



Woodborough Woods CofE
Foundation School

Computing Curriculum Booklet

Containing the key substantive and disciplinary knowledge



Our School Vision

Woodborough Woods is a school with a Christian foundation, which seeks to express its Christian character by serving families in the local community and by providing a Christian ethos where children and their families can feel valued. There is an opportunity to experience the meaning of the Christian faith in the welcome that is offered to all and in the relationships of love and respect that characterise the shared life of the school. Designed to be sequential, this curriculum enables pupils to build knowledge and skills by making links with previous learning; this is shown in our progression documents. By fostering an enjoyment of learning, our children are given the opportunity to develop as independent, resilient pupils who are equipped with the ability to use their knowledge and skills to make wise choices as they take their place in the world.

The school's direction stems from its Vision Statement: 'Grow Together' following Jesus' example to 'Love your neighbour as you love yourself' (Matthew 22:37-39) because through love for one another, we can build a strong learning community ensuring that everyone has the opportunity to flourish. It recognises the importance of the community it serves, and seeks to build relationships based on kindness and respect. It will strive to be a place where Christian priorities and values inform every subject in the curriculum and are reflected in the day to day life of the school.

We believe that the children are the centre of all our work here and we strive to ensure our school is one with a happy and caring environment. We take pride in promoting the highest standards of conduct and achievement allowing children the security and confidence to reach their full potential.

As a Church of England Voluntary Aided school, our aim is to provide this secure environment, firmly rooted in Christian values. We believe that the education of children is a partnership, one between parents, teachers and governors all working together to provide the best interests for the children in our care.

Our vision:

The use of computers and computer systems is an integral part of the National Curriculum and knowing how they work is a key life skill. In an increasingly digital world there now exists a wealth of software, tools and technologies that can be used to communicate, collaborate, express ideas and create digital content. At Woodborough Woods School, we recognise that pupils are entitled to a broad and balanced computing education with a structured, progressive, approach to the learning how computer systems work, the use of IT and the skills necessary to become digitally literate and participate fully in the modern world.

Intent:

The school believes that I.T, computer science and digital literacy has the following intent:

- To provide children with the life skills necessary to fully participate in the modern digital world.
- To allow children to become creators of digital content rather than simply consumers of it.
- To provide access to a rich and varied source of information and content.
- To enable children to communicate and present information in new ways, which helps pupils understand, access and use it more readily.
- To motivate and enthuse pupils.
- To offer opportunities for communication and collaboration through group working both inside and outside of school.
- To have the flexibility to meet the individual needs and abilities of each pupil.

Features of effective Computing teaching and learning:

At Woods Foundation, we believe these features demonstrate best practice in the teaching and learning of science. Whilst not every lesson may exhibit every feature, over the course of their learning in a science unit, all of the following features would be evident.

Teachers have a high level of specialist knowledge.
Lessons offer active learning in computing, which ensures pupils' achievement.
Teachers plan imaginative and creative lessons using a range of age appropriate hardware and software resources.
Lessons use a range of contexts so children understand the value of ICT and it's impact on society and how it relates to their lives.
Effective dialogue and feedback linked to technology vocabulary is given.
Lessons address pupils' misconceptions very effectively.
Pupils have opportunities to investigate, ask and answer questions and work collaboratively.
Lessons have high expectations and promote positive values and attitudes.

Long Term Plan

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Online Safety Grouping and sorting	Pictograms Lego Builders	Online Safety Maze Explorers	Animated Stories	Online Safety Coding	Spreadsheets Technology Outside School
Year 2	Online Safety Coding	Spreadsheets	Online Safety Questioning	Effective Searching Making Music	Online Safety Creating Pictures	Presenting Ideas
Year 3	Online Safety Coding	Spreadsheets	Online Safety Touch Typing Email	Branching databases Simulations	Online Safety Simulations Presenting (Google slides)	Graphing Presenting (MS PP)
Year 4	Online Safety Coding	Spreadsheets	Online Safety Writing for Different Audiences	Logo Animation	Online Safety Effective Searching	Hardware Investigators Making Music
Year 5	Online Safety Coding	Spreadsheets	Online Safety Databases	Game Creator Using External Devices	Online Safety 3D Modelling Concept Mags	Word Processing (Google/Word)
Year 6	Online Safety Coding	Spreadsheets	Online Safety Blogging Text Adventures	Networks Quizzing	Online Safety Binary	Spreadsheets (Google MS Excel)

Computing Progression 2022-2023

	R	1	2	3	4	5	6
Computer science		<p>To know that an algorithm is a set of instructions used to solve a problem.</p> <p>To know that a computer program turns an algorithm into code that the computer can understand.</p> <p>To know how to write a simple algorithm.</p> <p>To know how to read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program.</p>	<p>To know that an algorithm is a set of instructions to complete a task.</p> <p>To know that when designing a simple program you need to be precise with algorithms so that they can be successfully converted into code.</p> <p>To know how to create a simple program that achieves a specific purpose.</p> <p>To know how to design a display a growing awareness of the need for logical, programmable steps.</p> <p>To know how to identify the parts of a program that respond to specific events and initiate specific actions.</p> <p>To know how to write a cause and effect sentence of what will happen in a program.</p>	<p>To know how to turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts.</p> <p>To know how to design and code a program that follows a simple sequence.</p> <p>To know how to use timers to achieve repetition.</p> <p>To know how to begin to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition effects.</p> <p>To know how to design a program using a logical structure and achievable steps.</p> <p>To know how to make effective use of repetition and timers.</p>	<p>To know how to use coding structures for selection and repetition when writing an algorithm.</p> <p>To know how to use repetition when designing a program.</p> <p>To know how to use 'IF statements' for selection and attempt to combine these with other coding structures including variables.</p> <p>To know how to combine sequence, selection and repetition with other coding structures to achieve their algorithm design.</p>	<p>To know how to attempt to turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts.</p> <p>To know how to translate algorithms that include sequence, selection and repetition into code including using their own designs.</p> <p>To know how to combine sequence, selection and repetition with other coding structures.</p> <p>To know how to use tabs and named variables to organise and structure code.</p>	<p>To know how to turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs.</p> <p>To know how to translate algorithms that include sequence, selection and repetition into code and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures, including nesting structures within each other.</p> <p>To know how to use a more complex range of variables in coding, outputs such as sound and movement, inputs from the user of the program such as button clicks and the value of functions.</p> <p>To know how to interpret parts of a program and make</p>

							logical attempts to put separate parts of a complex algorithm together.
		<p>To know how to work out what is wrong with a simple algorithm when the steps are out of order.</p> <p>To know how to make logical attempts to fix the code.</p>	To know how to identify and correct errors in a simple program.	<p>To know strategies to identify an error within their program that prevents it following the desired algorithm and then fix it.</p> <p>To know how to begin to 'step through' more complex code in order to identify errors in algorithms.</p>	To know how to structure code in terms of the ability to debug and interpret the code later, e.g. the use of tabs to organise code and the naming of variables.	<p>To know how to test and debug their programs as they go and can use logical methods to identify the approximate cause of any bug but may need some support identifying the specific line of code.</p> <p>To know how to structure code so that in a way that makes debugging easy.</p>	To know how to test and debug their program as they go and use logical methods to identify the cause of bugs, demonstrating a systematic approach to try to identify a particular line of code causing a problem.
				<p>To know a range of ways that the Internet can be used to provide different methods of communication.</p> <p>To know how to use some different online methods of communication.</p>	<p>To know what a computer network is and name some associated dangers.</p> <p>To know what personal information is and suggest some ways how this can be kept safe.</p> <p>To know how to suggest the most appropriate form of online communications contingent on audience and digital content.</p>	<p>To know and understand computer networks and a range of associated dangers.</p> <p>To know what personal information is and describe in detail how this can be kept safe.</p> <p>To know with increasing confidence how to select the most appropriate form of online communications depending on a range of audience and digital content.</p>	<p>To know the differences between the internet and the World Wide Web.</p> <p>To know what a WAN and LAN are and can describe how they access the Internet in school.</p>
Information Technology		Children are able to sort, collate, edit and store simple	To know how to organise data using, for example, a	Children can carry out simple searches to retrieve digital	Children understand the function, features and layout of a	Children search with greater complexity for digital content	Children make clear connections to the audience when

		<p>digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources.</p>	<p>database, and can retrieve specific data for conducting simple searches.</p> <p>To know how to edit more complex digital data such as music compositions.</p> <p>To know how to create, name, save and retrieve content.</p> <p>To know how to use photos, text and sound in their digital content.</p>	<p>content. They understand that to do this, they are connecting to the internet and using a search engine.</p> <p>Children can collect, analyse, evaluate and present data and information using a selection of software.</p> <p>Children can consider what software is most appropriate for a given task. They can create purposeful content to attach to emails.</p>	<p>search engine. They can appraise selected webpages for credibility and information at a basic level.</p> <p>Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked content using a range of software.</p> <p>Children share digital content within their community, i.e. using Virtual Display Boards.</p>	<p>when using a search engine. They are able to explain in some detail how credible a webpage is and the information it contains.</p> <p>Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. e.g. creating their own program to meet a design brief. They objectively review solutions from others. Children are able to collaboratively create content and solutions using digital features within software such as collaborative mode. They are able to use several ways of sharing digital content.</p>	<p>designing and creating digital content. The children design and create their own blogs to become a content creator on the Internet.</p> <p>They are able to use criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements.</p> <p>Children readily apply filters when searching for digital content. They are able to explain in detail how credible a webpage is and the information it contains. They compare a range of digital content sources and are able to rate them in terms of content quality and accuracy.</p> <p>Children use critical thinking skills in everyday use of online communication.</p>
Digital Literacy		<p>Children understand what is meant by technology and can identify a variety of examples both in and out of school. They can make a distinction between objects that use modern technology and those that do not e.g. a microwave vs. a chair.</p>	<p>Children can effectively retrieve relevant, purposeful digital content using a search engine. They can apply their learning of effective searching beyond the classroom. They can share this knowledge.</p> <p>Children make links between technology they see around</p>	<p>Children demonstrate the importance of having a secure password and not sharing this with anyone else. Furthermore, children can explain the negative implications of failure to keep</p>	<p>Children can explore key concepts relating to online safety using concept mapping. They can help others to understand the importance of online safety. Children know a range of ways of reporting</p>	<p>Children have a secure knowledge of common online safety rules and can apply this by demonstrating the safe and respectful use of a few different technologies and online services.</p> <p>Children implicitly relate appropriate online behaviour to</p>	<p>Children demonstrate the safe and respectful use of a range of different technologies and online services. They identify more discreet inappropriate behaviours through developing critical thinking. They</p>

