

Autumn	Unit 1 - Coding	Unit 2 – Online Safety	Unit 3 – Spreadsheets
<b>Number of Lessons</b>	6	3	5 (Continued in Spring Term)
<b>Outcome</b>	Children will create programs and playable games.	Children will gain a greater understanding of the impact of sharing digital content, as well as having a clear idea of how to behave appropriately online.	Children will create spreadsheets to investigate probability and apply models to real-life situations.
<b>Curriculum Content: Substantive Knowledge</b>	<p><b>Lesson Question</b> How do I plan a program?</p> <p><b>Substantive Knowledge</b> - Abstraction is starting with a simple game and enhancing it at a later date. -QR codes can be digitally created.</p> <p><b>Procedural Knowledge</b> - Using tabs makes debugging easier. - QR codes can be copied into documents</p> <p><b>Outcome:</b> Children will plan and design a complex game.</p>	<p><b>Lesson Question</b> How can I promote online safety?</p> <p><b>Substantive Knowledge</b> - Staying safe online is something we should remind others to do</p> <p><b>Procedural Knowledge</b> - There are 8 safety feature symbols, including PEGI rating symbols.</p> <p><b>Outcome:</b> Children will research about risks online including sharing location, phishing and other email scams</p>	<p><b>Lesson Question</b> How can I use a spreadsheet to investigate probability?</p> <p><b>Substantive Knowledge</b> - The dice tool simulates a dice roll by switching to one of the faces of a die.</p> <p><b>Procedural Knowledge</b> - The copy and paste shortcuts are Ctrl+C and Ctrl+V - The cut shortcut is Ctrl+X</p> <p><b>Outcome:</b> Children will create a spreadsheet to answer a mathematical question relating to probability.</p>
	<p><b>Lesson Question</b> Why are functions useful in 2Code?</p> <p><b>Substantive Knowledge</b> - A function is an accessible block of code. -Design view allows users to copy objects</p> <p><b>Procedural Knowledge</b> - Switching between code and design view allows children to see their progress.</p> <p><b>Outcome:</b> Children will create and organise code into functions to make them easier to read.</p>	<p><b>Lesson Question</b> How can others view my digital footprint?</p> <p><b>Substantive Knowledge</b> - It is important to keep control of your own digital footprint as it reflects how others see you.</p> <p><b>Procedural Knowledge</b> - Images can be altered digitally.</p> <p><b>Outcome:</b> Children will understand how what they share impacts upon themselves and upon others in the long-term</p>	<p><b>Lesson Question</b> How do I create a formula that calculates discounts?</p> <p><b>Substantive Knowledge</b> -The “set decimal” tool allows you to choose how many decimal places will be displayed in the spreadsheet.</p> <p><b>Procedural Knowledge</b> - Cells can be formatted to the right of headings by selecting the relevant cells and then going to the Format Cell toolbox.</p> <p><b>Outcome:</b> Children will create a machine to help work out the price of different items in a sale</p>
	<p><b>Lesson Question</b> How can I design a program that allows text input?</p> <p><b>Substantive Knowledge</b> - Input refers to information going into the computer.</p> <p><b>Procedural Knowledge</b> - “input” can be changed to different variables – number or string</p> <p><b>Outcome:</b> Children will code programs that take text input from the user and use it in a program.</p>	<p><b>Lesson Question</b> What are the positive and negative influences of technology on health and environment?</p> <p><b>Substantive Knowledge</b> - Too much screen time can affect physical health and mental wellbeing.</p> <p><b>Procedural Knowledge</b> - The design a database button allows users to create Screen Time databases.