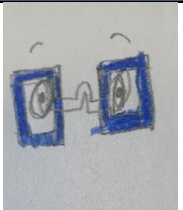


Computing Curriculum

Upton Cross Academy



'Inspiring and achieving success for all!'

Characteristics of Learning								
								
Be curious	Be resilient	Be critical	Be independent	Be ready	Be focused	Be proud	Be resourceful	Be creative

Level Expected at the End of EYFS					
Reception – PSED • Show resilience and perseverance in the face of a challenge. • Know and talk about the different factors that support their overall health and wellbeing: - sensible amounts of ‘screen time’. •	Reception – Physical Development • Develop their small motor skills so that they can use a range of tools competently, safely and confidently.	Reception – Expressive Arts and Design • • Explore, use and refine a variety of artistic effects to express their ideas and feelings.	ELG: PSED – Managing Self • • Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. • Explain the reasons for rules, know right from wrong and try to behave accordingly.	ELG: Expressive Arts and Design – Creating with Materials • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	

National Curriculum Aims
The national curriculum for computing aims to ensure that all pupils: • can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation • can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems • can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems • are responsible, competent, confident and creative users of information and communication technology.

Key Stage 1 National Curriculum Expectations
Pupils should be taught to: • 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; • recognise common uses of information technology beyond school; • 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.

Key Stage 2 National Curriculum Expectations
Pupils should be taught to: • 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; • 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 technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

	2 Year Rolling Programme						
	EYFS	KS1		LKS2		UKS2	
		Year A (Year 1)	Year B (Year 2)	Year A (Year 3)	Year B (Year 4)	Year A (Year 5)	Year B (Year 6)
Autumn Term	Online safety- Self-image and Identity. Online relationships	Online Safety & Exploring Purple Mash Grouping and Sorting Pictograms	Online Safety & Exploring Purple Mash Coding Spreadsheets	Online Safety Coding Spreadsheets	Online Safety Coding Spreadsheets	Online Safety Coding Spreadsheets	Online Safety Coding Spreadsheets
Spring Term	Online bullying Managing online information Exploring Purple Mash	Lego Builders Maze Explorers Animated Stories	Questioning Effective Searching Creating Pictures	Touch Typing Email Branching Databases	Writing for different audiences Logo Animation	Databases Game Creator 3D Modelling	Blogging (Vlogging- iMovie) Text Adventures Networks
Summer Term	Health, well-being and lifestyle Online safety- Privacy and Security Exploring Purple Mash	Coding Spreadsheets Tech Outside School	Making Music Presenting Ideas	Simulations Graphing Presenting (MS PowerPoint and Google Slides) Micro: bits	Effective Search Hardware Investigators Artificial Intelligence Micro: bits	Concept Maps Word Processing (MS Word) Using External Devices	Quizzing Binary Spreadsheets (MS Excel and Google slides)
	Predominant Area of Computing (Most units will include aspects of all strands) Computer Science Information Technology Digital Literacy Real-life situations						

2023/24- Micro: bits- A micro: bit is a tiny, pocket-sized computer created by the BBC.

This is a new edition to the curriculum and has been introduced and offered as a Key Stage 2 Coding club where we use micro: bits.

The children have a chance to explore the micro: bits and they are given the opportunity to complete different tasks.

Year 3 and Year 4 have micro: bits lessons in the Summer Term.

Computing in the Early Years Foundation Stage
How is computing taught in EYFS? - Online safety is taught half termly through discrete lessons. - We use activities based around computational thinking concepts and approaches from https://www.barefootcomputing.org/earlyyears These help teach pupils the necessary problem-solving skills needed for everyday life. The resources are collaborative, and they offer options for use both in the classroom and at home. They are cross-curricular, so we fit them into our teaching where appropriate. - The resources and activities planned during continuous provision scaffold all areas of learning for the children. Technology is often added to these areas to motivate and enhance children’s learning. For example, adding metal detectors in the sensory tray, adding headphones in the story corner, adding cameras or magnifiers to the investigating area. - We use talking pegs to inform children of tasks we would like them to complete during continuous provision. - The children always have access to the class SMART Board during continuous provision. They can use this to interact with educational games such as Maths City and to create art work on programmes such as 2 Simple. - We use Purple Mash to teach the children computing skills in small groups. - Technology is an integral part of whole class teaching, by using online resources, a visualiser, iPads, the interactive whiteboard and computers.

