Lostwithiel Primary School Computing Curriculum 2020 - 2021

У1	Autumn 1	Spring 1	Summer 1
71	Digital Literacy- Seesaw Online Journal	Digital Literacy- Typing Text and Drawing	Computer Science - Programming
NC Objectives	 use technology purposefully to create, organise, store, manipulate and retrieve digital content 	 use technology purposefully to create, organise, store, manipulate and retrieve digital content 	 understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. create and debug simple programs
Skills	 SeeSaw Know how to log-in using the class QR code. Save a picture to your online profile. Save a short video to your online profile. Use seesaw to record learning in other lessons. 	 Word Processing Turn on a device. Log-in to the device using a username and password. Open a program. Use keys to type short text. Use a mouse/mouse pad to move the curser around the page. Use the shift key for capital letters. Use the backspace button to delete letters or spaces. Use the space bar between words. Know that text automatically move to a new line when the end of the page is reached. Use the return button to move to a new line. Open a paint package. Change paint colour, brush size, fill and undo to create pics. Save work and reopen it. 	 Floor Robots and Beebot App Move the floor robot one-step at a time to create a sequence of moves. Give the floor robot a sequence of instructions (algorithm) to travel a specified route one move at a time. Give and follow instructions , which include straight and turning commands, one at a time (with and without a computer) Simply record and carry out an algorithm describing what happened. Link up to eight moves together in one continuous algorithm. Debug (correct) mistakes by working backwards. List other objects in the home, which follow instructions e.g. washing machine.
	Autumn 2	Spring 2	Summer 2
	Information Technology - Websites	Digital Literacy- Data Handling	Internet Safety
	 use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. 	 use technology purposefully to create, organise, store, manipulate and retrieve digital content 	 use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.
	 Using a Website Understand the internet is a source of information and communication made by humans. Talk about websites they have been on. Enter a simple web address into the search bar on an internet browser. Scroll down a page on the internet. Use the refresh icon to refresh a website if necessary. Explore a website by clicking on buttons, arrows, menus and hyperlinks. Recognise the icons for these Use the back button or home button to navigate a website. 	 <u>Pictograms</u> Use the mouse Make choices Understand that data can be collected and presented as graphs Understand that images can give information Answer simple questions using pictograms to show they understand what a picture is showing them. Know that pictograms can be changed. Sort objects/shapes/pictures in lists and tables or creating patterns and sequences. 	 www.childnet.com/resources/smartie-the-penguin List different devices that can go on the internet, and separate those that do not. Make decisions about whether or not statements or images found on the internet are likely to be true. Understand what personal information is online. Know what inappropriate content online might be and what to do if it is found. Know that talking to strangers online can be dangerous. Recite the rhyme 'before you tap and click you need to stop and think and tell someone'.
	Complete a simple search under adult supervision.	Put data into a programme (i.e. to create a pictogram)	
Resources		Put data into a programme (i.e. to create a pictogram) J2E pictogram, J2E write, Word, Seesaw, 2simple paint screen, tablet, keyboard, keys, mouse, mouse pad, curser, back space,	Floor Robot, Bee Bot App, Smartie the Penguin resources turn, left, right, forward, backwards, route, algorithm, debug, sequence,

