

Long Term Individual Subject Curriculum Plan 2020-21

Computing

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Y6	<p><u>Online safety</u></p> <ul style="list-style-type: none"> -Identify benefits and risks of mobile devices broadcasting the location of the user/device. -Identify secure sites by looking for privacy seals of approval. -Identify the benefits and risks of giving personal information. -To review the meaning of a digital footprint. -To have a clear idea of appropriate online behaviour. -To begin to understand how information online can persist. -To understand the importance of balancing game and screen time with other parts of their lives. -To identify the positive and negative influences of technology on health and the environment. 	<p><u>Coding</u></p> <ul style="list-style-type: none"> -To use the program design process, including flowcharts, to develop algorithms for more complex programs using and understanding of abstraction and decomposition to define the important aspects of the program. -To code, test and debug from these designs. -To use functions and tabs in 2Code to improve the quality of the code. -To code user interactivity using input functions. <p>Action, alert, algorithm, bug, code design, command, control, debug/debugging, event, function, get</p>	<p><u>Blogging</u></p> <ul style="list-style-type: none"> -To identify the purpose of writing a blog and its key features. -To plan the theme and content for a blog and write the content. -To consider the effect upon the audience of changing the visual properties of the blog. -To understand the importance of regularly updating the content of a blog. -To understand how to contribute to an existing blog. -To understand how and why blog posts are approved by the teacher. <p>Audience, blog, blog page, blog post, collaborative, icon.</p>	<p><u>Text Adventures</u></p> <ul style="list-style-type: none"> -To find out what a text adventure is. -To plan a story adventure. -To make a story-based adventure. -To introduce map-based text adventures. -To code a map-based text adventure. <p>Text-based adventure, concept map, debug, sprite, function.</p>	<p><u>Networks</u></p> <ul style="list-style-type: none"> -To learn about what the Internet consists of. -To find out what a LAN and a WAN are. -To find out how the Internet is accessed in school. -To research and find out about the age of the Internet. -To think about what the future might hold. <p>Internet, World Wide Web, network, Local Area Network (LAN), Wide Area Network (WAN), router, network cables, wireless.</p>	<p><u>Quizzing</u></p> <ul style="list-style-type: none"> -To create a picture-based quiz for young children. -To learn how to use the question types within 2Quiz. -To explore the grammar quizzes. -To make a quiz that requires the player to search a database. <p>Audience, collaboration, concept map, database, quiz.</p>

	<p>Digital footprint, password, PEGI rating, phishing, screen time, spoof website.</p> <p><u>Spreadsheets</u></p> <ul style="list-style-type: none">-To use a spreadsheet to investigate the probability of the results of throwing many dice.-Using the formula wizard to add a formula to a cell to automatically make a calculation in that cell.-To create graphs showing the data collected.-To type in a formula for a cell to automatically make a calculation in that cell.-Using a spreadsheet to create computational models and answer questions. <p>Average, advance mode, copy and paste, columns, cells, charts, count (how many) tool, dice, equals tool, formula, formula wizard, move cell tool, random</p>	<p>input, if, if/else, input, output, object, repeat, sequence, selection, simulation, tabs, timer, variable.</p>				
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	tool, rows, spin tool, spreadsheet, timer.					
Y5	<p><u>Online safety</u></p> <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 and children's responsibility to one another in their online behaviour. -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. -To learn about how to reference sources in their work -To search the Internet with a consideration for the reliability of the 	<p><u>Coding</u></p> <ul style="list-style-type: none"> -To represent a program design and algorithm. -To create a program that simulates a physical system using decomposition. -To explore string and text variable types so that the most appropriate can be used in programs. -To use the Launch command in 2Code Gorilla. -To program a playable game with timers and scorepad. <p>Action, alert, algorithm, bug, code design, command, control, debug/debugging, design mode, event, get input, if, if/else, input, output, object, repeat, sequence, selection, simulation, timer, variable.</p>	<p><u>Spreadsheets</u></p> <ul style="list-style-type: none"> -Using the formula wizard to add a formula to a cell to automatically make a calculation in that cell. -To copy and paste within 2Calculate. -Using 2Calculate tools to test a hypothesis. -To add a formula to a cell to automatically make a calculation in that cell. -Using a spreadsheet to model a real-life situation and answer questions. <p>Average, advance mode, copy and paste, columns, cells, charts, equals tool, formula, formula wizard, move cell tool, random tool, rows, spin tool, spreadsheet, timer.</p>	<p><u>Game Creator</u></p> <ul style="list-style-type: none"> -To set the scene. -To create the game environment. -To create the game quest. -To finish and share the game. -To evaluate their and peers' games. <p>Animation, computer game, customise, evaluation, image, instructions, interactive, screenshot, texture, perspective, playability.</p>	<p><u>3D Modelling</u></p> <ul style="list-style-type: none"> -To be introduced to 2Design and Make and the skills of computer aided design. -To explore the effect of moving points when designing. -To understand designing for a purpose. -To understand printing and making. <p>CAD – Computer Aided Design, modelling, 3D, viewpoint, polygon, 2D, net, 3D printing, points, template.</p>	<p><u>Concept Maps</u></p> <ul style="list-style-type: none"> -To understand the need for visual representation when generating and discussing complex ideas. -To understand and use the correct vocabulary when creating a concept map. -To create a concept map. -To understand how a concept map can be used to retell stories and present information. -To create a collaborative concept map and present this to an audience. <p>Audience, collaboratively, concept, concept map, connection, idea, node, thought, visual.</p>

