Didsbury CE Primary School

Computing - Knowledge and skill progression

	Year 1	
	Knowledge / Content	Skills
Unit 1.1 Online Safety and Exploring Purple Mash	Children will learn to log in safely, create their own avatar and create pictures using Paint Projects. They will start to understand the idea of 'ownership' of creative work and save their work to the My Work area and understand that this is private space.	• Children can login to Purple Mash using their own login. • Children can save work into the My Work folder in Purple Mash. • Children can find their saved work in the Online Work area of Purple Mash. • Children can add pictures and text to their work. • Children can explore the Tools section on Purple Mash and become familiar with some of the key icons, save, print, open and new • Children can logout of Purple Mash when they have finished using it and know why that is important.
Unit 1.2 Grouping and Sorting	Children will sort items by different criteria away from the computer. At the computer, they will use Grouping on Purple Mash to sort items.	• Children can sort various items offline using a variety of criteria. • Children have used Purple Mash activities to sort various items online using a variety of criteria.
Unit 1.3 Pictograms	Children will understand that data can be represented in picture format and contribute to a class pictogram. They will then use a pictogram to record the results of an experiment.	• Children can discuss and illustrate the transport used to travel to school. • Children can contribute to the collection of class data. • Children can contribute to a class pictogram. • Children can discuss what the pictogram shows.

Unit 1.4 Lego Builders	Children will be able to emphasise the importance of following instructions in order to follow and create simple instructions on the computer. They will consider how the order of instructions affects the result.	• Children know that an algorithm is a precise, step-by-step set of instructions used to solve a problem or achieve an objective. • Children know that computers need precise instructions to follow. • Children understand how the order in which the steps of a recipe are presented affects the outcome. • Children can organise instructions for a simple recipe. • Children know that correcting errors in an algorithm or program is called 'debugging'.
Unit 1.5 Maze Explorers	Children will understand the functionality of basic direction keys and be able to use the direction keys to complete the challenges in this unit successfully. They will understand how to create and debug a set of instructions (algorithm). Children will use the additional direction keys as part of their algorithm and understand how to change and extend the algorithm list to create a longer algorithm.	• Children can use the direction keys to move forwards, backwards, left and right. • Children know how to use the direction keys in 2Go to move forwards, backwards, left and right. • Children know how to add a unit of measurement to the direction in 2Go. • Children know how to undo their last move. • Children can use diagonal direction keys to move the characters. • Children know how to create a simple algorithm. • Children know how to debug their algorithm.

Unit 1.6 Animated Story Books	Children will develop skills to create, organise, store, manipulate and retrieve digital content through the creation of their own animated story book.	• Children can use the different drawing tools to create a picture on the page, as well as add text to a page and change the colour, font and size of the text. • Children can save their work. • Children can add animations to their picture and sounds to the page. • Children can add a background to the page. • Children can use the copy and paste function to add more pages to their animated e-book.
Unit 1.7 Coding	Children will be introduced to coding through 2Code and use it to create simple programs. They will predict what will happen when instructions are followed and understand that computer programs work by following instructions called code. They will understand what backgrounds and objects are and how to use the scale properly when designing scenes for programs. Children will begin to understand how code executes when a program is run, then will plan and make their own computer program.	• Children can arrange code blocks to create a set of instructions. • Children can use event, object and action code blocks. • Children notice when their code executes when their program is run. • Children can edit a scene by adding, deleting and moving objects. • Children can change the size of objects using the properties table. • Children can use code to make the program they have designed work.
Unit 1.8 Spreadsheets	Children will be introduced to spreadsheets and understand what a spreadsheet looks like. They will be able to be able to navigate around a spreadsheet and enter data, learning new vocabulary along the way. Children will learn to add clipart images to a spreadsheet, use the 'move cell', 'lock', 'speak' and 'count' tools.	• Children can explain what rows and columns are. • Children can enter data into cells. • Children can open the Image toolbox and find and add clipart. • Children can use and understand the function of the 'move cell' and 'lock' tools. • Children can use the 'lock' tool to prevent changes to cells. • Children can add the count tool to count items.