Autumn Term						
Stara Class	Henwood Class		Plusha Class		Caradon Class	
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
<u>Online safety- Self-image and Identity.</u> Composite: To be able to understand the importance of online safety. Components: - If something happens that makes me feel sad, worried, frightened or uncomfortable. - I can give examples of adults I can talk to that I trust. Both in real life and online. <u>Online relationships</u> Composite: To be able to understand online relationships and how to communicate appropriately. Components: - I can recognise ways in which we can communicate online. - I can give examples of the ways I may communicate on the internet.	Year A <u>Online Safety</u> Composite: To be able to understand the importance of online safety. Components: - To log in safely and understand why that is important. - To learn how to find saved work in the Online Work area. - To start to add pictures and text to work. - To understand the importance of logging out when they have finished. <u>Grouping and Sorting</u> Composite: To be able to sort and group a variety of items. Components: - To begin to think logically about the steps of a process and to sort items using a range of criteria. - To sort items on the computer using the ‘Grouping’ activities in Purple Mash. <u>Pictograms</u> Composite: To understand pictograms and be able to use them to represent data. Components: - 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.	Year B <u>Online Safety</u> Composite: To be able to understand the importance of online safety. Components: - To have some knowledge and understanding about sharing more globally on the Internet. - To open and send simple online communications in the form of email. - To begin to think critically about the information they leave online. <u>Coding</u> Composite: To be able to use a range of programs to understand the use of algorithms. Components: - To understand what an algorithm is. - To create a program using a given design. - To understand that algorithms follow a sequence. - To understand that different objects have different attributes (properties). - To create a program using a given design. - To know what debugging means and to debug simple programs. <u>Spreadsheets</u> Composite: Components: - To use copying, cutting and pasting shortcuts in 2Calculate. - To explore the capabilities of a spreadsheet in adding up coins to match the prices of objects. - To add and edit data in a table layout and to use the data to manually create a block graph.	Year A <u>Online Safety</u> Composite: To be able to understand the importance of online safety. Components: - To know what makes a safe password, how to keep passwords safe and the consequences of giving your passwords away. - To look at a ‘spoof’ website and to create a ‘spoof’ webpage. - To learn about the meaning of age restrictions symbols on digital media and devices. - To know where to turn for help if they see inappropriate content or have inappropriate contact from others. <u>Coding</u> Composite: To be able to use a range of devices to create an interactive scene. Components: - To understand what a flowchart is and how flowcharts are used in computer programming. - To be able to select the right type of timer for a purpose. - To understand how to use the repeat command. - To understand the importance of nesting. - To design and create an interactive scene. <u>Spreadsheets</u> Composite: To be able to use spreadsheets accurately. Components: - To add and edit data in a table layout. - To find out how spreadsheet programs can automatically create graphs from data. - To introduce the ‘more than’, ‘less than’ and ‘equals’ tools. - To learn about describing cells using their addresses.	Year B <u>Online Safety</u> Composite: To be able to understand the importance of online safety. Components: - To understand how children can protect themselves from online 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 understand the importance of balancing game and screen time with other parts of their lives. <u>Coding</u> Composite: To create a simple computer program. Components: - To understand how an IF statement works. - To understand the repeat until command. - To understand what a variable is in programming. - To create a playable game. <u>Spreadsheets</u> Composite: To use a range of skills to create spreadsheets and gather information. Components: - To explore how the numbers entered into cells can be set to either currency, decimal or fraction. - To interpret a line graph to estimate values between data readings. - To use 2Calculate to create a model of a real-life situation.	Year A <u>Online Safety</u> Composite: To be able to understand the importance of online safety. Components: - To gain a greater understanding of the impact that sharing digital content can have. - To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online. - 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. - Ensuring reliability through using different methods of communication <u>Coding</u> Composite: To create a simple computer program using a range of Computer Science skills. Components: - To understand what a simulation is. - To know what decomposition and abstraction are in Computer Science. - To begin to understand what a friction and a function is and how functions work in code. - To begin to explore text variables when coding. <u>Spreadsheets</u> Composite: To understand and use a spreadsheet to model a real-life situation. Components: - To use formulae within a spreadsheet to convert measurements of length and distance. - To use the count tool to answer hypotheses about common letters in use. - To use formulae to calculate area and perimeter of shapes.	Year B <u>Online Safety</u> Composite: To be able to understand the importance of online safety. Components: - To identify benefits and risks of mobile devices broadcasting the location of the user/device, e.g., apps accessing location. - To have a clear idea of appropriate online behaviour and how this can protect themselves and others from possible online dangers, bullying and inappropriate behaviour. - To identify the positive and negative influences of technology on health and the environment. <u>Coding</u> Composite: To design and make a more complex program. Components: - To understand how the launch command works. - To use functions and understand why they are useful. - To use flowcharts to test and debug a program. - To understand how user input can be used in a program. - To understand how to make a text-based adventure game. <u>Spreadsheets</u> Composite: To understand spreadsheets to use them accurately in real-life situations. Components: - To use a spreadsheet to investigate the probability of the results of throwing many dice. - To use a spreadsheet to calculate the discount and final prices in a sale. Create a formula to help work out the prices of items in the sale.