		<p>Children understand the importance of keeping information, such as their usernames and passwords, private and actively demonstrate this in lessons.</p> <p>Children take ownership of their work and save this in their own private space.</p>	<p>them, coding and multimedia work they do in school e.g. animations, interactive code and programs.</p>	<p>passwords safe and secure. They understand the importance of staying safe and the importance of their conduct when using familiar communication tools. They know more than one way to report unacceptable content and contact.</p>	<p>inappropriate content and contact.</p>	<p>their right to personal privacy and mental wellbeing of themselves and others</p>	<p>recognise the value in preserving their privacy when online for their own and other people's safety.</p>
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Our Computing overview by year group

Year 1 Medium term plans

Online Safety

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Safe Logins	<ul style="list-style-type: none"> • To log in safely and understand why that is important. • To create an avatar and to understand what this is and how it is used. • To be able to create a picture and add their own name to it. • To start to understand the idea of 'ownership' of creative work. • To save work to the My Work area and understand that this is private space. 	<ul style="list-style-type: none"> • Children can log in to Purple Mash using their own login. • Children have created their own avatar and understand why they are used. • Children can add their name to a picture they created on the computer. • Children are beginning to develop an understanding of ownership of work online. • Children can save work into the My Work folder in Purple Mash and understand that this is a private saving space just for their work.
<u>2</u>	My Work Area	<ul style="list-style-type: none"> • To learn how to find saved work in the Online Work area. • To learn about what the teacher has access to in Purple Mash. • To learn how to see messages left by the teacher on their work. • To learn how to search Purple Mash to find resources. 	<ul style="list-style-type: none"> • Children can find their saved work in the Online Work area of Purple Mash. • Children can find messages that their teacher has left for them on Purple Mash. • Children can search Purple Mash to find resources.
<u>3</u>	Purple Mash Topics	<ul style="list-style-type: none"> • To become familiar with the types of resources available in the Topics section. • To become more familiar with the icons used in the resources in the Topics section. • To start to add pictures and text to work. 	<ul style="list-style-type: none"> • Children will be able to use the different types of topic templates in the Topics section confidently. • Children will be confident with the functionality of the icons in the topic templates. • Children will know how to use the different icons and writing cues to add pictures and text to their work.
<u>4</u>	Purple Mash Tools	<ul style="list-style-type: none"> • To explore the Tools area of Purple Mash and to learn about the common icons used in Purple Mash for Save, Print, Open, New. • To explore the Games area on Purple Mash. • To understand the importance of logging out when they have finished. 	<ul style="list-style-type: none"> • Children have explored the Tools section on Purple Mash and become familiar with some of the key icons: Save, Print, Open and New. • Children have explored the Games section and looked at Table Toons (2x tables). • Children can log out of Purple Mash when they have finished using it and know why that is important.

Grouping & Sorting

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Sorting Away from the Computer	<ul style="list-style-type: none"> To sort items using a range of criteria. 	<ul style="list-style-type: none"> Children can sort various items offline using a variety of criteria.
<u>2</u>	Sorting on the Computer	<ul style="list-style-type: none"> To sort items on the computer using the 'Grouping' activities in Purple Mash. 	<ul style="list-style-type: none"> Children have used Purple Mash activities to sort various items online using a variety of criteria.

Lego Builders

Lesson	Title	Aims (Objectives)	Success Criteria
1	Following Instructions	<ul style="list-style-type: none"> To emphasise the importance of following instructions. 	<ul style="list-style-type: none"> Children know that to achieve the effect they want when building something, they need to follow accurate instructions. Children know that by following the instructions correctly, they will get the correct result. Children know that an algorithm is a precise, step-by-step set of instructions used to solve a problem or achieve an objective.
2	Following and Creating Simple Instructions on the Computer.	<ul style="list-style-type: none"> To follow and create simple instructions on the computer. 	<ul style="list-style-type: none"> Children can follow instructions in a computer program. Children can explain the effect of carrying out a task with no instructions. Children know that computers need precise instructions to follow. Children know that an algorithm written for a computer to follow is called a program.
3	To consider how the order of instructions affects the result.	<ul style="list-style-type: none"> To consider how the order of instructions affects the result. 	<ul style="list-style-type: none"> 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'.

Maze Explorers

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Challenges 1 and 2	<ul style="list-style-type: none"> To understand the functionality of the basic direction keys in Challenges 1 and 2. To be able to use the direction keys to complete the challenges successfully. 	<ul style="list-style-type: none"> 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 Challenge 2. Children know how to undo their last move. Children know how to move their character back to the starting point.
<u>2</u>	Challenges 3 and 4	<ul style="list-style-type: none"> To understand the functionality of the basic direction keys in Challenges 3 and 4. To understand how to create and debug a set of instructions (algorithm). 	<ul style="list-style-type: none"> Children can use diagonal direction keys to move the characters in the right direction. Children know how to create a simple algorithm. Children know how to debug their algorithm.
<u>3</u>	Challenges 5 and 6	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Children can use the additional direction keys to create a new algorithm. Children can challenge themselves by using the longer algorithm to complete challenges.
<u>4</u>	Setting More Challenges	<ul style="list-style-type: none"> To provide an opportunity for the children to set challenges for each other. To provide an opportunity for the teacher to add these challenges to a display board for the class to try. 	<ul style="list-style-type: none"> Children can change the background images in their chosen challenge and save their new challenge. Children have tried each other's challenges.

Animated Stories

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Drawing and Creating	<ul style="list-style-type: none"> To understand the differences between traditional books and e-books. To explore the tools of 2Create a Story's My Simple Story level. To save the page they have created. 	<ul style="list-style-type: none"> Children know the difference between a traditional book and an e-book. Children can use the different drawing tools to create a picture on the page. Children can add text to a page.
<u>2</u>	Animation	<ul style="list-style-type: none"> To add animation to a picture. To play the pages created so far. To save the additional changes and overwrite the file. 	<ul style="list-style-type: none"> Children can open previously saved work. Children can add an animation to a page. Children can play the pages created. Children can save changes and overwrite the file.
<u>3</u>	Sounds and More!	<ul style="list-style-type: none"> To add a sound effect to a picture. To add a voice recording to the picture. To add created music to the picture. 	<ul style="list-style-type: none"> Children can add a sound to the page. Children can add voice recording to the page. Children can create music for a page.
<u>4</u>	Making a Story	<ul style="list-style-type: none"> To add a background to the story. To demonstrate a good understanding of all the tools they have used in 2Create a Story and use these successfully to create their own story. 	<ul style="list-style-type: none"> Children can add a background to the page. Children can use the additional drawing tools on My Story mode. Children can change the font style and size.
<u>5</u>	Copy and Paste	<ul style="list-style-type: none"> To use the copy and paste feature to create additional pages. To continue and complete an animated story. To create a class display board of the story books created by the class. 	<ul style="list-style-type: none"> Children can use the copy and paste function to add more pages to their animated e-book. Children can share their e-books on a class story book display board.

Coding

Lesson	Title		Success Criteria
<u>1</u>	Instructions	<ul style="list-style-type: none"> • To understand what instructions are. • To predict what will happen when instructions are followed. • To understand that computer programs work by following instructions called code. 	<ul style="list-style-type: none"> • Children can give and follow instructions. • Children can draw symbols to represent instructions. • Children can arrange code blocks to create a set of instructions.
<u>2</u>	Objects and Actions	<ul style="list-style-type: none"> • To use code to make a computer program. • To understand what objects and actions are. 	<ul style="list-style-type: none"> • Children can create a program using code blocks. • Children can use object and action code blocks.
<u>3</u>	Events	<ul style="list-style-type: none"> • To understand what an event is. • To use an event to control an object. 	<ul style="list-style-type: none"> • Children can create a simple program using code blocks. • Children can use event, object and action code blocks.
<u>4</u>	When Code Executes	<ul style="list-style-type: none"> • To understand what an event is. • To begin to understand how code executes when a program is run. 	<ul style="list-style-type: none"> • Children can create a simple program using code blocks. • Children can use event, object and action code blocks. • Children can notice when their code executes when their program is run.
<u>5</u>	Setting the Scene	<ul style="list-style-type: none"> • To understand what backgrounds and objects are. • To understand how to use the scale attribute (property). 	<ul style="list-style-type: none"> • Children can edit a scene by adding, deleting and moving objects. • Children can change the size of objects using the attributes (properties) table.
<u>6</u>	Using a Plan	<ul style="list-style-type: none"> • To plan a computer program. • To make a computer program. 	<ul style="list-style-type: none"> • Children can create a design plan for their Free Code Scene program. • Children can use code to make the program they have designed work.

Spreadsheets

Lesson	Title		Success Criteria
<u>1</u>	Introduction to Spreadsheets	<ul style="list-style-type: none"> To understand what a spreadsheet looks like. To be able to navigate around a spread sheet and enter data. To learn new vocabulary related to spreadsheets. 	<ul style="list-style-type: none"> Children can navigate around a spreadsheet. Children can explain what rows and columns are. Children can save and open sheets. Children can enter data into cells.
<u>2</u>	Adding Images to a Spreadsheet and Using the Image Toolbox	<ul style="list-style-type: none"> To add clipart images to a spreadsheet. To use the 'move cell' and 'lock' tools. 	<ul style="list-style-type: none"> Children can open the Image toolbox and find and add clipart. Children can use the 'move cell' tool so that images can be dragged around the spreadsheet. Children can use the 'lock' tool to prevent changes to cells.
<u>3</u>	Using the 'Speak' and 'Count' Tools in 2Calculate to Count Items	<ul style="list-style-type: none"> To use the 'speak' and 'count' tools in 2Calculate to count items. 	<ul style="list-style-type: none"> Children can give images a value that the spreadsheet can use to count them. Children can add the count tool to count items. Children can add the speak tool so that the items are counted out loud. Children can use a spreadsheet to help work out a fair way to share items (Extension)

Tech Outside School

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	What is Technology?	<ul style="list-style-type: none"> To find and understand examples of where technology is used in the local community 	<ul style="list-style-type: none"> Children understand what is meant by 'technology'. Children have considered types of technology used in school and out of school.
<u>2</u>	Technology outside school.	<ul style="list-style-type: none"> To record examples of technology outside school. 	<ul style="list-style-type: none"> Children have recorded 4 examples of where technology is used away from school.