Unit 1.9 Technology Outside School	Children will be encouraged to consider how technology is used outside of the school environment. To help do this, the children go on a walk around their local community and record examples.	• Children will be able to explain what is meant by 'technology'. • Children will consider types of technology used in school and out of school. • Children will recorded examples of where technology is used away from school.
	Year 2	
	Knowledge	Skills
Unit 2.1 Coding	Children will understand what an algorithm is and create a computer program using one. They will be able to create a program using a given design and include a collision detection event. Children will understand that algorithms follow a sequence, how to design an algorithm that follows a timed sequence, that different objects have different properties and what different events do in code. They will be able to create a program using a given design, understand the need to test and debug a program repeatedly and learn to debug simple programs.	• Children can explain that an algorithm is a set of instructions. • Children can plan and use algorithms in programs successfully to achieve a result. • Children can create a program that uses a timer-after command. • Children can create a computer program using different objects. • Children can code a program using a variety of objects, actions, events and outputs successfully. • Children can explain what debug (debugging) means. • Children can debug simple programs.
Unit 2.2 Online Safety	Children use digital technology to share work on Purple Mash to communicate and connect with others locally. They have some knowledge and understanding about sharing more globally on the Internet. They will understand how we talk to others when they are not there in front of us and open and send simple online communications in the form of email. Children will understand that information put online leaves a digital footprint or trail and begin to think critically about the information they leave online. They will be able to identify the steps that can be taken to keep personal data and hardware secure.	• Children are beginning to understand how things can be shared electronically for others to see both on Purple Mash and the Internet. • Children know that Email is a form of digital communication. • Children can open and send an email to a 2Respond character. • Children have discussed their own experiences and understanding of what email is used for. • Children can explain what a digital footprint is and give examples of things that they would not want to be in their digital footprint.

Unit 2.3 Spreadsheets	Children will review the work done in 2Calculate in year 1, revise spreadsheet related vocabulary and use some 2Calculate tools that were introduced in year 1. They will be able to use copying, cutting and pasting shortcuts in 2Calculate, use the 2Calcuate totalling tools and solve a simple puzzle. Children will explore the capabilities of a spreadsheet in adding up coins to match the prices of objects and be able to add and edit data in a table layout. They will use the data to manually create a block graph.	• Children can use copying, cutting and pasting to help make spreadsheets. • Children can use tools in a spreadsheet to automatically total rows and columns. • Children can use a spreadsheet to solve a mathematical puzzle. • Children can create a table of data on a spreadsheet. • Children can use the data to create a block graph manually.
Unit 2.4 Questioning	Children will learn that the information provided on pictograms is of limited use beyond answering simple questions. They will use yes/no questions to separate information and construct a binary tree to separate different items. They will use a database to answer more complex search questions and find information.	• Children understand that the information on pictograms cannot be used to answer more complicated questions. • Children have used a range of yes/no questions to separate different items. • Children have designed a binary tree to sort pictures of animals. • Children understand Children understand that the user cannot use 2Question to answer more complicated questions. • Children have used a database to answer simple and more complex search questions.
Unit 2.5 Effective Searching	Children will understand the terminology associated with the Internet and searching it. They will create a leaflet to help someone search for information on the Internet.	• Children can recall the meaning of key Internet and searching terms. • Children can search the Internet for answers to a quiz. • Children have created a leaflet to consolidate knowledge of effective Internet searching.

