					choice of clips, effects and structure in resources I have created I can discuss and compare film for effect on audience. I can export / embed a video in different formats for different purposes	
Digital Literacy *with elements of Creativity* **Maths** **Science** **Topic** **Music**		I can create a pictogram by entering data into a simple graphing package I can use a pictogram to answer simple questions I can explore sounds in a music programme or sound app	I can use a range of ICT devices to create a sequence of sounds I can use a digital video camera to capture film and images I can arrange clips to make a short film that conveys meaning I can add simple titles and credits I can plan a simple Y/N tree diagram to sort information e.g. Branching database - 2Question I can create and search a branching database I can use a database to answer simple questions I can search a database to find	I can search and use a branching database to identify objects I can create a simple musical composition combining electronic and live sounds I can add suitable sound effects and tracks I can combine still/moving images in a show to create stop-motion animation/movies on a range of devices	I can use a mobile device to film a short clip I can save images at stages to compare my work and talk about the changes I can edit video, animation or music footage by cropping clips I can choose appropriate scene transitions I can enter a basic mathematical formula into Excel I can change the look of a spreadsheet by using different formats e.g. text styles, colour, number format including currency and date, row and column heights I can insert and delete columns and rows in a spreadsheet I can use SUM to	**Databases** I can create a database structure of my own and enter the data I can prepare a data collection form and collect quality information I can use spreadsheets to create a graph I can decide on the most appropriate form of graph for a data set giving reasons for my choice I can interpret graphs of data collected from a variety of sources	I can interpret graphs of data collected from a variety of sources

					calculate the total of a set of numbers in a range of cells I can change data to answer "what if…?" questions I can use spreadsheets to create a graph I can decide on the most appropriate form of graph for a data set giving reasons for my choice I can interpret graphs of data collected from sensors		
Information Technology **Education for a Connected World** Managing online information Privacy and security Copyright and ownership	I can talk about how I can use the internet to find things out. I can identify devices I could use to access information on the internet. I can give simple examples of how to find information (e.g. **search engine, voice activated searching**) I can identify some simple examples of my personal information (e.g. name, address, birthday, age,	*INTERNET RESOURCES* I can identify a browser and can use the internet to find things out I can use simple keywords in **search engines** I can describe and demonstrate how to get help from a trusted adult or helpline if I find content that makes me feel sad, uncomfortable worried or frightened. (Butterfly feeling) I can recognise more detailed examples of information that is personal to me (e.g. where I live, my family's names, where I go to school) I can explain why I should always ask a	EFFECTIVE SEARCHING I can use keywords in search engines I can demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections) I can explain what **voice activated searching** is and how it might be used (e.g. Alexa, Google Now, and Siri) I can explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real' I can explain why some information I find online may not be true	ONLINE COMMUNICATION I can use key phrases in search engines I can explain what autocomplete is and how to choose the best suggestion I can explain how the internet can be used to sell and buy things I can explain the difference between a 'belief', an 'opinion' and a 'fact' I can give reasons why I should only share information with people I choose to and can trust I can explain that if I am not sure or I feel pressured, I should ask a trusted adult I understand and can give reasons why	COMPUTER NETWORKS I can analyse information and differentiate between 'opinions', 'beliefs' and 'facts' I understand what criteria have to be met before something is a 'fact' 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 describe some of the methods used to encourage people to buy things online (e.g. advertising offers; **in-app purchases**, pop-ups) and can	WHAT IS A COMPUTER I can use different search technologies I can evaluate digital content and can explain how I make choices from search results I can explain key concepts including: Data, information, fact, opinion belief, true, false, valid, reliable and evidence I understand the difference between online **mis-information** (inaccurate information distributed by accident) and **dis-information** (inaccurate information deliberately distributed and intended to	HISTORY AND FUTURE OF COMPUTING I can use search technologies effectively I can explain how search engines work and how results are selected and ranked I can describe how some online information can be opinion and can offer examples I can explain how and why some people may present 'opinions' as 'facts' I can define the terms 'influence', 'manipulation' and 'persuasion' and explain how I might encounter these online (e.g.