</p> <p><b>Outcome:</b> Children will discuss the positive and negative aspects of technology and balance these opposing views</p>	<p><b>Lesson Question</b> How can I apply a formula to budget money?</p> <p><b>Substantive Knowledge</b> - Modelling refers to creating or using a model or simulation of a real-life situation, on a computer.</p> <p><b>Substantive Knowledge</b> -The “set decimal” tool allows you to choose how many decimal places will be displayed in the spreadsheet.</p> <p><b>Procedural Knowledge</b> - The “set image” button allows users to add pictures to spreadsheets.</p> <p><b>Outcome:</b> Children will use a spreadsheet to budget their pocket money and come up with solutions</p>

	<p><b>Lesson Question</b> How can I use a flowchart to test and debug a program?</p> <p><b>Substantive Knowledge</b> -Tabs allow you to move between blocks of code on different pages</p> <p><b>Procedural Knowledge</b> - Some devices activate when you click them, some can be set to automatic.</p> <p><b>Outcome:</b> Children will create and use flowcharts to help create and debug code..</p>		<p><b>Lesson Question</b> How do I create a spreadsheet to plan a school event? (2 Lessons)</p> <p><b>Substantive Knowledge</b> - A formula is more efficient as “hard coding” as totals will be automatically updated should any values be altered.</p> <p><b>Outcome:</b> Children will use a spreadsheet to plan a school event and come up with solutions</p>
	<p><b>Lesson Question</b> How can I create a text-based adventure?</p> <p><b>Substantive Knowledge</b> - A text adventure is a computer game that uses text instead of graphics. The game simulates environments in which players use text commands to control characters and influence the environment.</p> <p><b>Procedural Knowledge</b> - Sketching maps while you play helps keep track of progress</p> <p><b>Outcome:</b> Children will adapt an existing text adventure to make it unique</p>		
<b>Vocabulary</b>	Action, alert, algorithm, bug, code block, code design, command, control, debug, design mode, event, Get input, function if, input, output, object, repeat, simulation, selection, sequence, tabs, timer, variable	Digital footprint, password, PEGI rating, phishing, screen time, spoof website	Average, Advance mode, copy and paste, columns, cells, charts, dice, equals tool, formula, formula wizard, move cell, random tool, rows, spin, spreadsheet, timer
<b>Resources</b>	2Code	2DIY 3D 2DIY 2Code 2Blog (Blogging)	2Calculate
<b>Curriculum Progression (including coverage of National Curriculum)</b>	A unit of work which enables children to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems.	A unit of work which enables pupils to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour when using technology.	A unit of work in which pupils select, use and combine a variety of software, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.
<b>Coherence (links to other subjects &amp; prior learning)</b>	<p><b>Prior Learning</b> – Y2 Unit 1- Coding, Y3 Unit 1- Coding, Y3 Unit 1- Coding, Y4 Unit 1- Coding, Y5 Unit 1- Coding</p> <p><b>Subject Links</b> – English</p>	<p><b>Prior Learning</b> – Y1 Unit 1- Online Safety and Purple Mash, Y2 Unit 2- Online Safety, Y3 Unit 2- Online Safety, Y3 Unit 2- Online Safety, Y4 Unit 2- Online Safety, Y5 Unit 2- Online Safety</p> <p><b>Subject Links</b> – PHSE</p>	<p><b>Prior Learning</b> – Y1 Unit 8- Spreadsheets, Y2 Unit 3- Spreadsheets, Y3 Unit 3- Spreadsheets, Y4 Unit 3- Spreadsheets, Y5 Unit 3- Spreadsheets</p> <p><b>Subject Links</b> – Maths</p>

Spring	Unit 4 – Blogging	Unit 5 – Text Adventures
<b>Number of Lessons</b>	5	4
<b>Outcome</b>	Children will create, comment on and update a blog.	Children will create and share text-based adventures.