Unit 2.6 Creating Pictures	Children will begin to explore 2Paint A Picture whilst looking at the work of Impressionist artists and try to recreate their work. They will look at the work of artists such as Seurat, Piet Mondrian and William Morris abd describe the main features of art that uses repeating patterns. Children will use 2Paint a Picture to create their own art by repeating patterns in a variety of ways and combine more than one effect to enhance their patterns.	• Children can use 2Paint A Picture to create their own art based upon impressionist art. • Children can describe the main features of Piet Mondrian's work and can use 2Paint a Picture to create their own art based upon his style. • Children can describe the main features of art that uses repeating patterns and use 2Paint a Picture to create their own art by repeating patterns in a variety of ways. • Children can combine more than one effect in 2Paint a Picture to enhance their patterns.
Unit 2.7 Making Music	Children will be introduced to making music digitally using 2Sequence and explore, edit and combine sounds using it. They will add sounds to a tune to improve it and think about how music can be used to express feelings and create tunes which depict feelings. Children will upload a sound from a bank of sounds into the Sounds section and create their own tune using the sounds which they have added to the Sounds section.	• Children have used the different sounds within 2Sequence to create a tune. • Children have explored how to speed up and slow down tunes. • Children have added sounds to a tune to change it. • Children have considered how music can be used to express feelings. • Children have created two tunes which depict two feelings. • Children have uploaded and used their own sound chosen from a bank of sounds. • Children have created their own tune using some of the chosen sounds.

Unit 2.8 Presenting Ideas	Children will explore how a story can be presented in different ways and make a quiz about a story. They will also make a fact file on a non-fiction topic and make a presentation to the class.	• Children know that digital content can be represented in many forms. • Children have added appropriate clipart and photos. • Children can use a variety of software to manipulate and present digital content and information. • Children can collect, organise and present data and information in digital content.
	Year 3	
	Knowledge / Content	Skills
Unit 3.1 Coding	Children will be able to review previous coding knowledge. They will understand what a flowchart is and how flowcharts are used in computer programming. Children will understand that there are different types of timers and be able to select the right type of timer for a purpose. They will understand how to use the repeat command. Children will use coding knowledge to create a range of programs and understand the importance of nesting. They will design and create an interactive scene.	• Children can use a flowchart to create a computer program. • Children can create a computer program that uses click events and timers. • Children can create a program that uses a timer-after and timer-every command. • Children understand there can be different ways to solve a problem. • Children understand how the turtle object moves. • Children can create a computer program that includes use of the repeat command. • Children can run, test and debug their programs. • Children can consider nesting when debugging their programs. • Children can use the properties table to set the properties of objects. • Children can plan their scene and code before they create it. • Children can confidently make different things happen in a program.

Unit 3.2 Online Safety	Children know what makes a password safe, how to keep them safe and the consequences of giving your passwords away. They understand how the Internet can be used to help us to communicate effectively and how a blog can be used to help us communicate with a wider audience. They will consider if what can be read on websites is always true by looking at a 'spoof' website then creating their own. They will think about why these sites might exist and how to check that the information is accurate. Children will learn about the meaning of age restrictions symbols on digital media and devices and discuss why PEGI restrictions exist. They will know where to turn for help if they see inappropriate content or have inappropriate contact from others.	• Children understand what makes a good password and begin to realise the outcomes of not keeping them safe. • Children can contribute to ways that the Internet can help us to communicate and have contributed to a class blog. • Children understand that some information held on websites may not be accurate or true and are beginning to understand how to search the Internet, thinking critically about the results returned. • Children have accessed and assessed a 'spoof' website and created their own 'spoof' webpage mock-up. • Children can identify some physical and emotional effects of playing/ watching inappropriate content/games. • Children relate cyberbullying to bullying in the real-world and have strategies for dealing with online bullying including screenshot and reporting.
Unit 3.3 Spreadsheets	Children will be able to add and edit data in a table layout and find out how spreadsheet programs can automatically create graphs from data. They will begin to use the 'more than', 'less than' and 'equals' tools, as well as the 'spin' tool and show how it can be used to count through times tables. Children will be introduced to the Advanced mode of 2Calculate and learn about describing cells using their addresses.	• Children can create a table of data on a spreadsheet. • Children can use a spreadsheet program to automatically create charts and graphs from data. • Children can use the 'more than', 'less than' and 'equals' tools to compare different numbers and work out solutions to calculations. • Children can use the 'spin' tool to count through times tables. • Children can describe a cell location in a spreadsheet using the notation of a letter for the column followed by a number for the row.

