Pyrford C of E School Computing Progression Map 2024-25

	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Online safety	Active Bytes – eLIM EdTech • Introduction to internet safety focusing on working with a trusted adult when using a device	Active Bytes – eLIM EdTech • Use a safe part of the Internet to play and learn • Ensure a trusted adult is with me when I am using a device • Be careful with technology devices • Use apps, games and that trusted adults show me • Use a device for a limited time	Active Bytes – eLIM EdTech • Tell a trusted adult about ANY problems, worries or messages online and ask for their help with online activities. • Importance of being kind online. • Understanding of what personal information is and how to keep it private. • Using a device only for the time allowed by a trusted adult.	Active Bytes – eLIM EdTech • Tell a trusted adult about ANY problems, worries or messages online and talk to them about my online activities. • Understand that people you meet online might not be who they say they are. • Know that not all information online is true. • Know to take a break when using a device for a long time.	Active Bytes – eLIM EdTech • Tell a trusted adult about any concerns online and talk to them about my online activities including ensuring they are age appropriate. • Know that not all information online is reliable and how to check for digitally altered images. • Know how to protect my personal information when online. • To make good choices about when, why and how long devices are used for.	Active Bytes – eLIM EdTech • Tell a trusted adult about any concerns online and talk to them about my online activities including ensuring they are age appropriate. • Understand that things I share online will stay there and can be used by others. • Know how to think about the reliability of information found online. • Know how to make safe choices when using technology to communicate kindly and responsibly with others.	Active Bytes – eLIM EdTech • Tell a trusted adult about any concerns online and talk to them about my online activities including my online communication. • Know how to evaluate the quality of information I find online. • Use a secure password and safe screen name when I am using an online tool. • Explain the good choices made about when, why and how long devices are used for.	Active Bytes – eLIM EdTech • Tell a trusted adult about any concerns online and talk to them about my online activities including my online communication. • Know how to consider terms and conditions and adjust privacy settings to maintain control of my personal information. • Know how to protect devices from harm online. • Select age-appropriate apps, games and websites and explain the potential risks of making different choices. • Know how to avoid plagiarism of online content.
Coding	Introduction to: • Sequencing e.g. 2 step verbal instructions, visual timetable, stories • Repetition e.g. simple patterns	Early coding concepts: • Understand simple, sequenced processes in a range of contexts • Group and sort objects • Recognise and create patterns • Sequence stories • Follow simple instructions for various outcomes including programmable toys, making models and familiar activities	Early programming concepts – Teach Computing • Introduction to early programming concepts • Explore using individual commands • Identify what each command does, and use that knowledge to start predicting the outcome of programs • Predict the impact of and create simple sets of instructions in a range of contexts (e.g. Beebots, J2Code) An introduction to on-screen programming using Scratch Jr – Teach Computing • Explore the way a project looks by investigating sprites and backgrounds • Use programming blocks to use, modify and create programs • Introduction to the early stages of program design through the introduction of algorithms	Crazy characters and Beebots programming – Barefoot Computing & Teach Computing • Understand algorithms as a set of precise instructions using sequence and repetition in physical contexts (create a crazy character, control a robot teacher and program floor robot) • Use of logical reasoning to predict outcomes • Create, test and debug algorithms An introduction to sequence and selection using Scratch Jr – Teach Computing • Understand that sequences of commands have an outcome • Make predictions for sequences of commands • Use and modify designs, and then create their own quiz questions in ScratchJr • Evaluate their work and make improvements to their programming projects	Sequencing in programming in Scratch (sounds) – Teach Computing • Introduction to the Scratch programming environment • Introduction to a selection of motion, sound and event blocks • Explore and create sequences of commands • Create a project to make a representation of a piano • Save and share projects Sequencing in programming in Scratch (events and actions) – Teach Computing • Consolidate prior learning relating to sequencing • Move a sprite in four directions (up, down, left, and right) • Explore movement within the context of a maze • Introduction to use of pen and modifications to line size and colour • Create a maze-tracing program • Design and code their own maze-tracing program • Save and share projects	Programming repetition in Logo & Scratch- Teach Computing • Introduction to the Logo programming environment • Predict outcomes, modify, create, test and debug algorithms to draw shapes • Use repeat/loops including count controlled loops and infinite loops • Develop design that includes 2 or more loops that run at the same time • Save and share projects Selection in quizzes – Teach computing • Introduction to selection by understanding how conditions can be used in programming • Use "if...then....else" structure • Represent understanding as algorithms and then code in Scratch • Design a quiz using selection to control outcomes based on answers given • Save and share projects	Sequence, selection and repetition in physical computing using Crumble – Teach Computing • Introduction to physical programming through the use of the Crumble programming environment • Introduction to a microcontroller (Crumble controller) • Learn how to connect and program it to control components (including output devices — LEDs and motors) • Introduction to conditions as a means of controlling the flow of actions in a program • Use of knowledge of repetition and conditions when introduced to the concept of selection (through the 'if...then...' structure) and write algorithms and programs that utilise this concept • Design, programme and make a working robot	Coding games using sequence, selection, repetition and variables in Scratch – – Phil Wikins (NCCE, Run don't walk) • Decomposition of a task – creating a maze game • Creating and animating sprites and background • Using selection for sprite motion and keyboard input • Introduction to variables • Use of sequence, selection and repetition to code various features of the game • Debugging and logical reasoning • Save and share projects
