

COMPUTING PROGRESSION MAP OF SKILLS AND KNOWLEDGE AT BISHOPS ITCHINGTON PRIMARY SCHOOL

	Early Years	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
On-Line Safety	Practices some safety measures without direct supervision.	Can log in safely. Know how to save, print and find work. To start to add text to pictures. To understand the importance of logging out. Technology Outside of School To walk around the local community and find examples of where technology is used. To record examples of technology outside school.	To know how to refine searches using the Search tool. To know how to share work electronically using the display boards. To have some knowledge and understanding about sharing more globally on the Internet To introduce Email as a communication tool To understand that information put online leaves a digital footprint or trail. 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 the Internet can be used to help us to communicate effectively. To understand how a blog can be used to help us communicate with a wider audience. For children to consider if that they read on websites is true? To look at some 'spoof' websites. To create a 'spoof' webpage. To think about why these sites might exist and how to check that the information is accurate. 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 how children 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 Identify the risks and benefits of installing software including apps 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 identify the positive and negative influences of technology on health and the environment. To understand the importance of balancing game and screen time with other parts of their lives.	To gain a greater understanding of the impact that sharing digital content can have. To review sources of support when using technology. To review children's responsibility to one another in their online behaviour. To know how to maintain secure passwords. To understand the advantages, disadvantages, permissions and purposes of altering an image digitally and the reasons for this. To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online. To learn about how to reference sources in their work To search the Internet with a consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information. Ensuring reliability through using different methods of communication	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 seals of approval, e.g. https, padlock icon. Identify the benefits and risks of giving personal information and device access to different software. To review the meaning of a digital footprint and understand how and why people use their information and online presence to create a virtual image of themselves as a user. 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. Begin to understand how information online can persist and give away details of those who share it. To understand the importance of balancing game and screen time with other parts of their lives, e.g. 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.
Spreadsheets and Data	Select and use technology for particular purposes.	Introduction to spreadsheets. Adding images to a spreadsheet and using the image toolbox Using the 'speak' and 'count' tools in 2Calculate to count items Pictograms To understand that data can be represented in picture format To contribute to a class pictogram To use a pictogram to record the results of an experiment Grouping and Sorting To sort items using a range of criteria. To sort items on the computer using the 'Grouping' activities.	Reviewing prior use of spreadsheets Use copying, pasting and totalling tools. Creating a table and block graph Questioning To show that the information provided on pictogram is of limited use beyond answering simple questions. To use YES or No questions to separate information. To construct a binary tree to separate different items. Use 2Question (a binary tree) to answer questions To use a database to answer more complex search questions. To use the search tool to find information.	To create pie charts and bar graphs. To use the 'more than', 'less than' and 'equals' tools. To introduce the Advanced Mode of 2Calculate and use coordinates. Branching Databases To sort objects using just YES/NO questions. To complete a branching database using 2Question. To create a branching database of the children's choice. Graphing To enter data into a graph and answer questions. To solve an investigation and present the results in graphic form.	Using the formula wizard in the advanced mode to add formulae and explore formatting cells Timer and spin button Line graphs Using a spreadsheet for budgeting Exploring Place Value with a spreadsheet	Spreadsheets Conversions of measurements Novel use of the count tool. Formulae including the advanced mode. Using text variables to perform calculations. Using a spreadsheet to plan an event. Databases To learn how to search for information on a database To contribute to a class database. To create a database around a chosen topic.	Spreadsheets Exploring Probability Use of spreadsheets in 'real life' Creating a computational model Use a spreadsheet to plan pocket money spending Planning a school event