Unit 3.4 Touch Typing	Children will learn typing terminology and understand the correct way to sit at the keyboard. They will learn how to use the home, top and bottom row keys, then practice and improve typing for these. They will complete individual practices of the keys typed with the left and right hand.	• Children understand the names of the fingers. • Children understand what is meant by the home, bottom, and top rows. • Children have developed the ability to touch type the home, bottom, and top rows. • Children can use two hands to type the letters on the keyboard. • Children can touch type using their left hand. • Children can touch type using their right hand.
Unit 3.5 Email	Children will think about the different methods of communication and look closely at emails. They will open and respond to an email and write an email to someone from an address book, including the use of attachments. Children will learn how to use email safely and explore a simulated email scenario.	• Children can list a range of different ways to communicate and highlight the strengths and weaknesses of each method. • Children can open an email and respond to it. • Children have written rules about how to stay safe using email. • Children can read and respond to a series of email communications. • Children can attach files appropriately and use email communication to explore ideas. • Children know why the terms CC and BCC are used and understand when to use them.

Unit 3.6 Branching Databases	Children will sort objects using just YES/NO questions. They will complete a branching database using 2Question and create a branching database of their own choice.	• Children understand how YES/NO questions are structured and answered. • Children can explain why they choose a particular question to split their database. • Children have completed a branching database about vegetables. • Children can edit and adapt a branching database to accommodate new entries. • Children can choose a suitable topic for a branching database. • Children can select and save appropriate images and use these to create a branching database. • Children know how to use and debug their own and others' branching database.
Unit 3.7 Simulations	Children will find out what a simulation is and understand the purpose of simulations. They will explore a simulation, making choices and discussing their effects. They will work through and evaluate a more complex simulation.	• Children know that a computer simulation can represent real and imaginary situations and can give some examples of simulations used for fun and for work. • Children can use a simulation to try out different options and to test predictions. • Children can begin to evaluate simulations by comparing them with real situations and considering their usefulness. • Children can identify the relationships and rules on which the simulations are based. • Children can evaluate a simulation to determine its usefulness for purpose. • Children can create their own [simple] simulation.

Unit 3.8 Graphing	Children will enter data into a graph and answer questions. They will be able to solve an investigation and present the results in graphic form.	• Children can set up a graph with a given number of fields and enter data. • Children will have solved a maths investigation. • Children can present the results in a range of graphical formats. • Children will use the sorting option to make analysis of their data easier.
Unit 3.9 Presenting using PowerPoint	Children will create a page in a presentation and add media to it. They will also be able to add animations, timings, etc and use the skills learnt in to design and present an effective presentation.	• Children can add text to a page and format it. • Children can change the design of the slides. • Children can insert a new slide. • Children can insert and edit pictures. • Children can use animations and transition in a presentation. • Children can add timings to a presentation. • Children can present effectively using PowerPoint.