WI7

Y2	Autumn 1	Spring 1	Summer 1
/ =	Computer Science -Coding	Digital Literacy - Presentations	Digital Literacy - Data Handling
NC Objectives	 understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions create and debug simple programs use logical reasoning to predict the behaviour of simple programs 	 use technology purposefully to create, organise, store, manipulate and retrieve digital content 	 use technology purposefully to create, organise, store, manipulate and retrieve digital content
Skills	 Floor Robots Program the floor robot make quarter, half, three quarters and whole turns. Use an algorithm to move the robot in a continuous series of movements. Predict the floor robot's destination after using a teacher designed algorithm of continuous movement. Debug provided algorithms to ensure the floor robot arrives at the correct destination without stopping. Plan own algorithms for robot to take a route without stopping. Record own algorithms for others to follow. Daisy The Dinosaur App Use the 'repeat' (loop) and 'when' command within a series of instructions. Plan a short 'story' for a sprite and write the algorithm for this. Edit/refine a sequence of commands. 	 <u>PowerPoint Presentations</u> Open, edit, save and print work. Add a textbox. Know that text will flow automatically onto the next line. Use the curser, mouse/mouse pad or arrow keys to add text/word within a sentence. Use spell checker. Add images from the internet AND photographs from a digital camera into presentations. Change font, font size, font colour. 	 <u>Branching Database</u> Compose yes and no questions to sort a group of objects. Type questions into textboxes. Use the mouse/mouse pad and arrow keys to move images around the screen. Save and print work. Test branching database with peers. <u>Bar Graphs</u> Enter data into a table. Label axis on graph. Create different types of graph with the data. Save the graph as an image and add to another program. Type a short explanation of what the data represents.
У2	Autumn 2	Spring 2	Summer 2
			T I I C C I
	Digital Literacy – Green Screen	Information Technology - Email	Internet Safety
Objectives	Digital Literacy - Green Screen use technology purposefully to create, organise, store, manipulate and retrieve digital content	Information Technology - Email recognise common uses of information technology beyond school use technology safely and respectfully, keeping personal information private; identify where to go for help/support when they have concerns about content or contact on the internet or other online technologies.	Internet Satety use technology safely and respectfully, keeping personal information private; identify where to go for help/support when they have concerns about content or contact on the internet or other online technologies.
Objectives Skills	• use technology purposefully to create, organise, store, manipulate and retrieve	 recognise common uses of information technology beyond school use technology safely and respectfully, keeping personal information private; identify where to go for help/support when they have concerns about content or 	 use technology safely and respectfully, keeping personal information private; identify where to go for help/support when they have concerns about content or
•	 use technology purposefully to create, organise, store, manipulate and retrieve digital content <u>Green Screen/Chatterpix</u> Use a word processing package to plan a short script for recording. Record video and save it in camera roll. Open a new project using the + symbol. Add video from the camera roll into the timeline. Layer the timeline to include background image/video, foreground video and text. Export video to share with others. <u>SeeSaw</u> Know how to log-in using the class QR code. Save a picture to your online profile. 	 recognise common uses of information technology beyond school use technology safely and respectfully, keeping personal information private; identify where to go for help/support when they have concerns about content or contact on the internet or other online technologies. <u>Email</u> Open an email program. Enter an email address with accuracy using @ sign. Understand the importance of an accurate address. Write a short email remembering to include a question for response. Add an attachment, such as a photograph, to your email. Send the email from a class account. Open and reply to a message received. Share work online. Understand that communicating through email must be done respectfully and with kind words. Understand that online information is not always confidential. 	 use technology safely and respectfully, keeping personal information private; identify where to go for help/support when they have concerns about content or contact on the internet or other online technologies. www.saferinternet.org.uk - SIDs Choices Know that not everyone is trustworthy online. Discuss how ICT increases information sharing/access. Identify personal information that should be kept private. Discuss websites used, favourites etc. and compare. Know what to do if I feel unsafe online. Identify true and false information in a range of contexts. Know to ask permission from a trusted adult to click on pop-ups etc List a range of devices that connect to the internet (and realise this

У3	Autumn 1	Spring 1	Summer 1
/0	Information Technology - Websites	Digital Literacy - Persuasive Posters	Computer Science - Coding
NC Objectives	 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 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 	 Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. 	 use sequence, selection, and repetition in programs; work with variables and various forms of input and output design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
Skills	Research using the Internet Type a URL to find a known website. 	Multimedia Presentations • Save, Open, edit and print work.	Coding - Hopscotch • Use a variety of inputs
	 Use the back and forward browser. 	 Use a digital template 	 Use a variety of outputs
	• Open an internet search-engine.	Combine text and graphics	 Use the 'repeat' (loop) command within a series of instructions.
	 Use the search engine to find websites with a range of media e.g. images, text. 	 Be aware of audience and use layout, format and graphics appropriately Choose appropriate font, font size and font colour. 	 Use the 'if then' (conditional statement) command within a series of instructions
	 Ask questions and think of the search terms required to find the answers. 	 Use cut, copy and paste Use a spellchecker 	 Design a programme to accomplish a task (i.e. Whack a witch) Use pen down commands.
	 Evaluate the success of websites against set criteria. Add useful websites to favourites. 	 Use text-wrapping features around images. Improve typing with both hands. 	 Use code to draw 2D shapes on-screen. Know that computer algorithms (instructions) can be represented in a
	• Talk about the reliability of information on the internet, understanding that some information is true and some is fake.	• Acquire, store and combine images from cameras or the internet for a purpose.	 written language or as symbols and flow charts. Know that Algorithms have to be clear.
	 Make conclusions from the information gathered. Use information found to present to an audience. 	 Use the print screen function to capture an image. Select certain areas of an image and resize, rotate an image. Edit pictures using various tools in paint or photo manipulation software. 	 Know that algorithms can included choices (if) and repetition (loops) Know that Algorithms must be tested and changed if wrong. Know that programmes on computers are just set of instructions to meet a task.

