

COMPUTER SCIENCE: Unit 3.1 – Coding				
Lesson	Objectives	Working towards	Meeting expectations	Exceeding expectations
L1 Using Flowcharts	- To review previous coding knowledge. - To understand what a flowchart is and how flowcharts are used in computer programming.	☐ Children can design and code a program that follows a simple sequence (Unit 3.1 Lessons 1 and 2). ☐ Children can make good attempts to 'read' code and predict what will happen in a program which can help them to correct errors (Unit 3.1 Lessons 2 and 3). ☐ Children's designs for their programs, show that they are thinking of the structure of a simple program in logical, achievable steps (lessons 5 and 6).	☐ Children have a clear idea of how to design and code a program that follows a simple sequence (Unit 3.1 Lessons 2 and 3). ☐ Children experiment with the use of timers to achieve delay effects in their programs – they understand the difference between timer-after and timer-every commands. (Unit 3.1 Lesson 2) ☐ Children's designs for their programs, show that they are thinking of the structure of a simple program in logical, achievable steps with attention to specific events that initiate specific actions. (Unit 3.1 Lessons 5 & 6). ☐ Most children can explain the choice of commands they have included in their program and what they achieve (Unit 3.1 Lessons 5 & 6). ☐ Children are able to use the repeat command to program a turtle to draw a square (Unit 3.1 Lesson 3) ☐ Children are beginning to understand how code is structured and are able to apply this knowledge when debugging (Unit 3.1 Lesson 4). ☐ Most children can integrate multimedia components such as sounds, animation and images into their coding. They can apply specific actions to these objects to animate them as part of the overall process of creating their own program (Unit 3.1. Lessons 5 and 6). ☐ They can be reflective on how successful they are at creating their programs and how the previous learning has helped them (Unit 3.1.).	☐ Children's designs show that they are thinking of the required task and how to accomplish this in code (Unit 3.1 Lessons 5 & 6). ☐ Children can identify an error within a program that prevents it following the desired algorithm and then fix it (Unit 3.1). ☐ Children make intuitive attempts to debug their own programs as they increase in complexity (Unit 3.1 Lesson 4). ☐ Children are able to use the repeat command to produce outcomes beyond the set task (Unit 3.1 Lesson 3) ☐ Children have a good understanding of timers within timers in a program (Unit 3.1 Lessons 2 and 4) and this is evidenced in their program designs (Unit 3.1 Lessons 5 & 6). ☐ Children exhibit greater ease at fixing their own bugs as their coding becomes more complex. (Lessons 5 and 6).
L2 Using Timers	- To understand that there are different types of timers. - To be able to select the right type of timer for a purpose.			
L3 Using Repeat	To understand how to use the repeat command.			
L4 Code, Test and Debug	- To use coding knowledge to create a range of programs. - To understand the importance of nesting.			
L5&6 Design and Make an Interactive Scene	To design and create an interactive scene.			