Year 2 Medium term plans

Coding

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Algorithms	<ul style="list-style-type: none"> To understand what an algorithm is. To create a computer program using an algorithm. 	<ul style="list-style-type: none"> Children can explain that an algorithm is a set of instructions. Children can describe the algorithms they created. Children can explain that for the computer to make something happen, it needs to follow clear instructions.
<u>2</u>	Collision Detection	<ul style="list-style-type: none"> To create a program using a given design. To understand the collision detection event. 	<ul style="list-style-type: none"> Children can plan an algorithm that includes collision detection. Children can create a program using collision detection. Children read blocks of code and predict what will happen when it is run.
<u>3</u>	Using a Timer	<ul style="list-style-type: none"> To understand that algorithms follow a sequence. To design an algorithm that follows a timed sequence. 	<ul style="list-style-type: none"> Children can create a program that uses a timer-after command. Children can explain what the timer-after command does in their program. Children can predict what will happen in a program that includes a timer-after command.
<u>4</u>	Different Object Types	<ul style="list-style-type: none"> To understand that different objects have different attributes (properties). To understand what different events do in code. 	<ul style="list-style-type: none"> Children can create a computer program that includes different object types. Children can modify the attributes (properties) of an object. Children can use different events in their program to make objects move.
<u>5</u>	Buttons	<ul style="list-style-type: none"> To create a program using a given design. To understand the function of buttons in a program. 	<ul style="list-style-type: none"> Children can create a computer program that includes a button object. Children can explain what a button does in their program. Children can modify the attributes (properties) of a button to fit their program design.
<u>6</u>	'Smelly Code' Debugging	<ul style="list-style-type: none"> To know what debugging means. To understand the need to test and debug a program repeatedly. To debug simple programs. 	<ul style="list-style-type: none"> Children can explain what debug (debugging) means. Children can use a design document to start debugging a program. Children can debug simple programs.

Online Safety

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Searching and Sharing	<ul style="list-style-type: none"> To know how to refine searches using the Search tool. To know how to share work electronically using the display boards. To use digital technology to share work on Purple Mash to communicate and connect with others locally. To have some knowledge and understanding about sharing more globally on the Internet. 	<ul style="list-style-type: none"> Children can use the search facility to refine searches on Purple Mash by year group and subject. Children can share the work they have created to a display board. Children understand that the teacher approves work before it is displayed. Children are beginning to understand how things can be shared electronically for others to see both on Purple Mash and the Internet.
<u>2</u>	Email Using 2Respond	<ul style="list-style-type: none"> To introduce Email as a communication tool using 2Respond simulations. To understand how we talk to others when they are not there in front of us. To open and send simple online communications in the form of email. 	<ul style="list-style-type: none"> Children know that Email is a form of digital communication. Children understand how 2Respond can teach them how to use email. 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 have discussed what makes us feel happy and what makes us feel sad.
<u>3</u>	Digital Footprint	<ul style="list-style-type: none"> To understand that information put online leaves a digital footprint or trail. To begin to think critically about the information they leave online. To identify the steps that can be taken to keep personal data and hardware secure 	<ul style="list-style-type: none"> Children can explain what a digital footprint is. Children can give examples of things that they would not want to be in their digital footprint.

Spreadsheets

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Reviewing prior use of spreadsheets	<ul style="list-style-type: none"> To review the work done in 2Calculate in year 1. To revise spreadsheet related vocabulary. To use some 2Calculate tools that were introduced in year 1. 	<ul style="list-style-type: none"> Children can explain what rows and columns are in a spreadsheet. Children can open, save and edit a spreadsheet. Children can add images from the image toolbox and allocate them a value. Children can add the count tool to count items.
<u>2</u>	Copying and Pasting Totalling tools	<ul style="list-style-type: none"> To use copying, cutting and pasting shortcuts in 2Calculate. To use 2Calculate totalling tools. To use 2Calculate to solve a simple puzzle 	<ul style="list-style-type: none"> 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.
<u>3</u>	Using a spreadsheet to add amounts	<ul style="list-style-type: none"> To explore the capabilities of a spreadsheet in adding up coins to match the prices of objects 	<ul style="list-style-type: none"> Children can use images in a spreadsheet. Children can work out how much they need to pay using coins by using a spreadsheet to help calculate.
<u>4</u>	Creating a table and block graph	<ul style="list-style-type: none"> To add and edit data in a table layout. To use the data to manually create a block graph. 	<ul style="list-style-type: none"> Children can create a table of data on a spreadsheet. Children can use the data to create a block graph manually.

Questioning

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Using and Creating Pictograms	<ul style="list-style-type: none"> To show that the information provided on pictograms is of limited use beyond answering simple questions 	<ul style="list-style-type: none"> Children understand that the information on pictograms cannot be used to answer more complicated questions.
<u>2</u>	Asking Yes / No Questions	<ul style="list-style-type: none"> To use yes/no questions to separate information 	<ul style="list-style-type: none"> Children have used a range of yes/no questions to separate different items.
<u>3</u>	Binary Trees	<ul style="list-style-type: none"> To construct a binary tree to separate different items. 	<ul style="list-style-type: none"> Children understand what is meant by a binary tree. Children have designed a binary tree to sort pictures of children.
<u>4</u>	Using 2Question - a Computer-Based Binary Tree Program	<ul style="list-style-type: none"> Use 2Question (a binary tree) to answer questions 	<ul style="list-style-type: none"> Children understand that questions are limited to 'yes' and 'no' in a binary tree. Children understand that the user cannot use 2Question to find out answers to more complicated questions. Children have matched 2Simple item pictures to names using a binary tree.
<u>5</u>	Using 2Investigate: a Non-Binary Database.	<ul style="list-style-type: none"> To use a database to answer more complex search questions. To use the Search tool to find information. 	<ul style="list-style-type: none"> Children understand what is meant by a database. Children have used a database to answer simple and more complex search questions.

Effective Searching

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Understanding the Internet and Searching	<ul style="list-style-type: none"> To understand the terminology associated with the Internet and searching. 	<ul style="list-style-type: none"> Children can recall the meaning of key Internet and searching terms. Children have completed a quiz about the Internet.
<u>2</u>	Searching the Internet	<ul style="list-style-type: none"> To gain a better understanding of searching the Internet. 	<ul style="list-style-type: none"> Children can identify the basic parts of a web search engine search page. Children have learnt to read a web search results page. Children can search the Internet for answers to a quiz.
<u>3</u>	Sharing Knowledge of the Internet and Effective Searching	<ul style="list-style-type: none"> To create a leaflet to help someone search for information on the Internet. 	<ul style="list-style-type: none"> Children have created a leaflet to consolidate knowledge of effective Internet searching.

Creating Pictures

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Introduction and Impressionism	<ul style="list-style-type: none"> To explore 2Paint A Picture. To look at the work of Impressionist artists and recreate them using the Impressionism template. 	<ul style="list-style-type: none"> Children can describe the main features of impressionist art. Children can use 2Paint a Picture to create art based upon this style.
<u>2</u>	Pointillist Art	<ul style="list-style-type: none"> To look at the work of pointillist artists such as Seurat. To recreate pointillist art using the Pointillism template. 	<ul style="list-style-type: none"> Children can explain what pointillism is. Children can use 2Paint a Picture to create art based upon this style.
<u>3</u>	Piet Mondrian	<ul style="list-style-type: none"> To look at the work of Piet Mondrian and recreate it using the Lines template. 	<ul style="list-style-type: none"> Children can describe the main features of Piet Mondrian's work. Children can use 2Paint a Picture to art based upon his style.
<u>4</u>	William Morris and Pattern	<ul style="list-style-type: none"> To look at the work of William Morris and recreate it using the Patterns template. 	<ul style="list-style-type: none"> Children can describe the main features of art that uses repeating patterns. Children can use 2Paint a Picture to create art by repeating patterns in a variety of ways. Children can combine more than one effect in 2Paint a Picture to enhance patterns.
<u>5</u>	Surrealism and eCollage	<ul style="list-style-type: none"> To look at some surrealist art and create your own using the eCollage function in 2Paint A Picture. 	<ul style="list-style-type: none"> Children can describe surrealist art. Children can use the eCollage function in 2Paint a Picture to create surrealist art using drawing and clipart.

Making Music

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Introducing 2Sequence	<ul style="list-style-type: none"> To be introduced to making music digitally using 2Sequence. To explore, edit and combine sounds using 2Sequence. 	<ul style="list-style-type: none"> Children understand what 2Sequence is and how it works. Children have used the different sounds within 2Sequence to create a tune. Children have explored how to speed up and slow down tunes. Children understand what happens to the tune when sounds are moved.
<u>2</u>	Making Music	<ul style="list-style-type: none"> To add sounds to a tune to improve it. To think about how music can be used to express feelings and create tunes which depict feelings. 	<ul style="list-style-type: none"> Children have added sounds to a tune they have already created to change it. Children have considered how music can be used to express feelings. Children can change the volume of the background sounds. Children have created two tunes which depict two feelings.
<u>3</u>	Soundtracks	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Children have uploaded and used their own sound chosen from a bank of sounds. Children have created, uploaded and used their own recorded sound. Children have created their own tune using some of the chosen sounds.

Presenting Ideas

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Presenting a Story Three Ways	<ul style="list-style-type: none"> To explore how a story can be presented in different ways. 	<ul style="list-style-type: none"> Children have examined a traditional tale presented as a mind map, as a quiz, as an e-book and as a fact file. Children know that digital content can be represented in many forms.
<u>2</u>	Presenting Ideas as a Quiz	<ul style="list-style-type: none"> To make a quiz about a story or class topic. 	<ul style="list-style-type: none"> Children have made a quiz about a story using 2Quiz. Children can talk about their work and make improvements to solutions based on feedback received.
<u>3</u>	Making a Non-Fiction Fact File	<ul style="list-style-type: none"> To make a fact file on a non-fiction topic. 	<ul style="list-style-type: none"> Children have extracted information from a 2Connect file to make a publisher fact file on a non-fiction topic. Children have added appropriate clipart. Children have added an appropriate photo. Children know that data can be structured in tables to make it useful.
<u>4</u>	Making a Presentation	<ul style="list-style-type: none"> To make a presentation to the class. 	<ul style="list-style-type: none"> 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. Children can create digital content to achieve a given goal by combining software packages.