<b>Curriculum Content: Substantive Knowledge</b>	<p><b>Lesson Question</b> Why do people write blogs?</p> <p><b>Substantive Knowledge</b> - Blogs contain ‘blog posts’ online which can be used to document life events, give information about hobbies and interests or share knowledge on specific subjects.</p> <p><b>Procedural Knowledge</b> - The “2Write” button creates writing pads where blog posts can be drafted.</p> <p><b>Outcome:</b> Children will understand how a blog can be used as an informative text</p>	<p><b>Lesson Question</b> What is a text-based adventure?</p> <p><b>Substantive Knowledge</b> - A text-based adventure is a computer game that uses text instead of graphics. - Choices are coloured red, and the story endings are purple. Yellow nodes show a decision that will take the user to a different storyline; text-based adventure stories can have alternate endings</p> <p><b>Procedural Knowledge</b> - Text based adventures needs to be planned collaboratively on 2Connect - To change the direction of the link or colour of the line, click on the arrow on the line.</p> <p><b>Outcome:</b> Children will map out a story-based text adventure</p>
	<p><b>Lesson Question</b> What should be included in a blog?</p> <p><b>Substantive Knowledge</b> - A blogs theme is the subject of the blog that most posts revolve around. -Blogs are usually written in an informal style.</p> <p><b>Procedural Knowledge</b> - Nodes can be edited using the edit button.</p> <p><b>Outcome:</b> Children will work collaboratively to plan a blog</p>	<p><b>Lesson Question</b> What should be included in a text-based adventure?</p> <p><b>Substantive Knowledge</b> - Sprites are characters in a story</p> <p><b>Procedural Knowledge</b> - The overview button shows the story planner view which shows how the story flows.</p> <p><b>Outcome:</b> Children will use 2Create a Story Adventure mode to create, test and debug using their plan.</p>
	<p><b>Lesson Question</b> How do I create my own blog?</p> <p><b>Substantive Knowledge</b> - It is important to write an accurate name and description for a blog, as well as selecting appropriate icons and covers. -An icon is a symbol or graphic representation on a screen.</p> <p><b>Procedural Knowledge</b> - Blogs can be created using the “add blog” button. - Blogs should be given a name, title and description in the appropriate fields.</p> <p><b>Outcome:</b> Children will create a blog with a specific purpose</p>	<p><b>Lesson Question</b> What is a map-based text-adventure?</p> <p><b>Substantive Knowledge</b> - Map-based text-adventures are not sequential - The aim of map-based text-adventure is to solve a puzzle.</p> <p><b>Procedural Knowledge</b> - The overview button shows the story planner view which shows how the story flows. - Buttons can be added using “Add button” icon, the most important one being “Go to Page”.</p> <p><b>Outcome:</b> Children will map out an existing text adventure.</p>

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	<p style="text-align: center;"><b>Lesson Question</b></p> <p>How do I contribute to an existing blog?</p> <p style="text-align: center;"><b>Substantive Knowledge</b></p> <ul style="list-style-type: none"> <li>- Blog posts may contain information which is untrue or inappropriate- we can report posts where this is the case or block a user from making future posts</li> </ul> <p style="text-align: center;"><b>Procedural Knowledge</b></p> <ul style="list-style-type: none"> <li>- Posts can be added to shared blogs by clicking the “add post” button.</li> </ul> <p><b>Outcome:</b> Children will contribute to an existing blog</p>	<p style="text-align: center;"><b>Lesson Question</b></p> <p>How do I code a map-based text-adventure?</p> <p style="text-align: center;"><b>Substantive Knowledge</b></p> <ul style="list-style-type: none"> <li>- In adventure games, there is a function for each room that gets called when that room is entered.</li> </ul> <p style="text-align: center;"><b>Procedural Knowledge</b></p> <ul style="list-style-type: none"> <li>- Files must be saved frequently so any work is not lost.</li> <li>- Functions should be put at the beginning of code.</li> </ul> <p><b>Outcome:</b> Children will create their own text-based adventure based upon a map</p>
	<p style="text-align: center;"><b>Lesson Question</b></p> <p>How do I comment on other blogs?</p> <p style="text-align: center;"><b>Substantive Knowledge</b></p> <ul style="list-style-type: none"> <li>- Comments on a blog post can be moderated by a blog owner so that any misleading information can be removed.</li> </ul> <p style="text-align: center;"><b>Procedural Knowledge</b></p> <ul style="list-style-type: none"> <li>- You can comment by using the comments box at the bottom of a blog post.</li> </ul> <p><b>Outcome:</b> Children will assess the effectiveness and impact of a blog.</p>	
<b>Vocabulary</b>	Audience, blog, blog page, blog post, collaborative, icon	Text-based adventure, concept map, debug, sprite, function
<b>Resources</b>	2Blog	2Code 2Connect 2Create a Story Writing Templates
<b>Curriculum Progression (including coverage of National Curriculum)</b>	A unit of work that allows pupils to understand some of the uses of the internet in which users can add, edit and publish information to a web page.	A unit of work which enables children to create enter code into software to accomplish a specific goal.