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Coding	Completes a simple program on the computer.	To understand what coding means in computing. To build one- and two-step instructions using the printable code cards. To use the 2Code program to create a simple program. To design a scene for a program. To use code blocks to make the characters move automatically when the green Play button is clicked. To add an additional character who moves when clicked. To use the Stop button to make characters stop when the background is clicked.	To understand what an algorithm is. To create a computer program using simple algorithms. To understand how use the Repeat and timer command. To debug simple programs. To create programs using different kinds of objects whose behaviours are limited to specific actions.	To review coding vocabulary. To use 2Chart to represent a sequential program design. To use the design to write the code for the program To design and write a program that simulates a physical system. To look at the grid that underlies the design and relate this to X and Y properties. To introduce selection in their programming by using the if command. To combine a timer in a program with selection. To understand what a variable is in programming. To use a variable to create a timer. To create a program with an object that repeats actions indefinitely. To use a timer to make characters repeat actions. To explore the use of the repeat command and how this differs from the timer. To know what debugging means. To understand the need to test and debug a program repeatedly. To debug simple programs. To understand the importance of saving periodically as part of the code development process.	To review coding vocabulary. To use a sketch or storyboard to represent a program design and algorithm. To use the design to create a program. To introduce the If/else statement and use it in a program. To create a variable. To explore a flowchart design for a program with an if/else statement. To create a program which responds to the If/else command, using the value of the variable. To create a program with a character that repeats actions. • To use the Repeat Until command to make characters repeat actions. • To program a character to respond to user keyboard input. To make timers and counting machines using variables to print a new number to the screen every second. To explore how 2Code can be used to investigate control by creating a simulation. To know what decomposition and abstraction are in computer science. • To take a real-life situation, decompose it and think about the level of abstraction. • To design a decomposed feature of a real-life situation.	To review coding vocabulary. To use a sketch or storyboard to represent a program design and algorithm. • To use the design to create a program. To design and write a program that simulates a physical system. To review the use of number variables in 2Code. • To explore text variables. To create a playable, competitive game. • To combine the use of variables, If/else statements and Repeats to achieve the desired effect in code. • To read code so that it can be adapted, personalised and improved. To explore the launch command and use buttons within a program that launch other programs or open websites. • To create a program to inform others.	To review good planning skills. • To design programs using their choice of objects, attributing specific actions to each using their new programming knowledge. • To use variables within a game to keep track of the properties of objects. To use functions and understand why they are useful in 2Code. • To debug a program and organise the code into tabs. • To organise code into functions and Call functions to eliminate surplus code in the program. To explore the options for getting text input from the user in 2Code. • How to include interactivity in programming. To use flowcharts to test and debug a program. • To create a simulation of a room in which devices can be controlled. To explore how 2Code can be used to make a text-based adventure game. Text-Adventure To find out what a text adventure is. To plan a story adventure To make a story-based adventure. To introduce map-based text adventures. To code a map-based text adventure
Functions and Skills	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	Maze Explorers To be able to use the direction keys To understand how to create and debug a set of instructions (algorithm) To use the additional direction keys as part of their algorithm. To understand how to change and extend the algorithm list. To create a longer algorithm for an activity. To use the additional direction keys as part of their algorithm. To understand how to change and extend the algorithm list. To create a longer algorithm for an activity.		Touch Typing To introduce typing terminology. Understand the correct way to sit at the keyboard. To learn how to use the home, top and bottom row keys. To practise and improve typing for home, bottom and top rows. To practise the keys typed with the left hand To practise the keys typed with the right hand. Email To open and respond to an email. To write an email to someone, using an address book. To learn how to use email safely. To add an attachment to an email. To explore a simulated email scenario. Simulations To look at what simulations are. To explore a simulation To analyse and evaluate a simulation	Effective Search To locate information on the search results page. To use search effectively to find out information To assess whether an information source is true and reliable. Hardware To understand the different parts that make up a computer To recall the different parts that make up a computer.	Concept Maps To understand the need for visual representation when generating and discussing complex ideas. To understand and use the correct vocabulary when creating a concept map. To create a concept map. To understand how a concept map can be used to retell stories and information. To create a collaborative concept map and present this to an audience.	Blogging To understand the different parts that make up a computer To recall the different parts that make up a computer. To plan the theme and content for a blog. To understand how to write a blog. To consider the effect upon the audience of changing the visual properties of the blog. To understand the importance of regularly updating the content of a blog. To understand how to contribute to an existing blog. To understand how and why blog posts are approved by the teacher. To understand the importance of commenting on blogs. To peer-assess blogs against the agreed success criteria. Internet To find out what a LAN and a WAN are. To find out how we access the internet. To research and find out about the age of the internet. To think about what the future might hold.

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Music	Uses ICT hardware to interact with age-appropriate computer software.		Making Music To be introduced to making music digitally using 2Sequence. To explore, edit and combine sounds using 2Sequence. To add sounds to a tune they've already created to change it. To think about how music can be used to express feelings and create tunes which depict feelings. To upload a sound from a bank of sounds into the Sounds section. To record their own sound and upload it into the Sounds section. To create their own tune using the sounds which they have added to the Sounds section.				
Creativity/Pictures / Design	Children represent their own ideas, thoughts and feelings through design and technology	Paint and Image Manipulation Use basic controls on the computer to make pictures Animated Story Books To be introduced to e-books and to 2Create a Story. To continue a previously saved story. To add animation to a story. To add sound to a story including voice recording and music the children have created. To work on a more complex story including adding backgrounds and copying and pasting pages.	Creating Pictures To be introduced to 2Paint A Picture. To look at the impressionist style of art (Monet, Degas, Renoir). To recreate pointillist art and look at the work of pointillist artists such as Seurat. To look at the work of Piet Mondrian and recreate it using the Lines template. To look at the work of William Morris and recreate it using the Patterns template To explore surrealism and e-Collage Presenting Ideas To explore how a story can be presented in different ways. To make a quiz about a story or class topic. To make a fact file on a nonfiction topic. To make a presentation to the class	Animation To discuss what makes a good animated film or cartoon and what their favourites are. To learn how animations are created by hand. To find out how 2Animate can be created in a similar way using the computer. To learn about onion skinning in animation. To add backgrounds and sounds to animations. To be introduced to stop motion animation. To share animation on the class display board and by blogging. Logo To learn the language of Logo. To input simple instructions on Logo. For the children to use Logo to create letters. To use the Repeat function in Logo to create shapes. To use the Build feature in Logo.	Presenting To explore how font size and style can affect the impact of a text. To use a simulated scenario to produce a news report. To use a simulated scenario to write for a community campaign	Game-creator To set the scene. To create the game environment. To create the game quest. To finish and share the game To evaluate their and peers' games Modelling To be introduced to 2Design and Make To explore the effect of moving points when designing. To understand designing for a purpose. To understand printing and making	Quizzing To make a picture quiz for young children. To learn how to use the question types within 2Quiz. To explore the grammar quizzes. To make a quiz that requires the player to search a database. Are you smarter than a 10- (or 11-) year-old? To make a quiz to test your teachers or parents.