Year 3 Medium term plans

Coding

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Using Flowcharts	<ul style="list-style-type: none"> To review previous coding knowledge. To understand what a flowchart is and how flowcharts are used in computer programming. 	<ul style="list-style-type: none"> Children can read and explain a flowchart Children can use a flowchart to create a computer program. Children can create a computer program that uses click events and timers.
<u>2</u>	Using Timers	<ul style="list-style-type: none"> To understand that there are different types of timers. To be able to select the right type of timer for a purpose. 	<ul style="list-style-type: none"> Children can create a program that uses a timer-after command Children can create a program that uses a timer-every command Children understand there can be different ways to solve a problem.
<u>3</u>	Using Repeat	<ul style="list-style-type: none"> To understand how to use the repeat command. 	<ul style="list-style-type: none"> Children understand how the turtle object moves. Children can use the repeat command with an object. Children can create a computer program that includes use of the repeat command.
<u>4</u>	Code, Test and Debug	<ul style="list-style-type: none"> To use coding knowledge to create a range of programs. To understand the importance of nesting. 	<ul style="list-style-type: none"> Children can create computer programs using prior knowledge. Children can run, test and debug their programs. Children can consider nesting when debugging their programs.
<u>5 & 6</u>	Design and Make an Interactive Scene	<ul style="list-style-type: none"> To design and create an interactive scene. 	<ul style="list-style-type: none"> Children can use the attributes (properties) table to set the attributes of objects. Children can plan their scene and code before they create their program. Children can confidently make several different things happen in a program.

Online Safety

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Safety in Numbers	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Children understand what makes a good password for use on the Internet. Children are beginning to realise the outcomes of not keeping passwords safe. Children can contribute to a concept map of all the different ways they know that the Internet can help us to communicate. Children have contributed to a class blog with clear and appropriate messages. Extension: Children understand that passwords help to limit who can see personal / private / confidential information.
<u>2</u>	Fact or Fiction?	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Children understand that some information held on websites may not be accurate or true. Children are beginning to understand how to search the Internet and how to think critically about the results that are returned. Children have accessed and assessed a 'spoof' website. Children have created their own 'spoof' webpage mock-up. Children have shared their 'spoof' web page on a class display board. Extension: Children evaluate facts from a website and explain how they fact checked the information that was presented.
<u>3</u>	Appropriate Content & Ratings	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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.

Spreadsheets

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Creating Pie Charts and Bar Graphs	<ul style="list-style-type: none"> To add and edit data in a table layout. To find out how spreadsheet programs can automatically create graphs from data. 	<ul style="list-style-type: none"> Children can create a table of data on a spreadsheet. Children can use a spreadsheet program to automatically create charts and graphs from data.
<u>2</u>	Using more than and Spin Button Tools	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Children can use the 'more than', 'less than' and 'equals' tools to compare different numbers and help to work out solutions to calculations. Children can use the 'spin' tool to count through times tables.
<u>3</u>	Advanced Mode and Cell Addresses	<ul style="list-style-type: none"> To introduce the Advanced mode of 2Calculate. To learn about describing cells using their addresses. 	<ul style="list-style-type: none"> 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. Children can find specified locations in a spreadsheet.

Touch Typing

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Home, Top and Bottom Row Keys	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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.
<u>2</u>	Home, Top and Bottom Row Keys (Consolidation)	<ul style="list-style-type: none"> To practice and improve typing for home, bottom, and top rows. 	<ul style="list-style-type: none"> Children can use two hands to type the letters on the keyboard.
<u>3</u>	Left Keys	<ul style="list-style-type: none"> To practice the keys typed with the left hand. 	<ul style="list-style-type: none"> Children can touch type using the left hand.
<u>4</u>	Right Keys	<ul style="list-style-type: none"> To practice the keys typed with the right hand. 	<ul style="list-style-type: none"> Children can touch type using the right hand.

Emails

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Communication	<ul style="list-style-type: none"> To think about the different methods of communication. 	<ul style="list-style-type: none"> Children can list a range of different ways to communicate. Children can use 2Connect to highlight the strengths and weaknesses of each method. Extension: Children can order the various types of communication that have been used through history.
<u>2</u>	Composing Emails	<ul style="list-style-type: none"> To open and respond to an email. To write an email to someone from an address book. 	<ul style="list-style-type: none"> Children can open an email and respond to it. Children have sent emails to other children in the class. Extension: Children can use the search option in the address book to find a classmate when sending an email.
<u>3</u>	Using Email Safely: Part 1	<ul style="list-style-type: none"> To learn how to use email safely. 	<ul style="list-style-type: none"> Children have written rules about how to stay safe using email. Children have contributed to classmates' rules. Extension: Children understand the importance of draft.
<u>4</u>	Using Email Safely: Part 2	<ul style="list-style-type: none"> To learn how to use email safely. 	<ul style="list-style-type: none"> Children have created a quiz about email safety which explores scenarios that they could come across in the future. Extension: Children create title screens for their quizzes explaining what the quiz is about, and how to play it.
<u>5</u>	Attachments	<ul style="list-style-type: none"> To add an attachment to an email. 	<ul style="list-style-type: none"> Children can attach work to an email. Children know what CC means and how to use it.
<u>6</u>	Email Simulations	<ul style="list-style-type: none"> To explore a simulated email scenario. 	<ul style="list-style-type: none"> Children can read and respond to a series of email communications. Children can attach files appropriately and use email communication to explore ideas. Extension: Children know why the terms CC and BCC are used Children understand when to use CC or BCC

Branching Databases

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Introducing Databases	<ul style="list-style-type: none"> To sort objects using just YES/NO questions. 	<ul style="list-style-type: none"> Children understand how YES/NO questions are structured and answered. Children have used YES/NO questioning to play a simple game with a friend. Children can explain why they choose a particular question to split their database. Extension: Children can begin to use 'or more' and 'or less' in their questioning
<u>2</u>	Branching Databases	<ul style="list-style-type: none"> To complete a branching database using 2Question. 	<ul style="list-style-type: none"> Children have contributed to a class branching database about fruit. Children have completed a branching database about vegetables. Extension: Children can edit and adapt a branching database to accommodate new entries.
<u>3 and 4</u>	Creating a branching database on the computer	<ul style="list-style-type: none"> To create a branching database of the children's choice. 	<ul style="list-style-type: none"> Children can choose a suitable topic for a branching database. Children can select and save appropriate images. Children can create a branching database. Children know how to use and debug their own and others branching databases.

Graphing

Lesson	Title	Success Criteria
<u>1</u>	Introducing 2Graph	<ul style="list-style-type: none"> Children can set up a graph with a given number of fields. Children can enter data for a graph. Children can produce and share graphs made on the computer. Extension: Children can select most appropriate style of graph for their data and explain their reasoning.
<u>2</u>	Using 2Graph to Solve an Investigation	<ul style="list-style-type: none"> Children have solved a maths investigation. Children can present the results in a range of graphical formats. Children can use the sorting option to make analysis of their data easier. Extension: Children can select most appropriate style of graph for their data and explain their reasoning.

Simulations

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	What Are Simulations?	<ul style="list-style-type: none"> To find out what a simulation is and understand the purpose of simulations. 	<ul style="list-style-type: none"> Children know that a computer simulation can represent real and imaginary situations. Children can give some examples of simulations used for fun and for work. Children can give suggestions of advantages and problems of simulations.
<u>2</u>	Exploring a Simulation	<ul style="list-style-type: none"> To explore a simulation, making choices and discussing their effects. 	<ul style="list-style-type: none"> Children can explore a simulation. 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 analyse choices made using a branching database.
<u>3</u>	Analysing and Evaluating a Simulation	<ul style="list-style-type: none"> To work through and evaluate a more complex simulation. 	<ul style="list-style-type: none"> Children can recognise patterns within simulations and make and test predictions. 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 (extension).

Using Microsoft PowerPoint

Lesson	Title	Aims (Objectives)	Success Criteria
1	Making a Presentation from a Blank Page	<ul style="list-style-type: none"> To create a page in a presentation. 	<ul style="list-style-type: none"> Children know what PowerPoint is. Children can open PowerPoint. Children can add text to a page and format it. Children can add shapes to a page.
2	Adding Media	<ul style="list-style-type: none"> To add media to a presentation 	<ul style="list-style-type: none"> Children can change the design of the slides. Children can insert a new slide. Children can insert pictures. Children can edit pictures. Children can insert video and audio.
3	Adding Animation	<ul style="list-style-type: none"> To add animations into a presentation 	<ul style="list-style-type: none"> Children can use animations in a presentation. Children can use transitions in a presentation.
4	Presenting with Timings	<ul style="list-style-type: none"> To add timings into a presentation. 	<ul style="list-style-type: none"> Children can add timings to a presentation. Children can present effectively using PowerPoint.
5 & 6	Create a Presentation	<ul style="list-style-type: none"> To use the skills learnt in previous weeks to design and present an effective presentation. 	<ul style="list-style-type: none"> Children can create a presentation including formatted text. Children can include different media. Children can add transitions and animations. Children can add timings to the presentation. Children can present effectively.

Presenting with Google Slides

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Making a Presentation from a Blank Page	<ul style="list-style-type: none"> To create a page in a presentation. 	<ul style="list-style-type: none"> Children know what Google Slides is. Children know how to open Google Slides. Children can add text and format it.
<u>2</u>	Adding Media	<ul style="list-style-type: none"> To add media to a presentation 	<ul style="list-style-type: none"> Children can change the design of the slides. Children can insert a new slide. Children can insert pictures. Children can edit pictures. Children can insert video (extension).
<u>3</u>	Adding Shapes and Lines	<ul style="list-style-type: none"> To add shapes and lines to a presentation. 	<ul style="list-style-type: none"> Children can add shapes to a presentation. Children can add lines into a presentation.
<u>4</u>	Adding Animation	<ul style="list-style-type: none"> To add animations into a presentation. 	<ul style="list-style-type: none"> Children can use animations in a presentation. Children can use transitions in a presentation.
<u>5 & 6</u>	Create a Presentation	<ul style="list-style-type: none"> To use the skills learnt in previous weeks to design and present an effective presentation. 	<ul style="list-style-type: none"> Children can add text to a presentation. Children can add objects including text and pictures to their presentation. Children can add animation and transitions to their presentation. Children can present their work on Slides.