DIGITAL LITERACY: Unit 3.2 – Online Safety				
Lesson	Objectives	Working towards	Meeting expectations	Exceeding expectations
L1 Safety in Numbers	- 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.	☐ With prompting, children can understand that it is important to have a secure password that is not shared with anyone else (Unit 3.2 Lesson 1). ☐ Children can give a negative example of failure to keep passwords secure (Unit 3.2 Lesson 1). ☐ Children are beginning to identify some of the main things to look for when deciding whether the information on a website is trustworthy or not (Unit 3.2 Lesson 2).	☐ Children understand the importance of a secure password and not sharing this with anyone else (Unit 3.2 Lesson 1). Furthermore, children understand the negative implications of failure to keep passwords safe and secure and can suggest examples of good and poor passwords (Unit 3.2 Lesson 1). ☐ When using the internet, children can appraise the accuracy of the information on a website and make decisions on whether it is a trustworthy source of information (Unit 3.2 Lesson 2). ☐ In lesson 1, children have a choice of topics about which to blog. Most children will have gained an understanding that it is not acceptable to use the work of others or post images of others without consent. ☐ Most children recognise the PEGI ratings and can give examples of why content is rated and how this protects them (lesson 3). ☐ Most children can contribute to a class collaborative file about the effects of inappropriate content with useful suggestions (lesson 3). ☐ Most children can answer the quiz questions in lesson 3, their answers demonstrating that they are developing their understanding of the features of online communication. ☐ In lesson 1, their blog posts and comments are appropriate. ☐ Most children can express the need to tell a trusted adult if they are upset by anything online, in lesson 3 their responses illustrate that they have taken this message onboard. ☐ Most children will be able to use Purple Mash as a platform for collaboration. Specifically, they will create a spoof website for other children to read and share on a class display board (Unit 3.2 Lesson 2). ☐ In lesson 2, most children can use suitable keywords when trying to verify sources.	☐ Children demonstrating greater depth will be able to give a clear explanation and examples of why having a secure, confidential password is essential and give negative examples of it not being secure and confidential (Unit 3.2 Lesson 1). ☐ Children will be able to appraise the accuracy of information shared on a website and provide suitable evidence to support their decisions on whether it is trustworthy or not (Unit 3.2 Lesson 2).
L2 Fact or Fiction?	- To consider if what can be read on websites is always true. - To look at a 'spoof' website. - To create a 'spoof' webpage. - To think about why these sites might exist and how to check that the information is accurate.			
L3 Appropriate Content & Ratings	- 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.			

INFORMATION TECHNOLOGY: Unit 3.3 – Spreadsheets				
Lessons	Objectives	Working towards	Meeting expectations	Exceeding expectations
L1 Creating Pie Charts and Bar Graphs	- To add and edit data in a table layout. - To find out how spreadsheet programs can automatically create graphs from data.	- Children know that they can use a spreadsheet to present their collected data as a chart or graph (lesson 1). - With support, they can create and begin to interpret graphs of simple data. - They are beginning to understand the use of symbols to represent more than, less than and equals to and use the spreadsheet tools to explore the outcome of comparing numbers and calculations (lesson 2). - Children can find specific cell locations within a spreadsheet (lesson 3).	- Most children can create a table of data on a spreadsheet and can use this to automatically create charts/graphs from data. - Children will be able to select the most suitable type of chart to use for their data, edit headers and apply axis labels (Unit 3.3. Lesson 1). - Children can create their own number lines within 2Calculate including 'more than', 'less than' and 'equal' tools (Unit 3.3. Lesson 2). - Children can collect and enter data within 2Calculate, they are able to use the graphing tool to create suitable graphical representations of the data they have within a table (Unit 3.3. Lesson 1).	Children demonstrating greater depth will explore more complex functioning of the 2Calculate tools to create their own spreadsheets to explore number and interpret their own data.
L2 Using more than and Spin Button Tools	- To introduce the 'more than', 'less than' and 'equals' tools. - To introduce the 'spin' tool and show how it can be used to count through times tables.			
L3 Advanced Mode and Cell Addresses	- To introduce the Advanced mode of 2Calculate. - To learn about describing cells using their addresses.			

INFORMATION TECHNOLOGY: Unit 3.4 – Touch Typing

Lessons	Objective	Working towards	Meeting expectations	Exceeding expectations
L1 Home, Top and Bottom Row Keys	- To introduce typing terminology. - To understand the correct way to sit at the keyboard. - To learn how to use the home, top and bottom row keys.	☐ Children are developing their touch-typing skills and recognise the importance of positioning of their hands in relation to 'home, bottom and top row. ☐ They are beginning to use both hands when typing with improving typing accuracy and speed. ☐ Children can reflect on their progress and where they need to improve (Unit 3.4 All lessons).	☐ Children have developed their touch-typing skills and understand how to touch type using the home, bottom and top row keys using both hands. Children can apply these skills to all units. ☐ Most children will be able to reflect upon how successful they have been with their typing skills and are able to compare their current progress against previous (Unit 3.4 All lessons).	☐ Children type with accuracy and suitable pace, positioning their hands correctly in relation to the home, bottom and top row keys using both hands. ☐ They are able to reflect on their progress and are beginning to explore less familiar keys (Unit 3.4 All lessons).
L2 Home, Top and Bottom Row Keys (Consolidation)	To practice and improve typing for home, bottom, and top rows.			
L3 Left Keys	To practice the keys typed with the left hand.			
L4 Right Keys	To practice the keys typed with the right hand.			