location). I can describe the people I can trust and can share this with; I can explain why I can trust them I know that work I create belongs to me. I can name my work so that others know it belongs to me I can name the parts of a computer and know what they are used for: Mouse, Monitor, Printer, Keyboard, DVD/CD Rom, USB I can shut down a computer appropriately	trusted adult before I share any information about myself online I can explain how passwords can be used to protect information and devices I can explain why work I create using technology belongs to me I can say why it belongs to me (e.g. 'it is my idea' or 'I designed it') I can save my work (Purplemash/school network) so that others know it belongs to me (e.g. filename, name on content) I can identify the icons for applications on the desktop and launch accordingly I know what a browser is and how to open one I can use online resources – Google Maps & Google Earth to conduct research & find information I can log on and off the school network using my individual username and password	I can describe how online information about me could be seen by others I can describe and explain some rules for keeping my information private I can explain what passwords are and can use passwords for my accounts and devices I can explain how many devices in my home could be connected to the internet and can list some of those devices I can describe why other people's work belongs to them I can recognise that content on the internet may belong to other people I can log on and off the school network using my individual username and password and save my work to Purplemash or the school network I can explain the difference between my school network and my home computer set up I know there is a difference between physical, wireless and mobile networks I can use a variety of sources to find, sort and select information	passwords are important I can describe simple strategies for creating and keeping passwords private I can describe how connected devices can collect and share my information with others I can explain why copying someone else's work from the internet without permission can cause problems I can give examples of what those problems might be **Prior Learning:** *I can log on and off the school network using my individual username and password* *I can independently open and save work to a given folder – in the cloud or school network* *I can create a folder to save my work in* I understand file extensions and which ones attribute to different ICT products - .doc .xls .ppt .pub .pdf .mp3 .mp4 I can communicate using a range of online resources (blogs, email)	recognise some of these when they appear online I can explain that some people I 'meet online' (e.g. through social media) may be computer programmes pretending to be real people I can explain why lots of people sharing the same opinions or beliefs online does not make those opinions or beliefs true I can explain what a strong password is I can describe strategies for keeping my personal information private, depending on context I can explain that others online can pretend to be me or other people, including my friends I can suggest reasons why they might do this I can explain how internet use can be monitored When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have	mislead) I can explain what is meant by 'being sceptical'. I can give examples of when and why it is important to be 'sceptical' I can explain what is meant by a '**hoax**'. I can explain why I need to think carefully before I forward anything online I can explain why some information I find online may not be honest, accurate or legal I can explain why information that is on a large number of sites may still be inaccurate or untrue. I can assess how this might happen (e.g. the sharing of misinformation either by accident or on purpose) I can create and use strong and secure passwords I can explain how many free apps or services may read and share my private information (e.g. friends, contacts, likes, images, videos, voice, messages, and geolocation) with others I can explain how and why some apps may request or take payment for additional content (e.g. in-app	advertising and 'ad targeting') I can demonstrate strategies to enable me to analyse and evaluate the validity of 'facts' and I can explain why using these strategies are important I can identify flag and report inappropriate content I use different passwords for a range of online services I can describe effective strategies for managing those passwords (e.g. **password managers**, acronyms, stories I know what to do if my password is lost or stolen I can explain what app permissions are and can give some examples from the technology or services I use I can describe simple ways to increase privacy on apps and services that provide privacy settings I can describe ways in which some online content targets people to gain money or information illegally; I can

			appropriate to my class work including using the internet I can refine my searches to limit search results using an internet search engine		the right to reuse it I can talk about the advantages and disadvantages of using a computer I understand that there are multiple platforms and the differences between these e.g. Windows / Apple / Android I explain file extensions and which ones attribute to different ICT products- .zip I can describe what an ISP is I can describe what a URL (web address) is I can explain domain name types - .ac. uk .gov .sch I can identify the most relevant results from a search engine – not just 'sponsored' links I can discuss what it means to save work locally, to a network or into the 'Cloud'	purchases) and explain why I should seek permission from a trusted adult before purchasing I can assess and justify when it is acceptable to use the work of others, and when I need to credit the source I can give examples of content that is permitted to be reused I can recognise that intellectual property rights and copyright protection carry over into the online world. I can identify the features of legal downloads and illegal (pirated) content I know what an operating system is and why it important I can identify the key internal parts of a computer – RAM, memory, processor, motherboard I can describe what each part does I can discuss what it means to save work locally, to a network or to a 'Cloud'	describe strategies to help me identify such content (e.g. **scams, phishing**) I can demonstrate the use of search tools to find and access online content, which can be reused by others I can demonstrate how to make references to and acknowledge sources I have used from the internet I can independently save and retrieve work from different places I can effectively research using the world wide web
Computing Pioneers		Tim Berners Lee Bill Gates Steve Jobs	Tim Berners Lee Bill Gates Steve Jobs	Alan Turing Ada Lovelace Charles Babbage Hedy Lamarr Kate Bouman	Alan Turing Ada Lovelace Charles Babbage Hedy Lamarr Kate Bouman	Alan Turing Ada Lovelace Charles Babbage Hedy Lamarr Kate Bouman	Alan Turing Ada Lovelace Charles Babbage Hedy Lamarr Kate Bouman
Computer Science	I can name items we control in the	**ALGORITHM** I can tell you what an	**EVENTS** **PROGRAM**	**SEQUENCE**	**LOOPS** **REPETITION**	**SELECTION**	**VARIABLES**