У3	Autumn 2	Spring 2	Summer 2
	Digital Literacy - Animation	Digital Literacy - Data Handling	Internet Safety
NC Objectives	 Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. 	 Select, use and combine a variety of software on a range of digital devices to design and create content that accomplish given goals, including collecting, analysing, evaluating and presenting data use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 	 Use technology safely, respectfully and responsibly; recognise, acceptable/unacceptable, behaviour; identify a range of ways to report concerns about content and contact
Skills	Animation/Combining digital images • Show awareness of audience • Capture images using a webcam, digital camera or iPad • Import still images and sound to create a movie • Choose appropriate tools to enhance animation • Amend work by editing and deleting scenes • Add simple titles and credits to films • Save work to seesaw.	 <u>Database</u> Choose what to investigate Design a questionnaire to collect data Enter numerical data and text into a database Produce graphs and charts using a database Decide which type of graph would display their information best. Make conclusions from results Know that data is content and information is the meaning of that content. Search and filter results from an online database (e.g. Amazon). Develop strategies for finding the most appropriate information i.e. site choice, key words, choices of filters 	 Childnet.com 'Be SMART with a Heart!' videos and activities. Safe - keep your personal information safe. Don't share your full name, password, school or home address. Meet - Meeting someone you don't know can be dangerous - even if you they are a friend of a friend or say they are someone else. You must tell an adult if someone you have met online asks to meet you or for photos and videos of you. Accepting - Think before you click. Don't click on anything if you are unsure who sent it or what it is that has been sent. Reliable - You cannot trust everything you see online. Compare several websites before deciding if something is true. Tell - tell a trusted adult if something or someone ever makes you upset on line. Heart - Always be kind and respectful to others online.
Resources	Stop Go Animation, imovie	Digital camera, internet, Microsoft Word, J2e Data	Hopscotch, www.childnet.com/resources/be-smart-online
Vocabulary	URL, back, forward, web address, search-engine, media, image, text, true, fake, fact, opinion, webcam, import, scenes, animation, titles, credits	graphics, word processor, format, font, cut, copy, paste, spellchecker, text-wrapping, combine, print screen, capture, resize, rotate, edit, manipulation	input, output, repeat, repetition, loop, if, when, pen down, pen up, algorithm, instructions, flow chart,

Y4/5	Autumn 1	Spring 1	Summer 1
/4/5	Information Technology - Email	Computer Science - Coding/Scratch	Digital Literacy - Publishing
NC Objectives	 Use technology safely, respectfully and responsibly; recognise, acceptable/unacceptable, behaviour; identify a range of ways to report concerns about content and contact 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 	 use sequence, selection, and repetition in programs; work with variables and various forms of input and output design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs 	 Select, use and combine a variety of software on a range of digital devices to design and create content that accomplish given goals
Skills	Email	<u>Scratch</u>	Publisher
	 Log in to emails, open emails, create emails and reply to emails Understand emails fields including; subject, email address, BCC and CC Use format functions to change the appearance of the email message. Using email safely and responsibly. Decide whether an email should be opened, replied to or deleted. Understand the nature of 'spam' emails. As a class, email a professional organisation from outside school to find additional information for a project e.g. to NASA to ask them a question about space. Attach files to emails. Take part in group emails by 'replying all' and understand the difference between reply and reply all. 	 Know where to find tools in Scratch, to programme Create a background and sprite for a game. Add inputs to control their sprite. Use conditional statements (if then) within their game. Create a racing car game. Know that: Algorithms can include selection (if) and repetition (loops). Algorithms may be broken down into parts (procedures), and that each part contains its own algorithm (instruction). It can be easier to plan, test and correct parts of an algorithm separately. A program is a sequence of statements written in a programming language. Programs can be created using visual tools. Use conditional statements. Pupils should know that: * algorithms can be split (decomposed) into parts (called procedures) each of which has its own algorithm. * algorithms can include selection (if) and repetition (loops) 	 Make publishing choices based on purpose and audience. Use a publishing template to create a specific outcome e.g. leaflet Select different page orientations/sizes Use columns, centring, tabs, block fill and highlighting to change text style and position. Use thesaurus, spell checker and find and replace to edit work. Know how to wrap text and change the position of objects. Combining text and graphics: Add a basic table Insert graphics from a file Put graphics and writing together Put a border around a piece of work Print work on different sized paper. Use the replace function to change a specific word or words in the document. Within a simple table use the table tools: Change text direction. Add/Delete cells/columns and rows. Split cells and table Distribute columns/rows.
Resources	Lantona inada Mianagaft Mail	performed.	Lantana Mianasaft Dublishan
Resources Vocabulary	Laptops, ipads, Microsoft Mail Email, subject, BCC, CC, format, spam, attachment, download,	ipads, Scratch App sprite, input, output, conditional statement, algorithm, repetition	Laptops, Microsoft Publisher Template, orientation, centring, columns, rows, highlight, fill,
vocabular y	reply all	procedures, external triggers, variables	graphics, border, scale, replace function, format, cells, distribute