	<p>results of sources to check validity and understand the impact of incorrect information.</p> <p>Online safety, SMART rules, password, reputable, encryption, identity theft, shared image, plagiarism, citations, reference, bibliography.</p> <p><u>Databases</u></p> <ul style="list-style-type: none">-To learn how to search for information in a database.-To contribute to a class database.-To create a database around a chosen topic. <p>Avatar, binary tree (branching database), charts, collaborative, data, database, find, record, sort – group-arrange, statistics and reports, table.</p>					
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<p>Y4</p>	<p><u>Online safety</u></p> <ul style="list-style-type: none"> -To understand how children can protect themselves from online identity theft. -Understand that information put online leaves a digital footprint or trail and that this can aid identity theft. -To Identify the risks and benefits of installing software including apps. -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. -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. 	<p><u>Coding</u></p> <ul style="list-style-type: none"> -To use selection in coding with the 'if/else' command. -To understand and use variables in 2Code. -To use flowcharts for design of algorithms including selection. -To use the 'repeat until' with variables to determine the repeat. -To learn about and use computational thinking terms decomposition and abstraction. <p>Action, alert, algorithm, bug, code design, command, control, debug/debugging, design mode, event, get input, if, if/else, input, output, object, repeat, selection, simulation, timer, variable.</p>	<p><u>Spreadsheets</u></p> <ul style="list-style-type: none"> -Formatting cells as currency, percentage, decimal to different decimal places or fraction. -Using the formula wizard to calculate averages. -Combining tools to make spreadsheet activities such as timed times tables tests. -Using a spreadsheet to model a real-life situation. -To add a formula to a cell to automatically make a calculation in that cell. <p>Average, advance mode, copy and paste, columns, cells, charts, equals tool, formula, formula wizard, move cell tool, random tool, rows, spin tool, spreadsheet, timer.</p>	<p><u>Writing for different audiences</u></p> <ul style="list-style-type: none"> -To explore how font size and style can affect the impact of a text. -To use a simulated scenario to produce a news report. -To use a simulated scenario to write for a community campaign. <p>Font, bold, italic, underline.</p>	<p><u>Animation</u></p> <ul style="list-style-type: none"> -To discuss what makes a good animated film or cartoon. -To learn how animations are created by hand. -To find out how 2Animate can be created in a similar way using the computer. -To learn about onion skinning in animation. -To add backgrounds and sounds to animations. -To be introduced to 'stop motion' animation. -To share animation on the class display board and by blogging. <p>Animation, flipbook, frame, onion skinning, background, play, sound, stop motion, video clip.</p> <p><u>Effective Search</u></p> <ul style="list-style-type: none"> -To locate information on the search results page. -To use search effectively to find out information. 	<p><u>Logo</u></p> <ul style="list-style-type: none"> -To learn the structure of the coding language of Logo. -To input simple instructions in Logo. -Using 2Logo to create letter shapes. -To use the Repeat function in Logo to create shapes. -To use and build procedures in Logo. <p>LOGO, BK, FD, RT, LT, REPEAT, SETPC, SETPS, PU, PD.</p>
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	<p>Computer virus, cookies, copyright, digital footprint, email, identity theft, malware, phishing, plagiarism, spam.</p> <p><u>Hardware Investigators</u></p> <p>-To understand the different parts that make up a computer. -To recall the different parts that make up a computer.</p> <p>Motherboard, CPU, RAM, graphics card, network card, monitor, speakers, keyboard and mouse.</p>				<p>-To assess whether an information source is true and reliable.</p> <p>Easter egg, internet, internet browser, search, search engine, spoof website, website.</p>	
Y3	<p><u>Online safety</u></p> <p>-To know what makes a safe password. -Methods for keeping passwords safe. -To understand how the Internet can be used in effective communication. -To understand how a blog can be used to communicate with a wider audience.</p>	<p><u>Touch Typing</u></p> <p>-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. -To practice typing with the left and right hand.</p>	<p><u>Email</u></p> <p>-To think about different methods of communication. -To open and respond to an email using an address book. -To learn how to use email safely. -To add an attachment to an email. -To explore a simulated email scenario.</p>	<p><u>Branching Databases</u></p> <p>-To sort objects using just 'yes' or 'no' questions. -To complete a branching database using 2Question. -To create a branching database of the children's choice.</p>	<p><u>Simulations</u></p> <p>-To consider what simulations are. -To explore a simulation. -To analyse and evaluate a simulation.</p> <p>Simulation.</p>	<p><u>Graphing</u></p> <p>-To enter data into a graph and answer questions. -To solve an investigation and present the results in graphic form.</p> <p>Graph, field, data, bar chart, block graph, line graph.</p>