<b>Coherence (links to other subjects &amp; prior learning)</b>	<p><b>Prior Learning</b> – Y4 Unit 4- Writing for different purposes</p> <p><b>Subject Links</b> – English</p>	<p><b>Prior Learning</b> – Y4 Unit 6- Animation, Y6 Unit 1- Coding</p> <p><b>Subject Links</b> – English</p>

Summer	Unit 6 – Networks	Unit 7 – Quizzing
<b>Number of Lessons</b>	<b>4</b>	<b>6</b>
<b>Outcome</b>	Children will learn how the internet and networks work and have a greater understanding of the history of the evolution of technology.	Children will create and share quizzes.
<b>Curriculum Content: Substantive Knowledge</b>	<p style="text-align: center;"><b>Lesson Question</b></p> <p>What can the internet be used for?</p> <p style="text-align: center;"><b>Substantive Knowledge</b></p> <ul style="list-style-type: none"> <li>-The internet is a global computer network providing a variety of information and communication facilities consisting of interconnected networks using standardized communication protocols.</li> <li>- The World Wide Web is an information system on the Internet which allows documents to be connected to other documents by hypertext links, enabling the user to search for information by moving from one document to another.</li> </ul> <p style="text-align: center;"><b>Procedural Knowledge</b></p> <ul style="list-style-type: none"> <li>- The internet connects computers, or a network of computers, together.</li> <li>- The world wide web connects documents and is one of the services which uses the internet to be able to communicate.</li> </ul> <p><b>Outcome:</b> Children will know the difference between the world wide web and the internet.</p>	<p style="text-align: center;"><b>Lesson Question</b></p> <p>How can I create a picture-based quiz?</p> <p style="text-align: center;"><b>Substantive Knowledge</b></p> <ul style="list-style-type: none"> <li>- A quiz is a test of Substantive Knowledge, between individuals or teams as a form of entertainment.</li> </ul> <p style="text-align: center;"><b>Procedural Knowledge</b></p> <ul style="list-style-type: none"> <li>- Instructions are added to a quiz by clicking the “i” button</li> </ul> <p><b>Outcome:</b> Children will create a picture based quiz.</p>
	<p style="text-align: center;"><b>Lesson Question</b></p> <p>What is LAN?</p> <p style="text-align: center;"><b>Substantive Knowledge</b></p> <ul style="list-style-type: none"> <li>- LAN stands for Local area network. It is a computer network that links devices within a building or group of adjacent buildings, especially one with a radius of less than 1 km.</li> <li>-A router is a key part of a network, it which allows the computer to connect to the internet.</li> </ul> <p style="text-align: center;"><b>Procedural Knowledge</b></p> <ul style="list-style-type: none"> <li>- A group of devices which are connected to one another using network cables is a form of a wired local network</li> </ul> <p><b>Outcome:</b> Children will know what LAN is</p>	<p style="text-align: center;"><b>Lesson Question</b></p> <p>What are the different question types in a quiz? (2&amp;3)</p> <p style="text-align: center;"><b>Substantive Knowledge</b></p> <ul style="list-style-type: none"> <li>- The different question types include: Sequencing, Grouping/Venn diagram layout, Text question, Multiple choice, Labelling. These are all presented differently on a digital screen.</li> </ul> <p style="text-align: center;"><b>Procedural Knowledge</b></p> <ul style="list-style-type: none"> <li>- Quizzes can be shared on a class blog by clicking the globe button.</li> </ul> <p><b>Outcome:</b> Children will create a quiz with different types of questions.</p>