					To create formulae that use text variables.	- To use a spreadsheet to plan how to spend pocket money and the effect of saving money. - To use a spreadsheet to plan a school charity day to maximise the money donated to charity.
Assessment checkpoints						
	Online safety- Children can log in to Purple Mash using their own login. Grouping and sorting: - Children can physically sort, collate, edit, present, search through, re-order and restructure items using a range of given criteria - Using Purple Mash, children can sort items into three clearly defined groups using given criteria - Most children can sort physical objects using a range of criteria e.g., shape: Number of sides, colour, equal length sides etc. They can apply this skill within Purple Mash using the range of sorting activities with more than one criterion Pictograms: - Children can collate and organise class data into a physical pictogram and a virtual pictogram - Children can then interrogate this data to answer given questions. Children can create, store, retrieve and share their own pictograms - Most children will be able to save their pictograms, using a memorable file name, to their own personal space on Purple Mash and understand that this can be retrieved later - Children can represent simple collected data in an appropriate pictogram by using 2Count - Most children can collate data from rolling a die and record the results within 2Count. They demonstrate that they can use 2Count to group collated data into pictorial representations	Online Safety: - Most children will be able to explain what a digital footprint is, that it is permanent and their online behaviour influences what it shows (lesson 3). - Most children will be able to give reasons for keeping their password safe that include protecting their personal information. - Most children will be able to express the good and bad sides of digital technology. In lesson 3, they can give examples of positive effects on life as well as negative. Coding: - Children can explain that an algorithm is a set of instructions to complete a task. They have turned algorithms of more than one step into code using free code Chimp. Children show an awareness of the need to be precise in their designs so that algorithms can be successfully translated into code. - Children can debug their own and other’s programs using design documentation to test against. Spreadsheets: - Using the 2Calculate spreadsheet, children can open, edit and save sheets. - Children can enter data into cells allocate a value to an image and manipulate data using copying, cutting and pasting allowing them to solve puzzles. Children use images and can present data in a variety of ways. - Most children will be able to use 2Calculate to record collected data into a table and use this data to create a block graph manually.	Online Safety: - Children understand the importance of a secure password and not sharing this with anyone else. Furthermore, children understand the negative implications of failure to keep passwords safe and secure and can suggest examples of good and poor passwords - Most children can answer the quiz questions in lesson 3, their answers demonstrating that they are developing their understanding of the features of online communication. In lesson 1, their blog posts and comments are appropriate. - Most children can express the need to tell a trusted adult if they are upset by anything online, in lesson 3 their responses illustrate that they have taken this message onboard. Coding: - Children have a clear idea of how to design and code a program that follows a simple sequence. Children experiment with the use of timers to achieve delay effects in their programs – they understand the difference between timer-after and timer-every commands. - Children' designs for their programs, show that they are thinking of the structure of a simple program in logical, achievable steps with attention to specific events that initiate specific actions. Spreadsheets: - Most children can create a table of data on a spreadsheet and can use this to automatically create charts/graphs from data. - Children can collect and enter data within 2Calcualte, they are able to use the graphing tool to create suitable graphical representations of the data they have within a table	Online Safety: - Children have decided upon