	Year 4	
	Knowledge / Content	Skills

Unit 4.1 Coding	To begin with, children will review previous coding vocabulary and knowledge and use this to create a simple computer program. They will begin to understand selection in computer programming and how an IF statement works. Children will learn how to use co-ordinates in computer programming and use these alongside selection and variables to create a playable game.	• Children can make use of the X and Y properties of objects in their coding. • Children can read code that includes Repeat Until and IF/ ELSE and explain how it works. • Children can create a program that includes an IF/ ELSE statement. • Children can use the correct code to make their game work. • Children can explain how their code makes their game work. • Children can create and use variables when programming.
Unit 4.2 Online Safety	Children will understand how they can protect themselves from online identity theft and understand that information put online leaves a digital footprint and can aid identity theft. They will identify the risks and benefits of installing software including apps. Children will understand that copying the work of others and presenting it as their own is called 'plagiarism' and to consider the consequences of plagiarism. They will identify appropriate behaviour when participating or contributing to collaborative online projects for learning. Children will identify the positive and negative influences of technology on health and the environment and understand the importance of balancing game and screen time with other parts of their lives.	• Children know the meaning of the term 'phishing' and are aware of the existence of scam websites. • Children can explain what a digital footprint is and how it relates to identity theft. • Children can identify possible risks of installing free and paid for software andknow what a computer virus is. • Children can determine whether activities that they undertake online, infringe another's' copyright. • Children know about citing sources that they have used. • Children can take more informed ownership of the way that they choose to use their free time. They recognise a need to find a balance between being active and digital activities.
Unit 4.3 Spreadsheets	Children will explore how the numbers entered into cells can be set to either currency, decimal or fraction and explore the use of the display of decimal places. They will find out how to add formulae to a cell, explore the use of the timer, random number and spin button tools whilst creating number games. Children will interpret a line graph to estimate values between data readings and create a model of a real-life situation.	• Children can add a formula to a cell to automatically make a calculation in that cell. • Children can use the timer, random number and spin button tools. • Children can combine tools to make fun ways to explore number. • Children can use a series of data in a spreadsheet to create a line graph and use this to find answers. • Children can use a spreadsheet made to check their understanding of a mathematical concept.
Unit 4.4 Writing for Different Audiences	Children will explore how font size and style can affect the impact of a text. They will use simulated scenarios to write for a purpose.	• Children can look at and discussed a variety of written material where the font size and type are tailored to the purpose of the text. • Children can use text formatting to make a piece of writing fit for its audience and purpose.

Unit 4.5 Logo	Children will learn common commands and constructs of the Logo programming language; a text-based coding language used to control an on-screen turtle to create mathematical patterns. They will develop their ability to input simple instructions, create letter shapes, use the Repeat command and build procedures.	• Children know what the common instructions are in 2Logo and how to type them. • Children can follow simple 2Logo instructions to create shapes on paper. • Children can create 2Logo instructions to draw patterns of increasing complexity. • Children understand the pu and pd commands. • Children can follow 2Logo code to predict the outcome. • Children can create shapes using the Repeat command. • Children can use the Procedure feature.
Unit 4.6 Animation	Children will decide what makes a good, animated film or cartoon and discuss favourite animations. They will learn how animations are created by hand and how 2Animate animations can be created in a similar way, using technology. Children will learn how onion skinning is used in animation and add backgrounds and sounds to them.	• Children have made a simple animation using 2Animate. • Children can use the Onion Skin tool to create an animated image. • Children can use backgrounds and sounds to make more complex and imaginative animations. • Children have used some of the ideas from existing 'stop motion' films to recreate their own animation.
Unit 4.7 Effective Searching	Children will use the search function effectively to locate information on the search results page and assess whether an information sources is true and reliable.	• Children can structure search queries to locate specific information. • Children have used search to answer a series of questions. • Children have written search questions for a friend to solve. • Children can analyse the contents of a web page for clues about the credibility of the information.
Unit 4.8 Hardware Investigators	Children will understand and recall the different parts that make up a computer.	• Children can name the different parts of a desktop computer. • Children know what the function of the different parts of a computer is.
Unit 4.9 Making Music	Children will be able to identify and discuss the main elements of music- pulse, rhythm, tempo, pitch and texture. They will understand and experiment with rhythm and tempo, create a melodic phrase and compose a piece of electronic music.	• Children can create their own simple rhythm using Busy Beats. • Children can create a simple melodic pattern using 2Sequence and Busy Beats. • Children can use a variety of notes, experimenting with pitch. • Children can explore and understand how music is created. • Children can experiment with pitch, rhythm and melody to create a piece of house music on Busy Beats.