DIGITAL LITERACY: Unit 3.5 – Email

Lessons	Objective	Working towards	Meeting expectations	Exceeding expectations
L1 Communication	To think about the different methods of communication.	- With prompting, children can list a range of ways the internet can be used to provide different methods of communication. - Using 2Connect (Unit 3.5 Lesson 1) they can identify the disadvantages and advantages of each method.	- Children can list a range of ways the internet can be used to provide different methods of communication. Using 2Connect (Unit 3.5 Lesson 1) they can explain and compare each communication method. - Most children will be able to exchange email communications using 2Email. This will take the form of both simulated email communication scenarios and real email communication with their peers. (Unit 3.5 Lessons 2-6)	- Children can provide a comprehensive list of the range of ways the internet can be used to provided different methods of communication. - Using 2Connect (Unit 3.5 Lesson 1) they can explain the benefits and drawbacks of each communication method and provide life scenarios where each one could be used.
L2 Composing Emails	- To open and respond to an email. - To write an email to someone from an address book.	- With some support, children can open, respond, and send emails to others in the class (Unit 3.5 Lesson 2) and demonstrate a basic understanding of email conventions and safety (Unit 3.5 Lesson 3 & 4). - They are aware of how to attach files to an email (Unit 3.5 Lesson 6). - With support throughout, children will use 2Email and 2Quiz to develop their understanding and knowledge of email systems.	- Most children will be able to open and respond to an email, altering the size of the font, as well as the formatting of the text. - They will be able to select a person from their address book and compose a suitable email to send them (Unit 3.5. Lesson 2). - Children will be able to add attachments to an email they compose and use the CC functionality correctly (unit 3.5. Lesson 5). - They will recognise obvious errors such as spelling due to the inbuilt wizard and will use their editing skills to address such errors.	- With ease, children open, respond and send emails to others in the class (Unit 3.5 Lesson 2). - They are not only able to demonstrate an understanding of email conventions and keeping safe but can explain why conventions and certain recognised positive behaviours are expected and the possible consequences of not abiding by them (Unit 3.5 Lessons 3 & 4). - They know how to attach files to emails and can explain why we must be careful with attachments (Unit 3.5 Lesson 6).
L3&4 Using Email Safely	To learn how to use email safely.	Using the software, children will create a simple quiz with a limited number of questions (Unit 3.5 Lesson 4) and attach this file in a guided situation (Unit 3.5 Lesson 5) to an email.	- Children understand the importance of staying safe (Unit 3.5 Lesson 3) when using email and have demonstrated knowledge of this through the writing of class rules for their conduct when using email systems (Unit 3.5 Lesson 3). - Children apply their knowledge of email safety through the creation of a quiz on staying safe when emailing (Unit 3.5 Lesson 4).	- Children demonstrating greater depth will exhibit their ability to support others during this unit. - Using the software, children will create a quiz and further resources (Unit 3.5 Lesson 4) and attach these as multiple files (Unit 3.5 Lesson 5) to an email in response to a fictional email from a well-known character.
L5 Attachments	To add an attachment to an email.	Children will demonstrate some understanding about how this information needs to be presented (Unit 3.5 Lesson 2).	- In lesson 3, children can suggest why they need to seek permission before sharing photos. - In lesson 1, children can refer to what they learnt in Unit 3.2 regarding Online Safety when suggesting the way to communicate appropriately online.	Children demonstrating greater depth can justify and explain why they have presented information in the way that they have (Unit 3.5 Lesson 2).
L6 Email Simulations	To explore a simulated email scenario.	- With support, children understand the importance of staying safe (Unit 3.5 Lesson 3) when using email and will partially demonstrate this knowledge during the unit. - As part of a small, guided group, children apply their knowledge of email safety through the creation of a quiz on staying safe when emailing (Unit 3.5 Lesson 4).	- Children's email messages illustrate that they have taken on board messages about appropriate communication with a regard for their audience. - In lesson 3, this forms part of the slideshow discussion., children include this as part of their guidelines for step 5. - Most children will be able to evaluate and explain the effectiveness of different methods of communication and collate these in a concept map using 2Connect (Unit 3.5 Lesson 1).	- Children demonstrating greater depth, understand the importance of staying safe (Unit 3.5 Lesson 3) when using email and can apply these principles to the related aspects of messaging. - Children demonstrate their knowledge through taking an active role in the writing of class rules and quiz creation on appropriate conduct when using email systems and can expand on their points to explain their reasoning (Unit 3.5 Lesson 3).