Year 4 Medium term plans

Coding

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Design, Code, Test and Debug	<ul style="list-style-type: none"> To review coding vocabulary and knowledge. To create a simple computer program. 	<ul style="list-style-type: none"> Children can explore different object types in 2Code. Children can use a background and objects to create a scene. Children can plan an algorithm for their scene and use 2Code to program it.
<u>2</u>	IF Statements	<ul style="list-style-type: none"> To begin to understand selection in computer programming. To understand how an IF statement works. 	<ul style="list-style-type: none"> Children can create a program that includes an IF statement. Children can interpret a flowchart that depicts an IF statement.
<u>3</u>	Co-ordinates	<ul style="list-style-type: none"> To understand how to use co-ordinates in computer programming. To understand how an IF statement works. 	<ul style="list-style-type: none"> Children can make use of the X and Y attributes (properties) of objects in their coding. Children can create a program that includes an IF statement.
<u>4</u>	Repeat Until and IF/ELSE Statements	<ul style="list-style-type: none"> To understand the Repeat until command. To begin to understand selection in computer programming. To understand how an IF/ELSE statement works. 	<ul style="list-style-type: none"> 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 interpret a flowchart that depicts an IF/ ELSE statement.
<u>5</u>	Number Variables	<ul style="list-style-type: none"> To understand what a variable is in programming. To use a number variable. 	<ul style="list-style-type: none"> Children can explain what a variable is in programming. Children can create and use variables when programming.
<u>6</u>	Making a Playable Game	<ul style="list-style-type: none"> To review vocabulary and concepts learnt in Year 4 Coding. To create a playable game. 	<ul style="list-style-type: none"> Children can read code that includes repeat until and IF/ ELSE and explain how it works. Children can create a program that includes and IF/ ELSE statement. Children can interpret a flowchart that depicts an IF/ ELSE statement.

Online Safety

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Going Phishing	<ul style="list-style-type: none"> To understand how children can protect themselves from online identity theft. To understand that information put online leaves a digital footprint or trail and that this can aid identity theft. 	<ul style="list-style-type: none"> Children know that security symbols such as a padlock protect their identity online. 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 give examples of things that they would not want to be in their digital footprint.
<u>2</u>	Beware Malware	<ul style="list-style-type: none"> To identify the risks and benefits of installing software including apps. 	<ul style="list-style-type: none"> Children can identify possible risks of installing free and paid for software. Children know that malware is software that is specifically designed to disrupt, damage, or gain access to a computer. Children know what a computer virus is.
<u>3</u>	Plagiarism	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Children can determine whether activities that they undertake online, infringe another's' copyright. They know the difference between researching and using information and copying it Children know about citing sources that they have used.
<u>4</u>	Healthy Screen-Time	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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 give reasons for limiting screen time.

Spreadsheets

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Formula Wizard and Formatting Cells	<ul style="list-style-type: none"> To explore how the numbers entered into cells can be set to either currency or decimal. To explore the use of the display of decimal places. To find out how to add formulae to a cell. 	<ul style="list-style-type: none"> Children can use the number formatting tools within 2Calculate to appropriately format numbers. Children can add a formula to a cell to automatically make a calculation in that cell.
<u>2</u>	Using the Timer and Spin Buttons	<ul style="list-style-type: none"> To explore how tools can be combined to use 2Calculate to make number games. To explore the use of the timer, random number and spin button tools. 	<ul style="list-style-type: none"> Children can use the timer, random number and spin button tools. Children can combine tools to make fun ways to explore number.
<u>3</u>	Line Graphs	<ul style="list-style-type: none"> To use the line graphing tool in 2Calculate with appropriate data. To interpret a line graph to estimate values between data readings. 	<ul style="list-style-type: none"> Children can use a series of data in a spreadsheet to create a line graph. Children can use a line graph to find out when the temperature in the playground will reach 20°C.
<u>4</u>	Using a Spreadsheet for Budgeting	<ul style="list-style-type: none"> To use the currency formatting tool in 2Calculate. To use 2Calculate to create a model of a real-life situation. 	<ul style="list-style-type: none"> Children can make practical use of a spreadsheet to help them plan actions. Children can use the currency formatting in 2Calculate.
<u>5</u>	Exploring Place Value with a Spreadsheet	<ul style="list-style-type: none"> To use the functions of allocating value to images in 2Calculate to make a resource to teach place value. 	<ul style="list-style-type: none"> Children can allocate values to images and use these to explore place value. Children can use a spreadsheet made in 2Calculate to check their understanding of a mathematical concept.

Writing for Different Audiences

Lesson	Title	Aims (Objectives)	Success Criteria
1	Font Styles	<ul style="list-style-type: none"> To explore how font size and style can affect the impact of a text. 	<ul style="list-style-type: none"> Children can look at and discuss 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.
2 & 3	Using a Simulated Scenario to Produce a News Report	<ul style="list-style-type: none"> To use a simulated scenario to produce a news report. 	<ul style="list-style-type: none"> Children can role-play the job of a journalist in a newsroom. Children can interpret a variety of incoming communications and use these to build up the details of a story. Children can use the incoming information to write their own newspaper report.
4 & 5	Writing for a Campaign	<ul style="list-style-type: none"> To use a simulated scenario to write for a community campaign. 	<ul style="list-style-type: none"> Children can use 2Connect to mind-map ideas for a community campaign. Children can use these ideas to write a persuasive letter or poster as part of the campaign. Children can assess their texts using criteria to judge their suitability for the intended audience.

Logo

Lesson	Title	Aims (Objectives)	Success Criteria
1	Introduction to 2Logo	<ul style="list-style-type: none"> To learn the structure of the language of 2Logo. To input simple instructions in 2Logo 	<ul style="list-style-type: none"> 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 follow simple instructions to create shapes in 2Logo.
2	Creating Letters using 2Logo	<ul style="list-style-type: none"> To use 2Logo to create letter shapes. 	<ul style="list-style-type: none"> Children can create 2Logo instructions to draw patterns of increasing complexity. Children understand the pu and pd commands. Children can write 2Logo instructions for a word of four letters.
3	Using the 'Repeat' Command in 2Logo	<ul style="list-style-type: none"> To use the Repeat command in 2Logo to create shapes. 	<ul style="list-style-type: none"> Children can follow 2Logo code to predict the outcome. Children can create shapes using the Repeat command. Children can find the most efficient way to draw shapes.
4	Using Procedures	<ul style="list-style-type: none"> To use and build procedures in 2Logo. 	<ul style="list-style-type: none"> Children can use the Procedure feature. Children can create 'flowers' or 'crystals' using 2Logo.

Animation

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Animating an Object	<ul style="list-style-type: none"> To decide what makes a good, animated film or cartoon and discuss favourite animations. To learn how animations are created by hand. To find out how 2Animate animations can be created in a similar way using technology. 	<ul style="list-style-type: none"> Children have put together a simple animation using paper to create a flick book. Children understand animation frames. Children have made a simple animation using 2Animate.
<u>2</u>	2Animate Tools	<ul style="list-style-type: none"> To learn about onion skinning in animation. To add backgrounds and sounds to animations. 	<ul style="list-style-type: none"> Children know what the Onion Skin tool does in animation. 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.
<u>3</u>	Stop Motion Animation	<ul style="list-style-type: none"> Introducing 'stop motion' animation. To share animation the class blog. 	<ul style="list-style-type: none"> Children know what 'stop motion' animation is and how it is created. Children have used ideas from existing 'stop motion' films to recreate their own animation. Children have shared their animations and commented on each other's work using display boards and blogs in Purple Mash.

Effective Searching

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Using a Search Engine	<ul style="list-style-type: none"> To locate information on the search results page. 	<ul style="list-style-type: none"> Children can structure search queries to locate specific information.
<u>2</u>	Use Search Effectively to Answer Questions	<ul style="list-style-type: none"> To use search effectively to find out information. 	<ul style="list-style-type: none"> Children have used search to answer a series of questions. Children have written search questions for a friend to solve.
<u>3</u>	Reliable Information Sources	<ul style="list-style-type: none"> To assess whether an information source is true and reliable. 	<ul style="list-style-type: none"> Children can analyse the contents of a web page for clues about the credibility of the information.

Hardware Investigators

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Hardware	<ul style="list-style-type: none"> To understand the different parts that make up a desktop computer. 	<ul style="list-style-type: none"> Children can name the different parts of a desktop computer. Children know what the function of the different parts of a computer is.
<u>2</u>	Parts of a Computer	<ul style="list-style-type: none"> To recall the different parts that make up a computer. 	<ul style="list-style-type: none"> Children have created a leaflet to show the function of computer parts.

Making Music

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Understanding Music	<ul style="list-style-type: none"> To identify and discuss the main elements of music: Pulse, Rhythm, Tempo, Pitch, Texture 	<ul style="list-style-type: none"> Children can use appropriate musical language to discuss a piece of music. Children can identify sounds in a piece of music. Children can explain how a piece of music makes them feel.
<u>2</u>	Rhythm and Tempo.	<ul style="list-style-type: none"> To understand and experiment with rhythm and tempo. 	<ul style="list-style-type: none"> Children can identify and recall a simple rhythm. Children can explain what tempo is, and how changing it can change the mood of a piece of music. Children can create their own simple rhythm using Busy Beats.
<u>3</u>	Melody and Pitch	<ul style="list-style-type: none"> To create a melodic phrase. 	<ul style="list-style-type: none"> Children can show an understanding of melody. Children can create a simple melodic pattern using 2Sequence and Busy Beats. Children can use a variety of notes, experimenting with pitch.
<u>4</u>	Creating Music	<ul style="list-style-type: none"> To compose a piece of electronic music. 	<ul style="list-style-type: none"> 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.