Y 4 /5	Autumn 2 Digital Literacy - Data Handling	Spring 2 Information Technology - Blogging	Summer 2 Internet Safety
Skills	 Spreadsheets Understand the different uses of databases and spreadsheets Collect data Enter data on a spreadsheet Present data using graphs and charts Examine findings and identify patterns Identify the appropriate graph/table/chart to portray information. Draw conclusions and explain findings Export graphs and charts into another software package and present findings. Use a spreadsheet to carry out simple calculations. Use a spreadsheet to carry out calculations; Know which formulas to use to change a spreadsheet model Use the SUM and other functions with assistance; Know that a spreadsheet can be used to help solve problems; Change some of the data/variables and discuss effects on results. 	 Share and publish work online: Understand the function of a blog and blogging site Explore existing blogs and create a criteria for successful blogging Share work on a learning platform Understand the cloud as a virtual storage space. Use the clusterblogging.net to create a class blog, which can be commented on by others. Contribute to the class blog by entering text, photos, hyperlinks and videos where permissions have been given. Edit and control their page; deleting and reorganising and archiving old content. Like/follow other blogs and users. Build Blog content throughout the year. Understand some of the risk and rewards involved in publishing online and know how to keep safe Recognise the effect that their writing or images may have on others. Respect the ideas and communications of others/ they 	 <u>Revisit SMART rules from previous year.</u> <u>Be Internet Legends Lessons 1 and 2</u> Know how to protect your online reputation Know how to find out whether information online is true and reliable. Know how to make strong passwords to secure their information online. Ways in which we can be 'kind' to others online. Discuss issues such as cyber bullying Know that need to have appropriate permission for use of images of friends or those they have found online
Resources	Laptops, Excel	encounter online Laptops	Be Internet Legends Resources
Vocabulary	Database, spreadsheet, data, graph, chart, conclusions, export, calculations, formula, variables, results	blog, Platform, virtual storage, cloud, hyperlinks, edit	positive, negative, public, private, digital footprint, personal information, settings, personal boundries, genuine, honest, fraud, unreliable, suspicious, phishing, scam, trustworthy, authentic, verifiable, firewall, malware, encrypted

