Computing End Points

YEAR 6		
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.	• I can plan a program which includes a timer and a score. • I can follow my plans to create a program. • I can create a program that makes use of functions. • I can create a program that uses multiple functions with the code arranged in tabs. • I can follow flowcharts to create and debug code. • I can create flowcharts for procedures. • I can code programs that take text input from the user and use this in the program. • I can attribute variables to user input. • I am aware of the need to code for all possibilities when using user input. • I can follow through the code of how a text adventure can be programmed in 2Code. • I can design my own text-based adventure game based on one I 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.	• I have used the example game and further research to refresh my memory about risks online including sharing location, secure websites, spoof websites, phishing and other email scams. • I have used the example game and further research to refresh my memory about the steps I can take to protect myself including protecting my digital footprint, where to go for help, smart rules and security software. • I understand how what I share impacts upon myself and upon others in the long-term. • I know about the consequences of promoting inappropriate content online and how to put a stop to such behaviour when I experience it or witness it as a bystander. • I can take more informed ownership of the way that I choose to use my free time. I recognise a need to find a balance between being active and digital activities. • I 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.	• I can create a spreadsheet to answer a mathematical question relating to probability. • I can problem solve using the count tool. • I can use the formula wizard to create formulae. • I can make practical use of a spreadsheet to help plan actions. • I 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	• I understand how a blog can be used as an informative text. • I understand the key features of a blog. • I can create a blog or post with a specific purpose.

	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.	• I understand that the way in which information is presented has an impact upon the audience. • I can post comments and blog posts to an existing class blog. • I understand the approval process that my posts go through and demonstrate an awareness of the issues surrounding inappropriate posts and cyberbullying. • I 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.	• I can describe what a text adventure is. • I can map out a story-based text adventure. • I can use the full functionality of 2Create a Story Adventure mode to create, test and debug using my plan. • I can split my adventure-game design into appropriate sections to facilitate creating it. • I can map out an existing text adventure. • I can create my own text-based adventure based upon a map. • I can use coding concepts of functions, if/else statements and repeats in conjunction with one another to code my game. • I make logical attempts to debug my 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.	• I can provide examples of the difference between the World Wide Web and the Internet. • I know about my school network. • I can explain the differences between more than two network types such as: LAN, WAN, WLAN and SAN. • I have considered some of the major changes in technology which have taken place during my lifetime and the lifetime of my 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.	• I have used the 2DIY activities to create a picture-based quiz. • I have considered the audience's ability level and interests when setting the quiz. • I have ideas about what sort of questions are best suited to the different question types. • I have used a 2Investigate quiz to answer quiz questions. • I have designed my own quiz based on one of the 2Investigate example databases. • I have used my 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	• I can explain how all data in a computer is saved in the computer memory in a binary format. • I can explain that binary uses only the integers 0 and 1. • I can relate 0 to an 'off' switch and 1 to an 'on' switch. • I can count up from 0 in binary (using visual aids if needed). • I can relate bits to computer storage. • I can convert numbers to binary using the division by two method. • I can check my own answers using the converter tool. • I can make use of a variable set to 0 or 1 to control game states.

	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.	
UNIT 6.9 Spreadsheets (MS 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.	• I can navigate around a spreadsheet using cell references. • I understand new vocabulary relating to spreadsheets: cells, columns, rows, cell names, sheets, workbook. • I can use a spreadsheet to carry out basic calculations including addition, subtraction, multiplication and division formulae. • I recognise how using formulae allows the data to change and the calculations to update automatically. • I can use the SUM function • I can use a variety of methods including flash fill, convert text to tables and splitting cells for organising and presenting my data in a spreadsheet. • I understand how to sort data. • I know how to incorporate formulae for percentages, averages, max and min into my spreadsheets. • I gain familiarity with range notation in Excel. • I know some shortcuts that help to make data meaningful. • I begin to develop a critical eye when it comes to the conclusions that can be made from data. • I make a chart using Excel recommendations. • I can understand how a spreadsheet can be used to plan an event. • I understand the advantages of using formulae when data is subject to change. • I have modelled a real-life situation using a spreadsheet. • I can apply new spreadsheet skills to solving problems and making data meaningful.