Year 5 Medium term plans

Coding

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Coding Efficiently	<ul style="list-style-type: none"> To review existing coding knowledge. To begin to be able to simplify code. To create a playable game. 	<ul style="list-style-type: none"> Children can use simplified code to make their programming more efficient. Children can use variables in their code. Children can create a simple playable game.
<u>2</u>	Simulating a Physical System	<ul style="list-style-type: none"> To understand what a simulation is. To program a simulation using 2Code. 	<ul style="list-style-type: none"> Children can plan an algorithm modelling the sequence of traffic lights. Children can select the right images to reflect the simulation they are making. Children can use their plan to program the simulation to work in 2Code.
<u>3</u>	Decomposition and Abstraction	<ul style="list-style-type: none"> 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 use decomposition to make a plan of a real-life situation. 	<ul style="list-style-type: none"> 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.
<u>4</u>	Friction and Functions	<ul style="list-style-type: none"> To understand how to use friction in code. To begin to understand what a function is and how functions work in code. 	<ul style="list-style-type: none"> 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.
<u>5</u>	Introducing Strings	<ul style="list-style-type: none"> To understand what the different variable types are and how they are used differently. To understand how to create a string. 	<ul style="list-style-type: none"> Children can create and use strings in programming. Children can set/change variable values appropriately. Children know some ways that text variables can be used in
<u>6</u>	Text Variables and Concatenation	<ul style="list-style-type: none"> To begin to explore text variables when coding. To understand what concatenation is and how it works. 	<ul style="list-style-type: none"> Children can create a string and use it in their program. Children can use strings to produce a range of outputs in their program.

Online Safety

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Responsibilities and Support when Online	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Children critically about the information that they share online both about themselves and others. Children know who to tell if they are upset by something that happens online. Children can use the SMART rules as a source of guidance when online.
<u>2</u>	Protecting Privacy	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Children think critically about what they share online, even when asked by a usually reliable person to share something. Children have clear ideas about good passwords. Children can see how they can use images and digital technology to create effects not possible without technology. Children have experienced how image manipulation could be used to upset them or others even using simple, freely available tools and little specialist knowledge.
<u>3</u>	Citing Sources	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Children can cite all sources when researching and explain the importance of this. Children select keywords and search techniques to find relevant information and increase reliability.
<u>4</u>	Reliability	<ul style="list-style-type: none"> Ensuring reliability through using different methods of communication. 	<ul style="list-style-type: none"> Children show an understanding of the advantages and disadvantages of different forms of communication and when it is appropriate to use each.

Spreadsheets

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Conversions of Measurements	<ul style="list-style-type: none"> To use formulae within a spreadsheet to convert measurements of length and distance. 	<ul style="list-style-type: none"> Children can create a formula in a spreadsheet to convert m to cm. Children can apply this to creating a spreadsheet that converts miles to km and vice versa.
<u>2</u>	The Count Tool	<ul style="list-style-type: none"> To use the count tool to answer hypotheses about common letters in use. 	<ul style="list-style-type: none"> Children can use a spreadsheet to work out which letters appear most often. Children can use the 'how many' tool.
<u>3</u>	Formulae Including the Advanced Mode	<ul style="list-style-type: none"> To use a spreadsheet to model a real-life problem. To use formulae to calculate area and perimeter of shapes. 	<ul style="list-style-type: none"> Children can use a spreadsheet to work out the area and perimeter of rectangles. Children can use these calculations to solve a real-life problem.
<u>4</u>	Using Text Variables to Perform Calculations	<ul style="list-style-type: none"> To create formulae that use text variables. 	<ul style="list-style-type: none"> Children can create simple formulae that use different variables. Children can create a formula that will work out how many days there are in x number of weeks or years.
<u>5</u>	Event Planning with a Spreadsheet	<ul style="list-style-type: none"> To use a spreadsheet to help plan a school cake sale. 	<ul style="list-style-type: none"> Children can use a spreadsheet to model a real-life situation and come up with solutions that can be practically applied.

Databases

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Searching a Database	<ul style="list-style-type: none"> To learn how to search for information in a database. 	<ul style="list-style-type: none"> Children understand the different ways to search a database. Children can search a database to answer questions correctly.
<u>2</u>	Creating a Class Database	<ul style="list-style-type: none"> To contribute to a class database. 	<ul style="list-style-type: none"> Children can design an avatar for a class database. Children can successfully enter information into a class database.
<u>3 & 4</u>	Creating a Topic Database	<ul style="list-style-type: none"> To create a database around a chosen topic. 	<ul style="list-style-type: none"> Children can create their own database on a chosen topic. Children can add records to their database. Children know what a database field is and can correctly add field information. Children understand how to word questions so that they can be effectively answered using a search of their database.

Game Creators

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Setting the scene.	<ul style="list-style-type: none"> To Introduce the 2DIY 3D tool. To begin planning a game. 	<ul style="list-style-type: none"> Children can review and analyse a computer game. Children can describe some of the elements that make a successful game. Children can begin the process of designing their own game.
<u>2</u>	Creating the Game Environment	<ul style="list-style-type: none"> To design the game environment. 	<ul style="list-style-type: none"> 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.
<u>3</u>	The Game Quest	<ul style="list-style-type: none"> To design the game quest to make it a playable game. 	<ul style="list-style-type: none"> Children can design characters for their game. Children can decide upon, and change, the animations and sounds that the characters make.
<u>4</u>	Finishing and Sharing	<ul style="list-style-type: none"> To finish and share the game. 	<ul style="list-style-type: none"> Children can make their game more unique by selecting the appropriate options to maximise the playability. Children can write informative instructions for their game so that other people can play it.
<u>5</u>	Evaluation	<ul style="list-style-type: none"> To self- and peer-evaluate. 	<ul style="list-style-type: none"> Children can evaluate my their own and peers' games to help improve their design for the future.

Modelling

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Introducing 2Design and Make	<ul style="list-style-type: none"> To be introduced to the 2Design and Make tool. 	<ul style="list-style-type: none"> Children know what the 2Design and Make tool is for. Children can explore the different viewpoints in 2Design and Make whilst designing a building.
<u>2</u>	Moving Points	<ul style="list-style-type: none"> To explore the effect of moving points when designing. 	<ul style="list-style-type: none"> Children can adapt one of the vehicle models by moving the points to alter the shape of the vehicle while still maintaining its form.
<u>3</u>	Designing for a Purpose	<ul style="list-style-type: none"> To design a 3D model to fit certain criteria. 	<ul style="list-style-type: none"> Children can explore how to edit the polygon 3D models to design a 3D model for a purpose.
<u>4</u>	Printing and Making	<ul style="list-style-type: none"> To refine and print a model. 	<ul style="list-style-type: none"> 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. Children can explore the possibilities of 3D printing.

Concept Maps

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Introduction to Concept Mapping	<ul style="list-style-type: none"> To understand the need for visual representation when generating and discussing complex ideas. To understand the uses of a 'concept map'. 	<ul style="list-style-type: none"> Children can make connections between thoughts and ideas. Children can see the importance of recording concept maps visually.
<u>2</u>	Using 2Connect	<ul style="list-style-type: none"> To understand and use the correct vocabulary when creating a concept map. To create a concept map. 	<ul style="list-style-type: none"> Children understand what is meant by 'concept maps', 'stage', 'nodes' and 'connections.' Children can create a basic concept map.
<u>3</u>	2Connect Story Mode	<ul style="list-style-type: none"> To understand how a concept map can be used to retell stories and information. 	<ul style="list-style-type: none"> Children have used 2Connect Story Mode to create an informative text.
<u>4</u>	Collaborative Concept Maps	<ul style="list-style-type: none"> To create a collaborative concept map and present this to an audience. 	<ul style="list-style-type: none"> Children have used 2Connect collaboratively to create a concept map. Children have used Presentation Mode to present their concept maps to an audience.

Word processing with MS Word

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Making a Document from a Blank Page	<ul style="list-style-type: none"> To know what a word processing tool is for. 	<ul style="list-style-type: none"> Children know what a word processing tool is for. Children will be able to create a word processing document altering the look of the text and navigating around the document.
<u>2</u>	Inserting Images: Considering Copyright	<ul style="list-style-type: none"> To add and edit images to a word document. 	<ul style="list-style-type: none"> Children know how to add images to a word document. Children can edit images to reduce their file size. Children know the correct way to search for images that they are permitted to reuse. Children know how to attribute the original artist of an image.
<u>3</u>	Editing Images in Word	<ul style="list-style-type: none"> To know how to use word wrap with images and text. 	<ul style="list-style-type: none"> Children can edit their images within Word to best present them alongside text. Children understand wrapping of images and text.
<u>4</u>	Adding the Text	<ul style="list-style-type: none"> To change the look of text within a document. 	<ul style="list-style-type: none"> Children can add appropriate text to their document, formatting in a suitable way. Children can use a style set in Word. Children can use bullet points and numbering.
<u>5</u>	Finishing Touches	<ul style="list-style-type: none"> To add features to a document to enhance its look and usability. 	<ul style="list-style-type: none"> Children can add text boxes and shapes. Children can consider paragraph formatting such as line spacing, drop capitals. Children can add hyperlinks to an external website. Children can add an automated contents page.
<u>6</u>	Presenting Information Using Tables	<ul style="list-style-type: none"> To use tables within MS Word to present information. 	<ul style="list-style-type: none"> 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 add word art for a heading.

Word processing with Google Docs.

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Making a Document from a Blank Page	<ul style="list-style-type: none"> To know what a word processing tool is for. 	<ul style="list-style-type: none"> Children know what a word processing tool is for. Children will be able to create a word processing document altering the look of the text and navigating around the document.
<u>2</u>	Inserting Images: Considering Copyright	<ul style="list-style-type: none"> To add and edit images to a word document. 	<ul style="list-style-type: none"> Children know how to add images to a word document. Children can edit images to reduce their file size. Children know the correct way to search for images that they are permitted to reuse. Children know how to attribute the original artist of an image.
<u>3</u>	Editing Images in Word	<ul style="list-style-type: none"> To know how to use word wrap with images and text. 	<ul style="list-style-type: none"> Children can edit their images within Word to best present them alongside text. Children understand wrapping of images and text.
<u>4</u>	Adding the Text	<ul style="list-style-type: none"> To change the look of text within a document. 	<ul style="list-style-type: none"> Children can add appropriate text to their document, formatting in a suitable way. Children can use a style set in Word. Children can use bullet points and numbering.
<u>5</u>	Finishing Touches	<ul style="list-style-type: none"> To add features to a document to enhance its look and usability. 	<ul style="list-style-type: none"> Children can add text boxes and shapes. Children can consider paragraph formatting such as line spacing, drop capitals. Children can add hyperlinks to an external website. Children can add an automated contents page.
<u>6</u>	Presenting Information Using Tables	<ul style="list-style-type: none"> To use tables within MS Word to present information. 	<ul style="list-style-type: none"> 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 add word art for a heading.