the most important online safety messages to communicate and have shared these ideas in their Top Tips for Online Safety publication (lesson 2). They put this knowledge into action in their own online activity. - Most children can reflect upon positive and negative aspects of a digital footprint and can give examples of the care they would take when sharing online in relation to their and others’ digital footprint. - Most children can give reasons for taking care when installing apps or software. They know what Malware is and the possible impact of computer viruses and can give recommendations for how best to ensure that they only install valid software as part of their top tips document in lesson 2. Coding: Children’s design shows that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition (Unit 4.1 Lessons 1 and 6). Children can identify an error within a program that prevents it following the desired algorithm and then fix it (Unit 4.1), they apply these techniques to their own code to fix bugs. Children understand IF and IF/ ELSE statements for selection and combine these with other coding structures including variables to achieve the effects that they design in their programs. Spreadsheets: - Children will use 2Calculate to design a graph to solve a mathematical problem (Unit 4.3 Lesson 3). Children will present, format and analyse their data and information in a variety of ways and use their spreadsheets to solve and check mathematical problems and concepts (Unit 4.3 Lesson 5). - Most children can use the number formatting tools within 2Calculate to	Online Safety: - Children demonstrate an understanding of their responsibility to others as well as to themselves when communicating and sharing content online. Children demonstrate a clear understanding of what the SMART rules are and how they should be applied to using technology safely and respectfully. - Children can explain why citations must be considered when using the work of others. They know that there is a convention for recording citations and can put this into practice in their work. Coding: - Children understand what simulations are and can formulate and program an algorithm for an observed traffic light sequence. - Children understand the processes of decomposition and abstraction and can apply this knowledge when planning algorithms for a program. - Children can include sequence, selection and repetition into code as well as use functions to make their programming more efficient. Spreadsheets: - Children can create a formula using 2Calculate that converts metres into centimetres (Lesson 1). Children can program different variables to convert data from one format and present it in an alternative way (Lesson 4). Furthermore, they can convert their data into a graphical format (Lesson 2). - Children will use, manipulate, and create spreadsheets within this unit. Their improving skill of using text variables to perform calculations, advanced mode and count tools will lead to the creation of their own purposeful spreadsheet. Children will invite feedback through sharing their spreadsheets, focusing on the functionality, layout, clear	Online Safety: - Children have a good knowledge of the benefits and risks to working collaboratively. They have no trouble navigating networks within Purple Mash (Work folders, class folders and group folders), the local network (school) and the Internet. - Children demonstrate an understanding of their responsibility to others as well as to themselves when communicating and sharing content online. They can identify a variety of risks and benefits of technology (lessons 1 and 3). They feel confident in having strategies to help them promote a positive online image of themselves in their digital footprint. Coding: - Children are beginning to be able to turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs. - They can then use this design to write a program using 2Code. - Children can translate algorithms that include sequence, selection and repetition into code and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures including nesting structures within each other. - Children can plan, design and create a program that includes variables relating to timing and scoring along with buttons which launch other programs Spreadsheets: - Children can create a spreadsheet and collect data