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	Year 5	
	Knowledge / Content	Skills
Unit 5.1 Coding	Children will review existing coding knowledge, begin to simplify code and create playable games. They understand what a simulation is and program them using 2Code. They will take a real-life situation, decompose it and think about the level of abstraction, then use decomposition to make a plan of a real-life situation. They will begin to understand what a function is and how functions work in code, understand what the different variable types are and how they are used differently and understand how to create a string.	• Children can select the right images to reflect their simulations. • Children can make good attempts to break down their task into smaller achievable steps. • Children recognise the need to start coding at a basic level of abstraction to remove superfluous details from their program that do not contribute to the aim of the task. • Children can create a program which represents a physical system. • Children can create and use functions in their code to make their programming more efficient. • Children can set/change variable values appropriately. • Children know some ways that text variables can be used in coding. • Children can use strings to produce a range of outputs.
Unit 5.2 Online Safety	Children will gain a greater understanding of the impact that sharing digital content can have. They will review their responsibility to one another in their online behaviour and understand the advantages, disadvantages, permissions and purposes of altering an image digitally. They will become aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online. They will be able 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, as well as reference sources used in their work.	• Children know who to tell if they are upset by something online. • Children can use the SMART rules as a source of guidance online. • Children think critically about what they share online, even when asked by a usually reliable person to share something, both about themselves and others. • Children have clear ideas about good passwords. • Children have experienced how image manipulation could be used to upset them or others even using simple, freely available tools. • Children can cite all sources when researching and explain the importance of this. • Children show an understanding of the advantages and disadvantages of different forms of communication and when it is appropriate to use each.

Unit 5.3 Spreadsheets	Children will explore spreadsheets whilst converting measurements and begin to use the count tool to answer hypotheses. They will use spreadsheets to model real-life problems, use formulae to calculate area and perimeter of shapes and use text variables.	• Children can create a formula in a spreadsheet to convert measurements. • Children can use the count tool to answer hypotheses about common letters in use. • Children can use a spreadsheet to work out the area and perimeter of a shape. • Children can use these calculations to solve a real-life problem. • Children can create simple formulae that use different variables.
Unit 5.4 Databases	Children will learn how to search for information on a database and create a database around a chosen topic.	• Children can search a database in order to answer questions correctly. • Children can create their own database on a chosen topic and add records to it. • Children understand how to word questions so that they can be effectively answered using a search of their database.
Unit 5.5 Game Creator	Children will begin to set scenes, create game environments, game quests, be able to finish games and share them.	• Children can begin the process of designing their own game. • Children can design the setting for their game so that it fits with the selected theme. • Children can upload images or use the drawing tools to create the walls, floor, and roof. • Children can design characters for their game and can decide upon, and change, the animations and sounds that the characters make. • Children can write informative instructions for their game so that other people can play it.
Unit 5.6 Modelling	Children will explore the effect of moving points when designing. They will understand designing for a purpose, as well as printing and making.	• Children can adapt one of the vehicle models by moving the points to alter the shape of the vehicle while still maintaining its form. • Children can explore how to edit the polygon 3D models to design a 3D model for a purpose. • Children can refine one of their designs to prepare it for printing. • Children can print their design as a 2D net and then created a 3D model.