Using External Devices

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Introducing Purple Chip	<ul style="list-style-type: none"> To understand what Purple Chip is. To be able to upload a program to an external device. To adapt a program and operate it using Purple Chip. 	<ul style="list-style-type: none"> Children can upload programs to Purple Chip. Children can adapt code, test it using the emulator and then upload it to an external device.
<u>2</u>	Operating a program using device movement and actions	<ul style="list-style-type: none"> To understand how a device can be programmed to be used as a game controller. 	<ul style="list-style-type: none"> Children can make a program that responds to an external device being tilted and shaken with visual effects and sounds.
<u>3</u>	Text functions with an external device	<ul style="list-style-type: none"> To explore the text functions available and appraise their uses. To create a simple quiz program that can be answered using an external device. 	<ul style="list-style-type: none"> Children understand how they can program in text-based interactions between a program and an external device. Children can adapt a simple quiz.
<u>4</u>	Interacting with the 'real world'	<ul style="list-style-type: none"> To create a program in which an external device can be used to monitor real world conditions. 	<ul style="list-style-type: none"> Children can write a program that uses the sounds and motion sensors of an external device to trigger a response on the computer.
<u>5</u>	Extended Project (1)	<ul style="list-style-type: none"> To design a program for the Purple Chip. 	<ul style="list-style-type: none"> Children can design a program of their choosing that makes use of the Purple Chip functionality.
<u>6</u>	Extended Project (2)	<ul style="list-style-type: none"> To code, test, debug and share a program for the Purple Chip. 	<ul style="list-style-type: none"> Children can design, code, test and debug a program of their choosing that makes use of the Purple Chip functionality.

Year 6 Medium term plans

Coding

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u> <u>&2</u>	Designing and Making a more Complex Program	<ul style="list-style-type: none"> To design a playable game with a timer and a score. To plan and use selection and variables. To understand how the launch command works. 	<ul style="list-style-type: none"> Children can plan a program which includes a timer and a score. Children can follow their plans to create a program. Children can debug when things do not run as expected.
<u>3</u>	Using Functions	<ul style="list-style-type: none"> To use functions and understand why they are useful. To understand how functions are created and called. 	<ul style="list-style-type: none"> 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 explain how their code executes when their program is run.
<u>4</u>	Flowcharts and Control Simulations	<ul style="list-style-type: none"> To use flowcharts to test and debug a program. To create a simulation of a room in which devices can be controlled. 	<ul style="list-style-type: none"> Children can follow flowcharts to create and debug code. Children can create flowcharts for procedures. Children can be creative with the way they code to generate novel visual effects.
<u>5</u>	User Input	<ul style="list-style-type: none"> To understand the different options of generating user input in 2Code. To understand how user input can be used in a program. 	<ul style="list-style-type: none"> 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.
<u>6</u>	Using Text-based Adventures	<ul style="list-style-type: none"> To understand how 2Code can be used to make a text-based adventure game. 	<ul style="list-style-type: none"> 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. Children can adapt an existing text adventure so it reflects their own ideas.

Online Safety

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Message in a Game	<ul style="list-style-type: none"> To identify benefits and risks of mobile devices broadcasting the location of the user/device, e.g., apps accessing location. To identify secure sites by looking for privacy seals of approval, e.g., https, padlock icon. To identify the benefits and risks of giving personal information and device access to different software. 	<ul style="list-style-type: none"> 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.
<u>2</u>	Online Behaviour	<ul style="list-style-type: none"> 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. To begin to understand how information online can persist and give away details of those who share or modify it. 	<ul style="list-style-type: none"> 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. Extension: Children' actions demonstrate that they also feel a responsibility to others when communicating and sharing content online.
<u>3</u>	Screen Time	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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 give reasons for limiting screen time. Children can talk about the positives and negative aspects of technology and balance these opposing views.

Spreadsheets

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Exploring Probability	<ul style="list-style-type: none"> To use a spreadsheet to investigate the probability of the results of throwing many dice. 	<ul style="list-style-type: none"> Children can create a spreadsheet to answer a mathematical question relating to probability. Children can take copy and paste shortcuts. Children can problem solve using the count tool.
<u>2</u>	Creating a Computational Model	<ul style="list-style-type: none"> To use a spreadsheet to calculate the discount and final prices in a sale. Create a formula to help work out the prices of items in the sale. 	<ul style="list-style-type: none"> Children can create a machine to help work out the price of different items in a sale. Children can use the formula wizard to create formulae. Children can use a spreadsheet to solve a problem.
<u>3</u>	Use a Spreadsheet to Plan Pocket Money Spending	<ul style="list-style-type: none"> To use a spreadsheet to plan how to spend pocket money and the effect of saving money. 	<ul style="list-style-type: none"> Children can use a spreadsheet to model a real-life situation and come up with solutions. Children can make practical use of a spreadsheet to help plan actions.
<u>4 & 5</u>	Planning a School Event	<ul style="list-style-type: none"> To use a spreadsheet to plan a school charity day to maximise the money donated to charity. 	<ul style="list-style-type: none"> Children can use a spreadsheet to model a real-life situation and come up with solutions that can be applied to real life.

Blogging

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	What is a Blog?	<ul style="list-style-type: none"> To identify the purpose of writing a blog. To identify the features of successful blog writing. 	<ul style="list-style-type: none"> Children understand how a blog can be used as an informative text. Children understand the key features of a blog.
<u>2</u>	Planning a Blog	<ul style="list-style-type: none"> To plan the theme and content for a blog. 	<ul style="list-style-type: none"> Children can work collaboratively to plan a blog.
<u>3</u>	Writing a Blog	<ul style="list-style-type: none"> To understand how to write a blog and a blog post. To consider the effect upon the audience of changing the visual properties of the blog. To understand how to contribute to an existing blog. 	<ul style="list-style-type: none"> Children can create a blog or blog post with a specific purpose. Children understand that the way in which information is presented has an impact upon the audience.
<u>4</u>	Sharing Posts and Commenting	<ul style="list-style-type: none"> To understand the importance of commenting on blogs. To peer-assess blogs against the agreed success criteria. To understand how and why blog posts and comments are approved by the teacher. 	<ul style="list-style-type: none"> 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. Children understand that content included in their blog carefully considers the end user.

Text Adventures

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	What Is a Text Adventure? Planning a Story Adventure	<ul style="list-style-type: none"> To find out what a text-based adventure game is and to explore an example made in 2Create a Story. To use 2Connect to plan a 'Choose your own Adventure' type story. 	<ul style="list-style-type: none"> Children can describe what a text adventure is. Children can map out a story-based text adventure. Children can use 2Connect to record their ideas. Extension: Children can turn a simple story with 2 or 3 levels of decision making into a logical design
<u>2</u>	Making a Story-based Adventure Game	<ul style="list-style-type: none"> To use 2Connect plans for a story adventure to make the adventure using 2Create a Story. 	<ul style="list-style-type: none"> 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.
<u>3</u>	Introducing Map-Based Text Adventures	<ul style="list-style-type: none"> To introduce an alternative model for a text adventure which has a less sequential narrative. 	<ul style="list-style-type: none"> Children can map out an existing text adventure. Children can contrast a map-based game with a sequential story-based game. Extension: Children can make a comprehensive design map with a sequence of rooms including rooms in which the player needs to make a choice and collect items in a certain order to complete the game.
<u>4</u>	Coding a Map-Based Text Adventure	<ul style="list-style-type: none"> To use written plans to code a map-based adventure in 2Code. 	<ul style="list-style-type: none"> Children can create their own text-based adventure based upon a map. Children can use coding concepts of functions, two-way selection (if/else statements) and repetition in conjunction with one another to code their game. Children make logical attempts to debug their code when it does not work correctly.

Networks

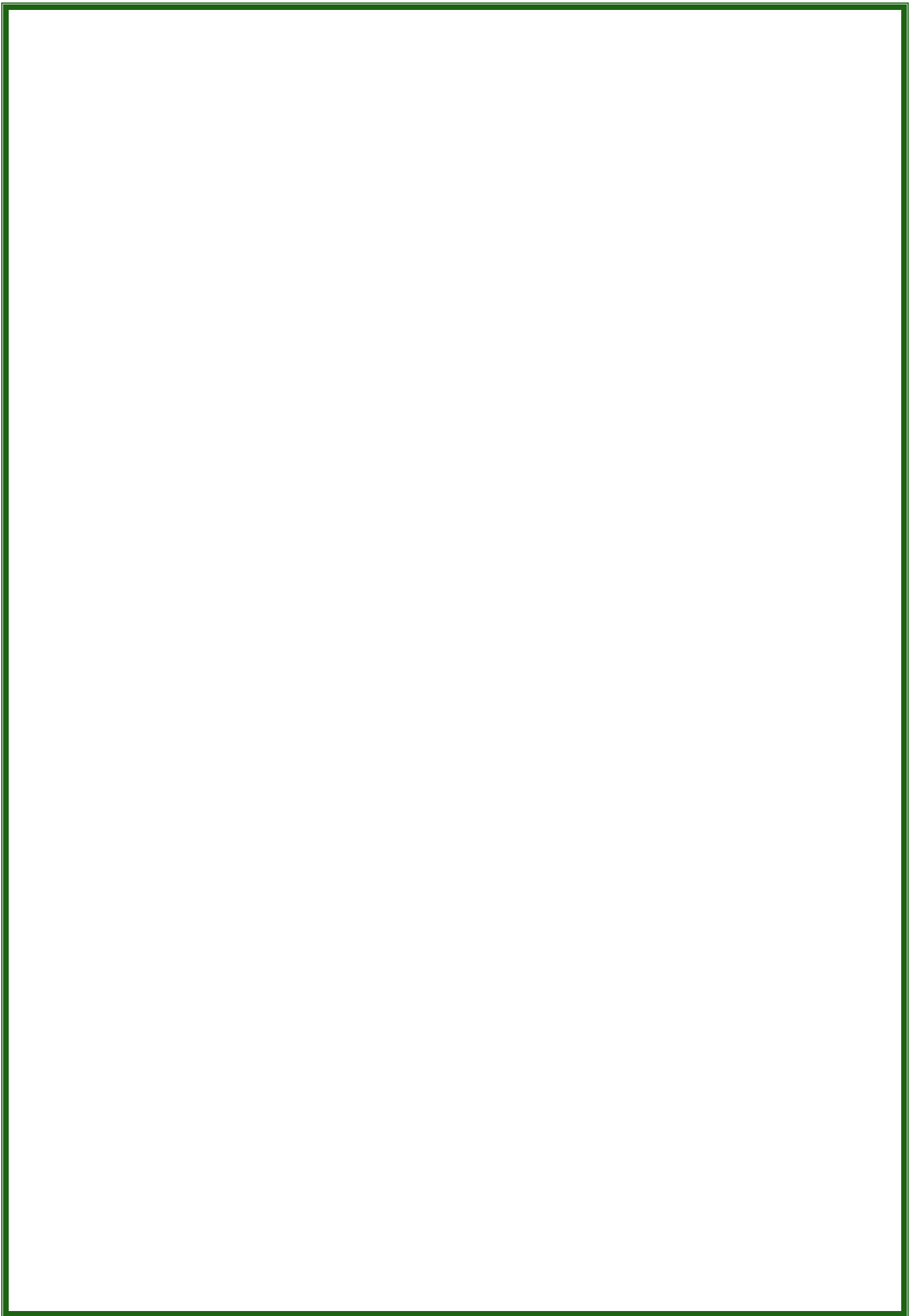
Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	The World Wide Web and the Internet	<ul style="list-style-type: none"> To discover what the children know about the Internet. 	<ul style="list-style-type: none"> Children know the difference between the World Wide Web and the internet. Extension: Children can provide examples of the difference between the World Wide Web and the Internet.
<u>2</u>	Our School Network and Accessing the Internet	<ul style="list-style-type: none"> To find out what a LAN and WAN are. To find out how we access the internet in school. 	<ul style="list-style-type: none"> Children know about their school network. Extension: Children can explain the differences between more than two network types such as: LAN, WAN, WLAN and SAN.
<u>3</u>	Research	<ul style="list-style-type: none"> To research and find out about the age of the internet. To think about what the future might hold. 	<ul style="list-style-type: none"> Children have researched and found out about Tim Berners-Lee. 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.