				appropriately format numbers (Unit 4.3. Lesson 1). Children can add a formula to a cell to automatically make a calculation in that cell using the ‘formula wizard’ (Unit 4.3. Lesson 1). They will be fluent in copying and pasting contents between cell(s) (Unit 4.3. Lesson 1)	purpose and whether it achieve it.	using 2Calculate that answers a mathematical problem relating to probability. - Children can use a spreadsheet to model a real-life situation. - Most children will be able to create spreadsheets which contain visual elements such as suitable graphs which represent their data.
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Spring Term						
Stara Class	Henwood Class		Plusha Class		Caradon Class	
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
<u>Online bullying</u> Composite: To be able to understand what online bullying is and how it affects others. Components: - I can describe some ways people can be unkind online. - I can offer examples of how this may make others feel. <u>Managing online information</u> Composite: To be able to understand how to manage online information. Components: - I can talk about how I use the internet to find things out. - I can identify devices I could use to access information on the internet. - I can give some examples of how I find information e.g. search engine. <u>Exploring Purple Mash</u> Technology around us Composite: To understand the range of technology that is available. Components: - I can talk about what technology is used at home.	Year A <u>Lego Builders</u> Composite: To follow instructions accurately. Components: - To emphasise the importance of following instructions. - To follow and create simple instructions on the computer. - To consider how the order of instructions affects the result. <u>Maze Explorers</u> Composite: To understand algorithms to create simple challenges. Components: - To be able to use the direction keys to complete the challenges successfully. - To understand how to create and debug a set of instructions (algorithm). - To create a longer algorithm for an activity. - To provide an opportunity for the children to set challenges for each other. <u>Animated Stories</u> Composite: To create a simple animated story using a range of tools. Components: - To save the page they have created. - To add animation to a picture. - To add sound to a picture.	Year B <u>Questioning</u> Composite: To use a variety of programs for the use of questioning. Components: - To show that the information provided on pictograms is of limited use beyond answering simple questions. - To use yes/no questions to separate information. - To construct a binary tree to separate different items. - To use a database to answer more complex search questions. <u>Effective Searching</u> Composite: To understand how to use effective and safe searching on the Internet. Components: - To understand the terminology associated with the Internet and searching. - To gain a better understanding of searching the Internet. - To create a leaflet to help someone search for information on the Internet. <u>Creating pictures</u> Composite: To explore a range of artists to create different pictures and paintings.	Year A <u>Touch typing</u> Composite: To use touch typing effectively and understanding the correct way to sit. Components: - To learn how to use the home, top and bottom row keys. - To practice and improve typing for home, bottom, and top rows. - To practice the keys typed with the left hand. - To practice the keys typed with the right hand. <u>Email</u> Composite: To understand the use of emails and how to use them accurately and safely. Components: - To think about the different methods of communication. - To open and respond to an email. - To learn how to use email safely. - To add an attachment to an email. - To explore a simulated email scenario. <u>Branching databases</u> Composite: To use a range of skills to accurately create branching databases.	Year B <u>Writing for different audiences</u> Composite: To use a range of resources to write for different audiences. Components: - 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. <u>Logo</u> Composite: To use a range of instructions to create different logos. Components: - To input simple instructions. - To use 2Logo to create letter shapes. - To use the Repeat command in 2Logo to create shapes. - To use and build procedures in 2Logo <u>Animation</u> Composite: To create a simple animation using a range of skills. Components:	Year A <u>Databases</u> Composite: To create a simple database. Components: - To learn how to search for information in a database. - To contribute to a class database. - To create a database around a chosen topic. <u>Game Creator</u> Composite: To create a simple game and evaluate it effectively. Components: - To begin planning a game. - To design the game environment. - To design the game quest to make it a playable game. - To finish and share the game. - To self- and peer-evaluate. <u>3D Modelling</u> Composite: To design and create a simple 3D model. Components: - To be introduced to the 2Design and Make too. - To explore the effect of moving points when designing.	Year B <u>Blogging (Vlogging)</u> Composite: To learn the basic principles of creating and maintaining a blog in a controlled and safe environment. Components: - To identify the purpose of writing a blog. - To plan the theme and content for a blog. - To understand how to write a blog and a blog post. - To understand the importance of commenting on blogs. <u>Text Adventures</u> Composite: To understand what a text-based adventure is. Components: - To use 2Connect to plan a ‘Choose your own Adventure’ type story. - To use 2Connect plans for a story adventure to make the adventure using 2Create a Story. - To read and understand given code for a text adventure game. - To independently design and implement improvements to a text adventure game.