INFORMATION TECHNOLOGY: Unit 3.6 – Branching Databases				
Lessons	Objective	Working towards	Meeting expectations	Exceeding expectations
L1 Introducing Databases	To sort objects using just YES/NO questions.	- With support and using concrete paper resources, children will begin to understand what a branching database is (Unit 3.6 Lesson 1). - In a small, supported group, they will collect, sort, and present their information using the paper resources. - Children will then turn their paper branching database into a digital version using 2Question (Unit 3.6 Lesson 2, 3 and 4). The resulting branching database will demonstrate a limited number of branches.	- Using 2 Question, children will learn how to create a branching database that accomplishes a given goal. They will understand how to collect, analyse, evaluate, and present their data and information throughout the unit initially as a paper Yes/No game (Unit 3.6 Lesson 1) and then as a digital version of a branching database (Unit 3.6 Lesson 2, 3 and 4). - Most children can create a branching database and are able to successfully debug it to improve the quality of their digital content creation. Their branching database would have been carefully planned before utilising 2Question (Unit 3.6. Lessons 3 & 4). - Most children will be able to create a branching database which includes suitable text, titles and gathering of appropriate images from online and importing them (Unit 3.6. Lessons 3 & 4). - Children can make their own branching databases, collating and organising data by sets of questions they have considered appropriate (Unit 3.6 Lesson 1). - Children analyse each other's branching databases and can make further suggestions for improvement (Unit 3.6 Lessons 3 & 4).	- Children demonstrating greater depth understand the specific characteristics of a branching database and its application in real world situations. - Furthermore, they understand the needs of the end user and can adapt their program to reflect this using supporting information (Notes can be added to each layer of the branching database).
L2 Branching Databases	To complete a branching database using 2Question.			
L3&4 Creating a branching database on the computer	To create a branching database of the children's choice.			

INFORMATION TECHNOLOGY: Unit 3.7 – Simulations				
Lessons	Objective	Working towards	Meeting expectations	Exceeding expectations
L1 What Are Simulations?	To find out what a simulation is and understand the purpose of simulations.	☐ With support throughout, children are beginning to analyse and evaluate information relating to the situations in the activities within 2Simulate (Unit 3.7 Lesson 2 and 3).	☐ Using 2Simulate, children can analyse and evaluate information relating to the situations in the activities (Unit 3.7 Lesson 2 and 3).	☐ Children demonstrating greater depth, will use 2Simulate to analyse, evaluate, identify patterns, and predict the outcomes of simulated scenarios (Unit 3.7 Lesson 2 and 3).
L2 Exploring a Simulation	To explore a simulation, making choices and discussing their effects.	☐ They can verbally present their findings as part of a discussion (Unit 3.7 Lesson 2 and 3). ☐ Although their understanding may be limited, they are beginning to understand the importance of simulations in relation to real and hypothetical situations (Unit 3.7 Lesson 1).	☐ They present their findings as part of a discussion and give reasons for the choices they made (Unit 3.7 Lesson 2 and 3). ☐ They will understand the importance of simulations to replicate events that could occur in real and hypothetical situations (Unit 3.7 Lesson 1).	☐ They will present their predictions and findings as part of a discussion and give detailed explanations for the choices they have made (Unit 3.7 Lesson 2 and 3).
L3 Analysing and Evaluating a Simulation	To work through and evaluate a more complex simulation.		☐ Most children can effectively assess their own and others' progress and achievements through a simulation. ☐ Additionally, they can evaluate the effectiveness of the simulation (Unit 3.7 Lesson 3).	☐ Children demonstrating greater depth will not only understand the importance of simulations to replicate events but will also identify where simulations are used in everyday life (Unit 3.7 Lesson 1).