everyday environment I can use every day ICT devices I can explore on screen activities – by clicking cause and effect I can use on screen simulations and compare with real life activities – click and drag activities I know that an algorithm is a set of instruction that can solve a problem I can create a simple **algorithm** for a floor robot e.g. BeeBot/Blue-Bots	**algorithm is** I know that a program is a precise set of instructions I can give and follow instructions, which include straight and / or turning commands – one at a time. I can plan a simple algorithm I can **create** a simple program I can **debug** a simple program that is causing an unexpected outcome. I can predict if a simple program will fulfil my algorithm I can break a problem down into smaller parts (chunking / decomposing)	I can tell you what a **program** is I can tell you what an event is I know programs need an **event** to begin I can give and follow instructions, which include direction and turning command – several in order I know that computers need precise instructions I can plan use logical reasoning to predict outcomes I can **create** a program that contains several commands for a device or software programme I can **debug** a program independently that has caused an unexpected outcome I can use different events to start my programs – timing / on click / on button press	I can tell you what a **sequence** is I can use logical reasoning to explain what will happen next I can solve problems by decomposing them into smaller parts I can use and edit a pre-written program to achieve a specific outcome I can detect and debug errors in algorithms and programs I can sequence a simple program on Logo to produce a line drawing I can write a program to complete an algorithm I know that a sequence is a list of instructions in a particular order I know that if I change the sequence I may change the outcome of the program	I can tell you what a **loop** or **repeat** is I can use sequence and loops (repetition) in programs confidently I can detect and debug errors in algorithms and programs I can independently select and sequence code to make my own program I know that a loop is used to repeat a set of instructions I can demonstrate the loop or repeat command in all programming environments - I use more than 1 (2Simple – 2Code / ScratchJr /Kodu /Kodable / LightBot / ALEX / Scratch) I can explain why it is important to use 'loops' in particular place in my sequence I can transfer my coding skills between software	I can tell you what a conditional is I can plan and write an **algorithm** using the following: commands, sequence, repetition and selection 'if…then' (conditional statement) I can detect and debug errors in more complex algorithms and programs I can use selection to create games in which the user must make a choice I can use my skills and understanding of selection in more than 2 programs	I can explain what a variable is I can confidently use events, repeats, selection and variables I can use a variable in a variety of programming software - 2Simple – 2Code / ScratchJr / Scratch / Kodu /Kodable / LightBot / ALEX / I can confidently break a problem down and methodically create a program to solve it, testing and adapting as I go I can evaluate the effectiveness of my programming and suggest improvements I confidently use the Blockly programming language I know that there are many other programming languages – C+, C#, java, Python, Ruby etc. **Opportunities for Greater Depth:** Transfer programming knowledge and skills

							to other platforms such as Scratch3 , Python or Ruby (support available)
Questions evidencing greater depth	Tell me how… Explain it to …	Tell me how… Explain it to … How would I …	Tell me how… Explain it to … How would I …	Tell me how… Explain it to … How would I … Would you rather…	Tell me how… Explain it to … How would I … Would you rather…	Tell me how… Explain it to … How would I … Would you rather…	Tell me how… Explain it to … How would I … Would you rather…
Enrichment Opportunities	S.T.E.M Box	S.T.E.M Box Beebots/Bluebots	S.T.E.M Box N.S.P.C.C Assembly	Be Internet Legends Assembly Inobots	Be Internet Legends Assembly Inobots	Be Internet Legends Assembly Kodu Sam Labs Mini Spheros Inobots	Be Internet Legends Assembly S.T.E.M Sphero Bolts Trip to Apple Sam Labs Inobots