	<p style="text-align: center;"><b>Lesson Question</b></p> <p>What is WAN?</p> <p style="text-align: center;"><b>Substantive Knowledge</b></p> <ul style="list-style-type: none"> <li>- WAN stands for Wide area network. It is a computer network in which the computers connected may be far apart, generally having a radius of more than 1 km</li> <li>- Wired networking is a group of devices which are connected to one another using network cables is basically a wired local network. Wireless networking is like a wired networking except that the devices connect to the router and one another using radio wireless connections instead of cables. This is known as Wi-Fi networking.</li> </ul> <p style="text-align: center;"><b>Procedural Knowledge</b></p>	<p style="text-align: center;"><b>Lesson Question</b></p> <p>What question types are used in grammar quizzes?</p> <p style="text-align: center;"><b>Substantive Knowledge</b></p> <ul style="list-style-type: none"> <li>- Word Spot and Cloze are 2 of the 5 quiz tools; word sort requires users to sort different words, cloze requires users to drag and drop options</li> </ul> <p><b>Outcome:</b> Children will try and assess different types of grammar games.</p>

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	<p>- A wireless network is like a wired network except that the devices connect to the router and one another using radio wireless connections instead of cables.</p> <p><b>Outcome:</b> Children will know what WAN is</p>	
	<p style="text-align: center;"><b>Lesson Question</b></p> <p>What are the history and future of the internet?</p> <p style="text-align: center;"><b>Substantive Knowledge</b></p> <p>- Sir Tim Berners-Lee invented the World Wide Web</p> <p style="text-align: center;"><b>Procedural Knowledge</b></p> <p>- Search engines are used to research topics.</p> <p><b>Outcome:</b> Children will research and find out about the history and possible future of the internet</p>	<p style="text-align: center;"><b>Lesson Question</b></p> <p>How can I create a quiz that uses a database?</p> <p style="text-align: center;"><b>Substantive Knowledge</b></p> <p>- The information the user can display will depend on the type of field.</p> <p style="text-align: center;"><b>Procedural Knowledge</b></p> <p>- Clicking on the field heading sorts the data by any field. - The Statistics and Report button allows the user to find statistical information in a database</p> <p><b>Outcome:</b> Children will create a quiz that uses a database.</p>
		<p style="text-align: center;"><b>Lesson Question</b></p> <p>How do I create a quiz to test my teacher?</p> <p style="text-align: center;"><b>Substantive Knowledge</b></p> <p>-Game show mode allows pupils to present their quizzes.</p> <p><b>Outcome:</b> Children will use their knowledge of quiz types to create a quiz-show quiz based their humanities topic.</p>
<b>Vocabulary</b>	Internet, World Wide Web, Network, Local Area Network (LAN), Wide Area Network (WAN), Router, Network cables, wireless	Audience, collaboration, concept map, database, quiz
<b>Resources</b>	2Connect (Mind Map) Writing Templates	2DIY 2Quiz Text Toolkit 2Investigate (database)
<b>Curriculum Progression (including coverage of National Curriculum)</b>	A unit of work where children will understand computer networks, including the Internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration.	A unit of work where children will make effective use of computer software, programming it in order for it to accomplish a specific goal.
<b>Coherence (links to other subjects &amp; prior learning)</b>	<p><b>Prior Learning</b> – Y4 Unit 8- Hardware Investigators</p> <p><b>Subject Links</b> – History</p>	<p><b>Prior Learning</b> – Y2 Unit4- Questioning, Y3 Unit 6- branching databases, Y5 Unit 4- Databases, Y5 Unit 7- Concept Maps</p> <p><b>Subject Links</b> – English, Humanities.</p>