	<p>-To consider the truth of the content of websites. -To learn about the meaning of age restrictions symbols on digital media and devices.</p> <p>Password, internet, blog, concept map, username, website, webpage, spoof website, PEGI rating.</p> <p><u>Coding</u></p> <p>-To design algorithms using flowcharts. -To design an algorithm that represents a physical system and code this representation. -To use selection in coding with the 'if' command. -To understand and use variables in 2Code. -To deepen understanding of the different between timers and repeat commands.</p> <p>Action, algorithm, bug, code block, code design, command,</p>	<p>Posture, top row keys, home row keys, bottom row keys, space bar.</p> <p><u>Spreadsheets</u></p> <p>-To use the symbols more than, less than and equal to, to compare values. -To use 2Calculate to collect data and produce a variety of graphs. -To use the advanced mode of 2Calculate to learn about cell references.</p> <p>< > =, advance mode, copy and paste, columns, cells, delete key, equals tool, move cell tool, rows, spin tool, spreadsheet.</p>	<p>Communication, email, compose, send, report to the teacher, attachment, address book, save to draft, password, cc, formatting.</p>	<p>Branching database, data, database, question.</p>		
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	<p>control, debug/debugging, design mode, event, if, input, output, object, properties, repeat, computer simulation, selection, timer, variable.</p>					
Y2	<p><u>Online safety</u> -To know how to refine searches using the Search tool. -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. -To introduce Email as a communication tool using 2Respond simulations. -To understand how we should talk to others in an online situation. -To open and send simple online</p>	<p><u>Spreadsheets</u> -To use 2Calculate image, lock, move cell, speak and count tools to make a counting machine. -To learn how to copy and paste in 2Calculate. -To use the totalling tools. -To use a spreadsheet for money calculations. -To use the 2Calculate equals tool to check calculations. -To use 2Calculate to collect data and produce a graph. Backspace key, copy and paste, columns,</p>	<p><u>Questioning</u> -To learn about data handling tools that can give more information than pictograms. -To use yes/no questions to separate information. -To construct a binary tree to identify items. -To use 2Question (a binary tree database) to answer questions. -To use a database to answer more complex search questions. -To use the Search tool to find information. Pictogram, data, question, collate, binary tree, avatar, database.</p>	<p><u>Making Music</u> -To make music digitally using 2Sequence. -To explore, edit and combine sounds using 2Sequence. -To edit and refine composed music. -To think about how music can be used to express feelings and create tunes which depict feelings. -To upload a sound from a bank of sounds into the Sounds section. -To record and upload environmental sounds into Purple Mash. -To use these sounds to create tunes in 2Sequence.</p>	<p><u>Creating pictures</u> -To learn the functions of the 2Paint a Picture tool. -To learn about and recreate the Impressionist style of art (Monet, Degas, Renoir). -To recreate Pointillist art and look at the work of pointillist artists such as Seurat. -To learn about the work of Piet Mondrian and recreate the style using the lines template. -To learn about the work of William Morris and recreate the style using the patterns template. Impressionism, palette, pointillism, share, surrealism, template.</p>	<p><u>Presenting Ideas</u> -To explore how a story can be presented in different ways. -To make a quiz about a story or class topic. -To make a fact file on a non-fiction topic. -To make a presentation to the class. Concept map (Mind map), node, animated, quiz, non-fiction, presentation, narrative, audience.</p>