Quizzing

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Introducing 2DIY	<ul style="list-style-type: none"> To create a picture-based quiz for young children. 	<ul style="list-style-type: none"> 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 shared their quiz and responded to feedback.
<u>2 & 3</u>	Using 2Quiz	<ul style="list-style-type: none"> To learn how to use the question types within 2Quiz. 	<ul style="list-style-type: none"> Children understand the different question types within 2Quiz. Children have ideas about what sort of questions are best suited to the different question types. Children have used 2Quiz to make and share a science quiz (or another subject). Children have considered the audience's ability level and interests when setting the quiz. Children have shared their quiz with peers. Children have given and responded to feedback.
<u>4</u>	Exploring Grammar Quizzes	<ul style="list-style-type: none"> To explore the grammar quizzes. 	<ul style="list-style-type: none"> Children have tried out the different types of grammar games. Children have chosen an appropriate tool to make their own grammar game(s).
<u>5</u>	A Database Quiz	<ul style="list-style-type: none"> To make a quiz that requires the player to search a database. 	<ul style="list-style-type: none"> Children have used a 2Investigate quiz to answer quiz questions. Children have designed their own quiz based on one of the 2Investigate example databases.

Binary

Lesson	Title	Aims (Objectives)	Success Criteria
1	Examine how whole numbers are used as the basis for representing all types of data in digital systems through: What is Binary?	<ul style="list-style-type: none"> To examine how whole numbers are used as the basis for representing all types of data in digital systems. To recognise that digital systems represent all types of data using number codes that ultimately are patterns of 1s and 0s (called binary digits, which is why they are called digital systems). To understand that binary represents numbers using 1s and 0s and these represent the on and off electrical states respectively in hardware and robotics. 	<ul style="list-style-type: none"> Children understand binary as a number system and its purpose and application in computing. 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.
2	Counting in Binary	<ul style="list-style-type: none"> To examine how whole numbers are used as the basis for representing all types of data in digital systems. To 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 To represent whole numbers in binary, for example counting in binary from zero to 15, or writing a friend's age in binary. 	<ul style="list-style-type: none"> Children can count up from 0 in binary using visual aids if needed. Children can relate bits to computer storage.
3	Converting from Decimal to Binary	<ul style="list-style-type: none"> To examine how whole numbers are used as the basis for representing all types of data in digital systems. To represent whole numbers in binary, for example counting in binary from zero to 15, or writing a friend's age in binary. To explore how division by two can be used as a technique to determine the binary representation of any 	<ul style="list-style-type: none"> Children can convert numbers to binary using the division by two method. Children can check their own answers using the converter tool.
		whole number by collecting remainder terms.	
4	Game States	<ul style="list-style-type: none"> To examine how whole numbers are used as the basis for representing all types of data in digital systems. To represent the state of an object in a game as active or inactive using the respective binary values of 1 or 0. 	<ul style="list-style-type: none"> Children can make use of a variable set to 0 or 1 to control game states.



Spreadsheets with Microsoft Excel

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	What is a Spreadsheet?	<ul style="list-style-type: none"> To know what a spreadsheet looks like. To navigate and enter data into cells. 	<ul style="list-style-type: none"> Children know some uses of a spreadsheet tool. Children can navigate around a spreadsheet using cell references. Children can enter data into cells. Children understand new vocabulary relating to spreadsheets: cells, columns, rows, cell names, sheets, workbook.
<u>2</u>	Basic Calculations	<ul style="list-style-type: none"> To introduce some basic data formulae in Excel. To demonstrate how the use of Excel can save time and effort when performing calculations. 	<ul style="list-style-type: none"> Children can use a spreadsheet to carry out basic calculations including addition, subtraction, multiplication and division formulae. Children can use the series fill function. Children recognise how using formulae allows the data to change and the calculations to update automatically.
<u>3</u>	Modelling	<ul style="list-style-type: none"> To use a spreadsheet to model a situation. 	<ul style="list-style-type: none"> Children can use a spreadsheet to model a situation. Children can use a spreadsheet to solve a problem. Children can use the SUM function
<u>4</u>	Organising Data	<ul style="list-style-type: none"> To demonstrate how Excel can make complex data clear by manipulating the way it is presented. 	<ul style="list-style-type: none"> 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 know what is meant by a delimiter. Children understand how to sort data.
<u>5</u>	Advanced Formulae and Big Data	<ul style="list-style-type: none"> To use formulae for percentages, averages, max and min in spreadsheets. 	<ul style="list-style-type: none"> Children know how to incorporate formulae for percentages, averages, max and min into their spreadsheets. Children gain familiarity with range notation. 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.
<u>6</u>	Charts and Graphics	<ul style="list-style-type: none"> To create a variety of graphs in Excel. 	<ul style="list-style-type: none"> Children know that there are ways to represent their data graphically and that spreadsheets can make the process of representing data easier.

<u>7</u>	Using a Spreadsheet to Plan a Cake Sale	<ul style="list-style-type: none"> To use a spreadsheet to model a real-life situation. 	<ul style="list-style-type: none"> 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.
<u>8</u>	Using a Spreadsheet to Solve Problems	<ul style="list-style-type: none"> To apply spreadsheet skills to solving problems. 	<ul style="list-style-type: none"> To apply all new spreadsheet skills to solving problems and presenting data. To explore printing spreadsheets.

Spreadsheets with Google Sheets

		<ul style="list-style-type: none"> To use formulae for percentages, averages, max and min into 	<ul style="list-style-type: none"> Children know how to incorporate formulae for percentages, averages,
Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	What is a Spreadsheet?	<ul style="list-style-type: none"> To know what a spreadsheet looks like. To navigate and enter data into cells. 	<ul style="list-style-type: none"> Children know some uses of a spreadsheet tool. Children can navigate around a spreadsheet using cell references. Children can enter data into cells. Children understand new vocabulary relating to spreadsheets: cells, columns, rows, cell names, sheets, workbook.
<u>2</u>	Basic Calculations	<ul style="list-style-type: none"> To introduce some basic data formulae in Sheets. To demonstrate how the use of Sheets can save time and effort when performing calculations. 	<ul style="list-style-type: none"> Children can use a spreadsheet to carry out basic calculations including addition, subtraction, multiplication and division formulae. Children can use the series fill function. Children recognise how using formulae allows the data to change and the calculations to update automatically.
<u>3</u>	Modelling	<ul style="list-style-type: none"> To use a spreadsheet to model a situation. 	<ul style="list-style-type: none"> Children can use a spreadsheet to model a situation. Children can use a spreadsheet to solve a problem. Children can use the SUM function
<u>4</u>	Organising Data	<ul style="list-style-type: none"> To demonstrate how spreadsheets can make complex data clearer by manipulating the way it is presented. 	<ul style="list-style-type: none"> 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 know what is meant by a delimiter. Children understand how to sort data.
<u>5</u>	Advanced Formulae and Big Data	<ul style="list-style-type: none"> To use formulae for percentages, averages, max and min into spreadsheets. 	<ul style="list-style-type: none"> Children know how to incorporate formulae for percentages, averages, max and min into their spreadsheets. Children gain familiarity with range notation. 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.
<u>6</u>	Charts and Graphics	<ul style="list-style-type: none"> To create a variety of charts and graphs to understand data. 	<ul style="list-style-type: none"> Children know that there are ways to represent their data graphically and that

			<p>spreadsheets can make the process of representing data easier.</p> <ul style="list-style-type: none"> • Children gain an understanding of how a graphical representation can make data easier to interpret. • Children make a variety of charts using Sheets. • Children illustrate their data using sparklines and data bars.
<u>7</u>	Using a Spreadsheet to Plan a Cake Sale	<ul style="list-style-type: none"> • To use a spreadsheet to model a real-life situation. 	<ul style="list-style-type: none"> • 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.
<u>8</u>	Using a Spreadsheet to Solve Problems	<ul style="list-style-type: none"> • To apply spreadsheet skills to solving problems. 	<ul style="list-style-type: none"> • To apply all new spreadsheet skills to solving problems and presenting data. • To explore printing spreadsheets.