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| Long Term Individual Subject Curriculum Plan 2020-21 |
| Computing |
|  | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| Y6 | **Online safety**-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.Digital footprint, password, PEGI rating, phishing, screen time, spoof website. **Spreadsheets**-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.Average, advance mode, copy and paste, columns, cells, charts, count (how many) tool, dice, equals tool, formula, formula wizard, move cell tool, random tool, rows, spin tool, spreadsheet, timer. | **Coding**-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.Action, alert, algorithm, bug, code design, command, control, debug/debugging, event, function, get input, if, if/else, input, output, object, repeat, sequence, selection, simulation, tabs, timer, variable.  | **Blogging**-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.Audience, blog, blog page, blog post, collaborative, icon. | **Text Adventures**-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.Text-based adventure, concept map, debug, sprite, function. | **Networks**-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.Internet, World Wide Web, network, Local Area Network (LAN), Wide Area Network (WAN), router, network cables, wireless. | **Quizzing**-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.Audience, collaboration, concept map, database, quiz. |
| Y5 | **Online safety**-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 results of sources to check validity and understand the impact of incorrect information.Online safety, SMART rules, password, reputable, encryption, identity theft, shared image, plagiarism, citations, reference, bibliography.**Databases**-To learn how to search for information in a database. -To contribute to a class database. -To create a database around a chosen topic.Avatar, binary tree (branching database), charts, collaborative, data, database, find, record, sort – group- arrange, statistics and reports, table. | **Coding**-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.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. | **Spreadsheets**-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.Average, advance mode, copy and paste, columns, cells, charts, equals tool, formula, formula wizard, move cell tool, random tool, rows, spin tool, spreadsheet, timer.  | **Game Creator**-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.Animation, computer game, customise, evaluation, image, instructions, interactive, screenshot, texture, perspective, playability. | **3D Modelling**-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.CAD – Computer Aided Design, modelling, 3D, viewpoint, polygon, 2D, net, 3D printing, points, template. | **Concept Maps**-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.Audience, collaboratively, concept, concept map, connection, idea, node, thought, visual. |
| Y4 | **Online safety**-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.Computer virus, cookies, copyright, digital footprint, email, identity theft, malware, phishing, plagiarism, spam.**Hardware Investigators**-To understand the different parts that make up a computer. -To recall the different parts that make up a computer.Motherboard, CPU, RAM, graphics card, network card, monitor, speakers, keyboard and mouse. | **Coding**-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.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. | **Spreadsheets**-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.Average, advance mode, copy and paste, columns, cells, charts, equals tool, formula, formula wizard, move cell tool, random tool, rows, spin tool, spreadsheet, timer. | **Writing for different audiences**-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.Font, bold, italic, underline. | **Animation**-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.Animation, flipbook, frame, onion skinning, background, play, sound, stop motion, video clip.**Effective Search**-To locate information on the search results page. -To use search effectively to find out information. -To assess whether an information source is true and reliable.Easter egg, internet, internet browser, search, search engine, spoof website, website. | **Logo**-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.LOGO, BK, FD, RT, LT, REPEAT, SETPC, SETPS, PU, PD. |
| Y3 | **Online safety**-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. -To consider the truth of the content of websites. -To learn about the meaning of age restrictions symbols on digital media and devices.Password, internet, blog, concept map, username, website, webpage, spoof website, PEGI rating.**Coding**-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.Action, algorithm, bug, code block, code design, command, control, debug/debugging, design mode, event, if, input, output, object, properties, repeat, computer simulation, selection, timer, variable. | **Touch Typing**-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.Posture, top row keys, home row keys, bottom row keys, space bar.**Spreadsheets**-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.< > =, advance mode, copy and paste, columns, cells, delete key, equals tool, move cell tool, rows, spin tool, spreadsheet. | **Email**-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.Communication, email, compose, send, report to the teacher, attachment, address book, save to draft, password, cc, formatting. | **Branching Databases**-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.Branching database, data, database, question. | **Simulations**-To consider what simulations are. -To explore a simulation. -To analyse and evaluate a simulation.Simulation. | **Graphing**-To enter data into a graph and answer questions. -To solve an investigation and present the results in graphic form.Graph, field, data, bar chart, block graph, line graph. |
| Y2 | **Online safety** -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 communications in the form of email.-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.Search, display board, internet, sharing, email, attachment, digital footprint.**Coding**-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.Action, algorithm, bug, character, code block, code design, command, debug/debugging, design mode, input, object, properties, repeat, scale, timer, when clicked, when key. | **Spreadsheets**-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, cells, count tool, delete key, equals tool, image toolbox, lock tool, move cell tool, rows, speak tool, spreadsheet.**Effective Searching**-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.Internet, search, search engine. | **Questioning**-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. | **Making Music**-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.Bpm, composition, digitally, instrument, music, sound effects, soundtrack, tempo, volume. | **Creating pictures**-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. | **Presenting Ideas**-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. |
| Y1 | **Online safety and exploring Purple Mash**-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 Log in, username, password, avatar, my work, log out, save, notification, topics, tools.**Grouping and Sorting**-To sort items using a range of criteria.-To sort items on the computer using the ‘Grouping’ activities in Purple Mash.Sort, criteria. | **Pictograms**-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.Pictogram, data, collate.**Lego Builders**-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.Instruction, algorithm, computer, program, debug. | **Maze Explorers**-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.Direction, challenge, arrow, undo, rewind, forwards, right turn, left turn, debug, instruction, algorithm. | **Animated story books**-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.Animation, E-Book, font, file, sound effect, display board. | **Coding**-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.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. | **Spreadsheets**-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.Arrow keys, Backspace key, cursor, columns, cells, clipart, count tool, delete key, image toolbox, lock tool, move cell tool, rows, speak tool, spreadsheet.**Technology Outside School**-To walk around the local community and find examples of where technology is used.-To record examples of technology outside school.Technology. |