	<p>communications in the form of email.</p> <ul style="list-style-type: none"> -To understand that information put online leaves a digital footprint or trail. -To identify the steps that can be taken to keep personal data and hardware secure. <p>Search, display board, internet, sharing, email, attachment, digital footprint.</p> <p><u>Coding</u></p> <ul style="list-style-type: none"> -To understand what an algorithm is. -To design algorithms and then code them. -To compare different object types. -To use the repeat command. -To use the timer command. -To know what debugging is and debug programs. <p>Action, algorithm, bug, character, code block,</p>	<p>cells, count tool, delete key, equals tool, image toolbox, lock tool, move cell tool, rows, speak tool, spreadsheet.</p> <p><u>Effective Searching</u></p> <ul style="list-style-type: none"> -To understand the terminology associated with searching. -To gain a better understanding of searching on the Internet. -To create a leaflet to help someone search for information on the Internet. <p>Internet, search, search engine.</p>		<p>Bpm, composition, digitally, instrument, music, sound effects, soundtrack, tempo, volume.</p>		
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	code design, command, debug/debugging, design mode, input, object, properties, repeat, scale, timer, when clicked, when key.					
Y1	<p><u>Online safety and exploring Purple Mash</u></p> <ul style="list-style-type: none"> -To log in safely. -To learn how to find saved work in the Online Work area and find teacher comments. -To learn how to search Purple Mash to find resources. -To become familiar with the icons and types of resources available in the Topics section. -To start to add pictures and text to work. -To explore the Tools and Games section of Purple Mash -To learn how to open, save and print. -To understand the importance of logging out 	<p><u>Pictograms</u></p> <ul style="list-style-type: none"> -To understand that data can be represented in picture format. -To contribute to a class pictogram. -To use a pictogram to record the results of an experiment. <p>Pictogram, data, collate.</p> <p><u>Lego Builders</u></p> <ul style="list-style-type: none"> -To compare the effects of adhering strictly to instructions to completing tasks without complete instructions. -To follow and create simple instructions on the computer. -To consider how the order of instructions affects the result. 	<p><u>Maze Explorers</u></p> <ul style="list-style-type: none"> -To understand the functionality of the direction keys. -To understand how to create and debug a set of instructions (algorithm). -To use the additional direction keys as part of an algorithm. -To understand how to change and extend the algorithm list. -To create a longer algorithm for an activity. -To set challenges for peers. -To access peer challenges set by the teacher as 2dos. <p>Direction, challenge, arrow, undo, rewind, forwards, right turn, left</p>	<p><u>Animated story books</u></p> <ul style="list-style-type: none"> -To introduce e-books and the 2Create a Story tool. -To add animation to a story. -To add sound to a story, including voice recording and music the children have composed. -To work on a more complex story, including adding backgrounds and copying and pasting pages. -To share e-books on a class display board. <p>Animation, E-Book, font, file, sound effect, display board.</p>	<p><u>Coding</u></p> <ul style="list-style-type: none"> -To understand what coding means. -To use design mode to set up a scene. -To add characters. -To use code blocks to make the character perform actions. -To use collision detection. -To save and share work. -To know the save, print, open and new icon. <p>Action, background, button, character, code block, code design, coder, coding, collision detecting, command, design mode, input, object, program, properties, scale, stop command, sound, when clicked, when key.</p>	<p><u>Spreadsheets</u></p> <ul style="list-style-type: none"> -To know what a spreadsheet program looks like. -How to open 2Calculate in Purple Mash. -How to enter data into spreadsheet cells. -To use 2Calculate image tools to add clipart to cells. -To use 2Calculate control tools: lock, move cell, speak and count. <p>Arrow keys, Backspace key, cursor, columns, cells, clipart, count tool, delete key, image toolbox, lock tool, move cell tool, rows, speak tool, spreadsheet.</p> <p><u>Technology Outside School</u></p> <ul style="list-style-type: none"> -To walk around the local community and find

	<p>Log in, username, password, avatar, my work, log out, save, notification, topics, tools.</p> <p><u>Grouping and Sorting</u></p> <p>-To sort items using a range of criteria. -To sort items on the computer using the 'Grouping' activities in Purple Mash.</p> <p>Sort, criteria.</p>	<p>Instruction, algorithm, computer, program, debug.</p>	<p>turn, debug, instruction, algorithm.</p>			<p>examples of where technology is used. -To record examples of technology outside school.</p> <p>Technology.</p>
Reception	For skills covered in the EYFS please refer to the Understanding the World: Technology section in The EYFS Lancashire Planning Document page 144.					
Nursery						