Unit 5.7 Concept Maps	Children will understand the need for visual representation when generating and discussing complex ideas. They will create concept maps and understand how these can be used to retell stories and information.	• Children understand what is meant by 'concept maps', 'stage', 'nodes' and 'connections'. • Children can create a basic concept map. • Children can see the importance of recording concept maps visually.
Unit 5.8 Word Processing (Microsoft Word)	Children will learn what a word processing tool is for and how to add and edit images to a word document. They will learn how to use word wrap with images and text, change the look of text within a document and add features to a document to enhance its look and usability. They will learn how to use tables within MS Word to present information and be introduced to templates whilst considering page layouts, including headings and columns.	• Children know how to add images to a word document. • Children can edit their images to best present them alongside text. • Children understand wrapping of images and text. • Children can use bullet points and numbering, text boxes and shapes. • Children can add tables to present information. • Children can edit properties of tables including borders, colours, merging cells, adding and removing rows and columns. • Children can use a Word template and edit it appropriately. • Children can format a page using a combination of images, headers and columns.
	Year 6	
	Knowledge / Content	Skills
Unit 6.1 Coding	Children will design programs using their choice of objects, attributing specific actions to each using their new programming knowledge. They will use variables within a game to keep track of the properties of objects. Children will debug a program and organise the code into tabs, using flowcharts to do this. They will create a simulation of a room in which devices can be controlled and understand how user input can be used in a program, including how 2Code can be used to make a text-based adventure game.	• Children can plan a program which includes a timer and a score. • Children can follow their plans to create a program. • Children can create a program that makes use of functions. • Children can create a program that uses multiple functions with the code arranged in tabs. • Children can follow flowcharts to create and debug code. • Children can create flowcharts for procedures. • Children can code programs that take text input from the user and use this in the program. • Children can attribute variables to user input. • Children are aware of the need to code for all possibilities when using user input. • Children can follow through the code of how a text adventure can be programmed in 2Code. • Children can design their own text-based adventure game based on one they have played.

Unit 6.2 Online Safety	Children will identify benefits and risks of mobile devices broadcasting the location of the user/device, e.g. apps accessing location. They will identify the benefits and risks of giving personal information and device access to different software, as well as identify secure sites by looking for privacy seals of approval, e.g., https, padlock icon. They will 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. Children will have a clear idea of appropriate online behaviour and how this can protect themselves and others from possible online dangers, bullying and inappropriate behaviour. They will begin to understand how information online can persist and give away details of those who share or modify it. Children will understand the importance of balancing game and screen time with other parts of their lives and identify the positive and negative influences of technology on health and the environment.	• Children have used the example game and further research to refresh their memories about risks online including sharing location, secure websites, spoof websites, phishing and other email scams. • Children have used the example game and further research to refresh their memories about the steps they can take to protect themselves including protecting their digital footprint, where to go for help, smart rules and security software. • Children understand how what they share impacts upon themselves and upon others in the long-term. • Children know about the consequences of promoting inappropriate content online and how to put a stop to such behaviour when they experience it or witness it as a bystander. • Children can take more informed ownership of the way that they choose to use their free time. They recognise a need to find a balance between being active and digital activities. • Children can talk about the positives and negative aspects of technology and balance these opposing views.
Unit 6.3 Spreadsheets	Children will explore probability and create a computational model. They will use spreadsheets in 'real life' to plan pocket money spending and plan a school event.	• Children can create a spreadsheet to answer a mathematical question relating to probability. • Children can problem solve using the count tool. • Children can use the formula wizard to create formulae. • Children can make practical use of a spreadsheet to help plan actions. • Children can use a spreadsheet to model a real-life situation and come up with solutions that can be applied to real life.

Unit 6.4 Blogging	Children will identify the purpose of writing a blog and the features of successful blog writing. They will plan the theme and content for a blog and consider the effect upon the audience of changing the visual properties. Children will understand the importance of commenting on blogs and peer-assess some against agreed success criteria. They will understand how and why blog posts and comments are approved by the teacher.	• Children understand how a blog can be used as an informative text. • Children understand the key features of a blog. • Children can create a blog or post with a specific purpose. • Children understand that the way in which information is presented has an impact upon the audience. • Children can post comments and blog posts to an existing class blog. • Children understand the approval process that their posts go through and demonstrate an awareness of the issues surrounding inappropriate posts and cyberbullying. • Children can assess the effectiveness and impact of a blog.
Unit 6.5 Text Adventures	Children will find out what a text adventure is, then plan and make a story-based adventure. They will code a map-based text adventure.	• Children can describe what a text adventure is. • Children can map out a story-based text adventure. • Children can use the full functionality of 2Create a Story Adventure mode to create, test and debug using their plan. • Children can split their adventure-game design into appropriate sections to facilitate creating it. • Children can map out an existing text adventure. • Children can create their own text-based adventure based upon a map. • Children can use coding concepts of functions, if/else statements and repeats in conjunction with one another to code their game. • Children make logical attempts to debug their code when it does not work correctly.
Unit 6.6 Networks	Children will find out what a LAN and a WAN are and how we access the internet in school. They will research and find out about the age of the internet and what the future might hold for it.	• Children can provide examples of the difference between the World Wide Web and the Internet. • Children know about their school network. • Children can explain the differences between more than two network types such as: LAN, WAN, WLAN and SAN. • Children have considered some of the major changes in technology which have taken place during their lifetime and the lifetime of their teacher/another adult.