Technology in our lives	Technology around us • Be familiar with a range of digital devices in school setting • Play with toys that have	Technology around us • Recognise that a range of technology is used in places such as homes and schools • Know that information can be retrieved from	Technology around us - Teach Computing • Introduction to technology • Introduction to parts of a computer • Introduction to using a mouse and keyboard	IT around us – Teach Computing • Recognise the uses and features of IT • Identify IT within and beyond school • Identify how IT helps us • Know how to use IT safely • Recognise that choices are made when using IT	Computing systems and networks – Teach Computing • Develop their understanding of digital devices, with an initial focus on inputs, processes and outputs • Compare digital and non-digital devices • Introduction to computer networks, including devices that	The internet – Teach Computing • Apply knowledge of networks to appreciate the internet as a network of networks which need to be kept secure • Learn that the World Wide Web is part of the internet, and explore the World Wide Web in order to learn	Computing systems and networks – sharing information – Teach Computing • Develop understanding of computer systems and how information is transferred between systems and devices • Consider small-scale and large-scale systems	Computing systems and networks – collaboration and communication – Teach Computing • Explore how data is transferred over the internet • Introduction to addressing, the makeup and structure of data packets

					make up a network's infrastructure, such as wireless access points and switches • Learn about the benefits of connecting devices in a network	about who owns content and what can be accessed, added and created • Evaluate online content to decide how honest, accurate or reliable it is, and understand the consequences of false information	• Explain the input, output and process aspects of a variety of different real-world systems • Discover how information is found on the World Wide Web, through learning how search engines work (including how they select and rank results) and what influences searching, and through comparing different search engines	• Explore how the internet facilitates online communication and collaboration by completing shared projects online and evaluate different methods of communication • How to communicate responsibly by considering what should and should not be shared on the internet
Information Technology	Operation of simple equipment including IWB, remote control toys and torches	• Operation of simple equipment • Shows an interest and develop skills in operating technological toys • Uses ICT hardware to interact with age-appropriate computer software	Digital writing – Teach Computing • Turn on a computer and open word processing application • Type letters, numbers and symbols, including use of the shift key • Introduction to simple formatting of text • Correct text (moving the cursor, back space to delete, undo button) • Compare typing and writing to create and edit text	Introduction to Slides • Introduction to touch typing – typing.com • Create a simple slide presentation • Understand how work is saved and use save as and save with support • Retrieve work previously saved with support • Add new slides and change backgrounds • Add text boxes and type relevant information, use bullet points • Copy and paste images and blocks of text	Word Processing • Practise touch typing – typing.com • Formatting and editing text • Copy, cutting and paste text and images • Alignment • Bullet points and numbering • Edit a page layout • Save and retrieve documents		Adventure quest: powerpoint projects – Phil Wikins (NCCE, Run don't walk) • Adding and editing text and shapes • Inserting and editing hyperlinks • Changing background and themes • Safely searching for images online • Inserting, resizing, rotating and layering images • Coding skills: sequencing, planning an algorithm, testing, debugging • Save and retrieve own documents to/from specified location	Webpage design – Teach Computing • Evaluate the quality of existing websites • Plan own and then class website considering user navigation and experience • Create multiple webpages linked with hyperlinks • Select, use and combine a variety of software on Chrome books, ipads and other digital devices to create programs and content to showcase Year 6 activities and achievements
			Digital painting – Teach Computing • Introduce a range of freehand, line and shape tools for digital painting • Select appropriate tools to create a picture in a defined artistic style • Compare creating pictures digitally and on paper	Digital music – Teach Computing • Listen to and compare pieces of music • Create rhythm patterns using percussion instruments and Chrome books • Experiment with using a Chrome book to change pitch and express emotions • Create and refine a musical pattern • Create a melody using an animal as inspiration • Retrieve and improve their work	Stop frame animation – Teach Computing • Use a range of techniques to create a stop-frame animation including a flip book • Explain why little changes are needed for each frame and how to create and effective animation • Apply skills learnt to create a story board and story-based animation using appropriate software • Add other types of media to an animation, such as music and text	Photo editing – Teach Computing • Cropping and rotating images • Changing colours and colour effects • Use of cloning • Combining images • Applying skills to create images for a project • Evaluating effectiveness of image editing		
Data Handling						Flat file databases – Teach Computing • Understand how a flat-file database can be used to organise data in records. • Use tools within a database to order and answer questions about data. • Create graphs and charts from data to help solve problems. • Use a real-life database to answer a question and present their work to others.	Excel Spreadsheets- Design a spreadsheet for a specific purpose • Enter data and simple formulae into a spreadsheet • Change some of the data and discuss effect on results with assistance • Understand that a spreadsheet can be used to help solve problems • Order and present data based on calculations • Plan and calculate a spend budget	