I can talk about what technology is used outdoors. I can talk about what technology is used in the world around me.	- To add a background to the story. - To use the copy and paste feature to create additional pages.	Components: - To look at the work of Impressionist artists and recreate them using the Impressionism template. - To recreate pointillist art using the Pointillism template. - To look at the work of Piet Mondrian and recreate it using the Lines template. - To look at the work of William Morris and recreate it using the Patterns template. - To look at some surrealist art and create your own using the eCollage function in 2Paint A Picture.	Components: - To sort objects using just YES/NO questions. - To complete a branching database using 2Question. - To create a branching database of the children’s choice.	- To learn how animations are created by hand and to find out how 2Animate animations can be created in a similar way, using technology. - To add backgrounds and sounds to animations. - Introducing ‘stop motion’ animation.	- To design a 3D model to fit certain criteria. - To refine and print a model.	<u>Networks</u> Composite: To understand the use of the internet and how it might differ in the future. Components: - To discover what the children know about the Internet. - To find out how we access the internet in school. - To research and find out about the age of the internet.
Assessment checkpoints						
	Lego Builders: - Children can assimilate a set of simple Lego model instructions and look at the outcomes produced from these instructions. They can state where an error has occurred on one of the models from the instructions given. - Children understand the effect that accuracy of the instructions has on the outcome. - Children can give each other precise simple instructions and follow them to create the desired outcomes for their Lego model. Maze Explorers: - Children can use the buttons to move their character purposefully. - They can plan their moves several steps at a time towards the goal rather than one step at a time. - They know that any unexpected outcome is due to the code that they have created and make logical attempts to try to fix this code rather than attributing it to a fault with the computer understanding the instructions Animated Stories: - Children can use the ‘My Story’ aspect of 2Create a Story to create an interactive story. - They can manipulate the properties of their story by changing the images, adding animations and sound as well	Questioning: - Using 2Count, children can create pictograms to represent data. - Children demonstrate their ability to organise data using a database in 2Investigate and can run simple searches on their data set. Effective Searching: - Children can effectively retrieve relevant, purposeful digital content using a search engine. - Most children can successfully find the solutions for answers to a problem or quiz using a search engine. They understand that they do not have to search for just words, they can also ask a search engine a question Creating Pictures: - Using 2Paint a Picture, children can create an image replicating an established style e.g. pointillism - Children can enhance a picture using the tools within 2Paint a Picture which demonstrates their ability to manipulate a digital image. They can combine and use multiple effects & features to enhance their patterns, such as rotational effects, repeat style buttons and size slider. Throughout this unit, children show that they can efficiently store and retrieve their work from their saved area on Purple Mash.	Touch typing: - Children have developed their touch-typing skills and understand how to touch type using the home, bottom and top row keys using both hands. Children can apply these skills to all units. Email: - Most children will be able to exchange email communications using 2Email. This will take the form of both simulated email communication scenarios and real email communication with their peers. - Most children will be able to open and respond to an email, altering the size of the font, as well as the formatting of the text. They will be able to select a person from their address book and compose a suitable email to send them. - Children will be able to add attachments to an email they compose and use the CC functionality correctly. They will recognise obvious errors such as spelling due to the inbuilt wizard and will use their editing skills to address such errors. Branching databases: - Using 2 Question, children will learn how to create a branching database that accomplishes a given goal. They will understand how to collect, analyse, evaluate, and present their data and information throughout the unit initially as a paper Yes/No game and then as a digital version of a branching database.	Writing for different audiences: - Using the variety of software, children must make informed choices about the best way to present their information e.g. appropriate font and text formatting (Unit 4.4 Lesson 1). - Most children can alter font types, styles and sizes to suit an intended audience for digital content using 2Publish and incorporate, with ease, images from clipart banks and internet sources (Unit 4.4. Lesson 1). Logo: - Children can ‘read’ 2Logo programs with several steps and predict the outcome accurately (Unit 4.5 Lesson 1) & (Unit 4.5 Lesson 3). - Children can think about the 2Logo commands that they need steps of two or more commands at a time before executing the code to check the result e.g. fd 4 rt 90 fd 6 rt 90. - Most children can manipulate instructions within 2Logo to create common shapes using repeat functions (Unit 4.5. Lesson 3). They can edit instructions to produce shapes created in the most efficient way including using the Procedures function. Animation: - Children know, understand, and use the onion skin animation tool within 2Animate to show movement across the screen. Furthermore, they select backgrounds and sounds to make their animation more immersive.	Database: - They can design and enter information accurately into their own database and create questions about their database for their classmates to answer. Furthermore, they can use the search functionalities to answer questions. - Most children will be able to create a database within 2Investigate which contains contextualised information relating to a topic. They can add fields which are appropriate for the topic choice and present data using graphical tools, table views, and search for appropriate content to be displayed to answer a question. Game Creator: - When creating their games, children think about the component parts and design these as components in a theme rather than completely isolated parts. They consider aspects such as the movement of the characters and goal objects to increase playability. When designing the game environment, they do this with the end-user experience in mind. - Most children can combine text, sound, and graphic components within a 2DIY3D game. Their games demonstrate a well-planned approach, with appropriate use of text, sound, and graphic components. They easily mix their approaches for image use such as uploading and using the drawing tools. Successful application of animation	Bloggng: - Children can identify the key features of a blog and share these using 2Write. - They can create a blog for a specific purpose and can post comments on an existing class blog. - Children recognise the approval process that their posts go through and demonstrate an awareness of the issues surrounding inappropriate posts and cyberbullying. Text Adventures: - Children can turn a simple story with 2 or 3 levels of decision making into a logical design using 2Connect. - Children can create the pages for the component parts of the design in 2Create a Story and make good attempts to link these parts in a logical way. Networks: - Children can explain the difference between the Internet and the World Wide Web and can show all the things they use the internet for using 2Connect. - Children know what a WAN and LAN are and can describe how they access the internet in school