Y5/6	Autumn 1	Spring 1	Summer 1
	Computer Science - An hour of code	Digital Literacy - Animation	Digital Literacy - Data Handling
NC Objectives	 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts use sequence, selection, and repetition in programs; work with variables and various forms of input and output use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs 	 select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals. 	 select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
Skills	 Use external triggers and infinite loops to control sprites. Create and edit variables Use conditional statements. Pupils should know that: * algorithms can be split (decomposed) into parts (called procedures) each of which has its own algorithm. * algorithms can include selection (if) and repetition (loops) * programmes are planned * values (variables) can select which procedure is performed. Use loops and conditions to create games. Use variables to configure external outputs within scratch Use external inputs to control external outputs Use conditional statements and infinite loops. Design their own game using sprites, backgrounds, scoring and/or timers The game has a clear 'win' and 'lose' end. Evaluate and debug their game as required. Know that: * algorithms can be symbolic flowcharts or in a defined language * algorithms can include selection (if) and repetition(loops) * good code tells computers and humans how a programme works. * computers can be programmed to make 'choices' but really the programmer has created the choice. 	 Stop Motion Animation Plan and create a short animated sequence to show a specific idea using a storyboard and timeline. Use transitions and special effects when editing videos. Plan a multi-scene animation including characters, scenes, camera angles and special effects. Adjust the number of photos taken and playback rate to improve the quality of the video. Combine stills, video, captions, titles and sound in video editing packages to edit. Export movies in different formats and export them into multimedia presentations. Music For Animations Evaluate and compose music for use in a multimedia presentation Create and combine musical elements to create short compositions Edit and revise musical compositions to suit the content and purpose Save, retrieve and print work Add musical composition to a multimedia presentation Select edit and combine sounds from different sources to create a podcast file. Create sounds to accompany presentations. 	 Spreadsheets Use a spreadsheet to carry out simple calculations. Use a spreadsheet to carry out calculations: Know which formulas to use to change a spreadsheet model Use the SUM and other functions with assistance: Know that a spreadsheet can be used to help solve problems: Change some of the data/variables and discuss effects on results. Create a spreadsheet to investigate costs and numerical patterns including: Using formula to create models including entering data, entering formulae, copying cells and simple formatting. Knowing how to change formula to change models including (SUM, x ÷, average, mode) Making (and choosing appropriately) graphs to represent calculations/data on spreadsheets Understanding that changing a numerical field changes the data. Using different views and tools to check for inaccuracies in data. Making predictions about how changing the model will change the data to answer 'what if' questions. Changing data in a spreadsheet to answer 'what if' questions and check predictions.
Resources	Laptops and ipads	Ipads	Laptops - Excel
Vocabulary	Triggers, loops, sprites, conditional statements, algorithms, procedures, decomposed, variables, configure, debug	Sequence, timeline, camera angles, captions, export, multimedia	Cell, formula, SUM, variables, data, formatting, field

Y5 /6	Autumn 2	Spring 2	Summer 2
	Information Technology- Searching Online	Digital Literacy - Presentations	Internet Safety
NC Objectives	 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 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 	 select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals 	 use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.
Skills	 <u>Internet Research</u> Use child-friendly search engines to find information Search by changing questions into key words Avoid copying lots of text from websites and claiming as your own work Add websites to favourites Use advanced Google functions such as quotations Know how to check the validity of information i.e. reliability of website (from domain names) and cross-checking with books. Know that websites such as Wikipedia are made by users (link to safety) Know that the choice of words used in a Search Engine can affect the number and range of sites listed including; using OR for options, to quote exact phrases, - to exclude search, define: to define a word, numerical symbols for calculations % + - = Type in key phrases for their search Use the navigation tools on the web page Refine their web search Understand that not all information online is true. Understand that the web address/author/linked pages will indicate the reliability of information online. Check a range of sources to ensure information is 	 <u>PowerPoint</u> Identify the features of good page layout Produce a slide as part of a larger presentation Combine text, images and sounds Create purposeful presentations that make use of animations and transitions (i.e. PowerPoint) Introduce use of hyperlinks to trusted websites. Produce a presentation for a specific purpose and audience Use drawing tools and animations to produce diagrams. Include sounds and video clips from a folder as well as the internet. Link pages within the same document together using hyperlinks and transition effects Enhance presentations by adding transition timings. Rehearse using the presentation to present information to peers, editing timings and effects where necessary after feedback. Present final work to peers. 	 <u>Be Internet legends - Lessons 3 - 6</u> What having a positive digital footprint means Ways in which you can start to build a positive digital footprint How to be a critical consumer online About different online scams, including what 'phishing' means. Ways to develop safe habits online, including the importance of protecting personal information. How to respect online privacy boundaries for themselves and others. Ways to seek and ask for help if they or others feel unsafe online. How to develop respectful, empathetic and healthy online relationships Ways to manage and respond in a healthy and safe way to hurtful online behaviour
Resources	accurate Laptops	Laptops, ipads - garage band,	Be Internet Legends Resources
Vocabulary	Search engine, favourites, advanced functions, quotations, phrases, define, navigation tools,	Layout, slide, presentation, hyperlink, diagram, transition	compromised, privacy, security, verification, security token, password, hacker, scammer, bullying, bystander, upstander, harassment, amplify, block