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| st-stephens-final.png**EYFS****Understanding The World – Technology** *­ical* |
| EYFS Development Bands | Key Learning  | Vocabulary |
| **Birth To Five Matters**Range 5* Knows how to operate simple equipment, e.g. turns on CD player, uses a remote control, can navigate touch-capable technology with support.
* Shows an interest in technological toys with knobs or pulleys, real objects such as cameras, and touchscreen devices such as mobile phones and tablets.
* Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.
* Knows that information can be retrieved from digital devices and the internet.
* Plays with a range of materials to learn cause and effect, for example, makes a string puppet using dowels and string to suspend the puppet.

Range 6* Completes a simple program on electronic devices.
* Uses ICT hardware to interact with age-appropriate computer software.
* Can create content such as a video recording, stories, and/or draw a picture on screen.
* Develops digital literacy skills by being able to access, understand and interact with a range of technologies.
* Can use the internet with adult supervision to find and retrieve information of interest to them.

**Statutory Framework Early years Foundation Stage Curriculum 2021***Statutory ELG: None*Birth to Five Matters: Children require access to a range of technologies, both digital and non-digital in their early lives. Exploring with different technologies through play provides opportunities to develop skills that children will go on to develop in their lifetimes. Investigations, scientific inquiry and exploration are essential components of learning about and with technology both digitally and in the natural world. Through technology children have additional opportunities to learn across all areasin both formal and informal ways. Technologies should be seen as tools to learn both from and with, in order to integrate technology effectively within early years practice. | Generic IT skills and KnowledgeUsing a variety of IT equipment varied purposes, e.g. games, to take a photograph, record a video, draw, communicate.Text and Digital ImageryMake marks on screen using apps and changing mark making tools.AudioUse devices to record and play back sounds. Use IT software to explore sound.Data HandlingSort and sequence data on screen, e.g. organising colours/fruit, etc.Online SafetyKnow what to do when feel unsafe using a device or when online.Electronic ProgrammingUsing commands to control equipment, e.g. Bee-Bot, arrow keys.Simulations and ModellingExplore virtual situations, e.g. dressing a character, watering a plant to make it grow.The objectives are taught through the medium oftopics or themes that the children show interest in. | Swipe, tap, press, wait, look, screen, icon, app, screen, keyboard, mouse, click, photograph, picture, record, skip, drag, play, pause, stop, wind, select, website, browser, internet, on/off, batteries, charge, plug, electricity. |