INFORMATION TECHNOLOGY: Unit 3.8 – Graphing				
Lessons	Objective	Working towards	Meeting expectations	Exceeding expectations
L1 Introducing 2Graph	To enter data into a graph and answer questions.	- With support throughout, children use 2Graph to enter a simple data range on a limited number of fields. - Children can then present their data as a simple bar chart (Unit 3.8 Lesson 1).	- Children use 2Graph to enter data on a given number of fields and then present their data as a graph (Unit 3.8 Lesson 1). - Children can select the most appropriate graph format to present their data. Independently, children can apply their graphical knowledge to an investigation of an everyday event, linked, where possible to the curriculum (Unit 3.8 Lesson 2). - Furthermore, children present their graph by sharing it on a class blog (Unit 3.8 Lesson 2). - Most children can set up a graph within 2Graph with a given number of fields, enter data and manipulate the presentation of it using: Sort, block size, additional rows and editing of labels (Unit 3.8 Lesson 1). - They can create further digital content within the context of the data they have collected by importing it into a pre-made writing template (Unit 3.8 Lesson 2). - Most children can present information in a range of graphical formats which includes attention to detail regarding appropriate labelling and block sizing (Unit 3.8 Lesson 2). - Children can use 2Graph to enter collected data and represent it using an appropriate graph type. - They can sort data using sort features for easier analysis (Unit 3.8 Lesson 1) and can share their graphs with other children via 2Blog, appropriately commenting on their results e.g., from a maths investigation, particularly any surprising results (Unit 3.8 Lesson 2).	- Children demonstrating greater depth will select the most appropriate graph format to present their data and explain their reasoning behind this (Unit 3.8 Lesson 1). - They will experiment with different types of charts and determine the most suitable. - They will also explore the ways of presenting data so that it can be graphically represented.
L2 Using 2Graph to Solve an Investigation	To solve an investigation and present the results in graphic form.	In a small, supported group, children will complete an investigation of an everyday event, linked, where possible to the curriculum (Unit 3.8 Lesson 2.).		

INFORMATION TECHNOLOGY: Unit 3.9 – Presenting (with Google Slides)				
Lessons	Objective	Working towards	Meeting expectations	Exceeding expectations
L1 Making a Presentation from a Blank Page	To create a page in a presentation.	☐ Children know that presentation software allows the user to put together a file made of slides to present. Slides can include text, images, animations and sounds. ☐ With support children can add text, pictures and shapes to a slide. ☐ Children can insert slides into a presentation though they might not be able to anticipate the order of the slides. ☐ Children know that slides can have animations and can add transition animations with support.	☐ Children can add text, pictures and shapes to a slide and format them with tools such as shadows and borders. ☐ Children can insert slides into a presentation. ☐ Children can use transition effects between slides and animations of the objects in slides.	☐ Children can incorporate video and audio into slideshows. ☐ Children appraise the animation effects available to them and make decisions about what to include and what to leave out for the most effective presentation.
L2 Adding Media	To add media to a presentation			
L3 Adding Shapes and Lines	To add shapes and lines to a presentation.			
L4 Adding Animation	To add animations into a presentation.			
L5&6 Create a Presentation	To use the skills learnt in previous weeks to design and present an effective presentation.			