Unit 6.7 Quizzing	Children will explore the grammar quizzes and learn how to create picture quizzes for young children. They will learn how to use the correct question types for these to function well.	• Children have used the 2DIY activities to create a picture-based quiz. • Children have considered the audience's ability level and interests when setting the quiz. • Children have ideas about what sort of questions are best suited to the different question types. • Children have used a 2Investigate quiz to answer quiz questions. • Children have designed their own quiz based on one of the 2Investigate example databases. • Children have used their knowledge of quiz types to create a quiz show quiz based on a curriculum area.
Unit 6.8 Binary	Children will examine how whole numbers are used as the basis for representing all types of data in digital systems and recognise that digital systems represent all types of data using number codes that ultimately are patterns of 1s and 0s. They will understand that binary represents numbers using 1s and 0s and these represent the on and off electrical states respectively in hardware and robotics and examine how whole numbers are used as the basis for representing all types of data in digital systems. Children will recognise that the numbers 0, 1, 2 and 3 could be represented by the patterns of two binary digits of 00, 01, 10 and 11 and learn to represent whole numbers in binary, for example counting in binary from zero to 15, or writing a friend's age in binary.	• Children can explain how all data in a computer is saved in the computer memory in a binary format. • Children can explain that binary uses only the integers 0 and 1. • Children can relate 0 to an 'off' switch and 1 to an 'on' switch. • Children can count up from 0 in binary (using visual aids if needed). • Children can relate bits to computer storage. • Children can convert numbers to binary using the division by two method. • Children can check their own answers using the converter tool. • Children can make use of a variable set to 0 or 1 to control game states.

Unit 6.9 Spreadsheets (Microsoft Excel)	Children will know what a spreadsheet looks like and navigate and enter data into cells. They will introduce some basic data formulae in Excel and demonstrate how the use of Excel can save time and effort when performing calculations. Children will be able to use a spreadsheet to model a real-life situation. They will demonstrate how Excel can make complex data clear by manipulating the way it is presented, create a variety of graphs and use formulae for percentages and averages.	• Children can navigate around a spreadsheet using cell references. • Children understand new vocabulary relating to spreadsheets: cells, columns, rows, cell names, sheets, workbook. • Children can use a spreadsheet to carry out basic calculations including addition, subtraction, multiplication and division formulae. • Children recognise how using formulae allows the data to change and the calculations to update automatically. • Children can use the SUM function • Children can use a variety of methods including flash fill, convert text to tables and splitting cells for organising and presenting their data in a spreadsheet. • Children understand how to sort data. • Children know how to incorporate formulae for percentages, averages, max and min into their spreadsheets. • Children gain familiarity with range notation in Excel. • Children know some shortcuts that help to make data meaningful. • Children begin to develop a critical eye when it comes to the conclusions that can be made from data. • Children make a chart using Excel recommendations. • Children can understand how a spreadsheet can be used to plan an event. • Children understand the advantages of using formulae when data is subject to change. • Children have modelled a real-life situation using a spreadsheet. • Children can apply new spreadsheet skills to solving problems and making data meaningful.