	as typing, copying and pasting pages		Most children can create a branching database and are able to successfully debug it to improve the quality of their digital content creation	Children share their learning by displaying their animation on a display board or blog	features to objects is applied to enhance their games. - Children can evaluate their own and others’ games with 2DIY3D for content and design. They use this peer and self-assessment opportunity to make improvements to their own game. Modelling: - Children will use the ready-made templates within 2Design and Make to design the recognisable form of a building. They will evaluate, refine, edit, and adapt models to suit a design brief.	
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Summer Term						
Stara Class	Henwood Class		Plusha Class		Caradon Class	
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
<u>Online safety- Privacy and Security</u> Composite: To be able to understand the importance of staying safe online and how to keep information personal. Components: - I can identify some simple examples of my personal information. - I can describe the adults I can trust to share this information and explain why. <u>Health, well-being and lifestyle</u> Composite: To be able to understand how to maintain a healthy relationship with technology. Components: - I can give examples and identify rules that help keep us safe and healthy in and beyond the home when using technology. <u>Exploring Purple Mash</u> <u>Mouse and trackpad skills</u> Composite:	<u>Year A Coding</u> Composite: To use coding effectively to set instructions and make a computer program. Components: - To understand that computer programs work by following instructions called code. - To use code to make a computer program. - To use an event to control an object. - To begin to understand how code executes when a program is run. - To understand what backgrounds and objects are. - To plan and make a computer program. <u>Spreadsheets</u> Composite: To understand how to use spreadsheets accurately and enter data. Components: - To be able to navigate around a spread sheet and enter data. - To add clipart images to a spreadsheet and to use the ‘move cell’ and ‘lock’ tools.	<u>Year B Making music</u> Composite: To make music digitally. Components: - To explore, edit and combine sounds using 2Sequence. - To add sounds to a tune to improve it and to think about how music can be used to express feelings and create tunes which depict feelings. - To create their own tune using the sounds which they have added to the Sounds Section. <u>Presenting Ideas</u> Composite: To use a range of programs to present ideas. Components: - 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.	<u>Year A Simulations</u> Composite: To understand the purpose of simulations. Components: - To find out what a simulation is and understand the purpose of simulations. - To explore a simulation, making choices and discussing their effects. - To work through and evaluate a more complex simulation. <u>Graphing</u> Composite: To understand the use of graphing and answering questions accurately. Components: - To enter data into a graph and answer questions. - To investigate in order to answer a question and to present the results in graphic form. <u>Presenting (MS PowerPoint)</u> Composite: To be able to present using MS PowerPoints.	<u>Year B Effective Search</u> Composite: To understand how to search effectively. Components: - 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. <u>Hardware Investigation</u> Composite: To understand the use of a hardware investigation. Components: - To understand the different parts that make up a desktop computer. - To recall the different parts that make up a computer. <u>Artificial Intelligence</u> Composite: To understand the basic concept of artificial intelligence.	<u>Year A Concept Maps</u> Composite: To understand the uses of a ‘concept map’. Components: - 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 understand how a concept map can be used to retell stories and information. - To create a collaborative concept map and present this to an audience. <u>Word Processing (MS Word)</u> Composite: To explore a range of skills on MS Word. Components: - To know what a word processing tool is for. - To add and edit images to a word document. - To know how to edit images and use word wrap with images and text.	<u>Year B Quizzing</u> Composite: To create a simple quiz using a range of questioning. Components: - 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. - To make a quiz to test your teachers or parents. <u>Binary</u> Composite: To understand the use of binary skills and using a range of numbers. Components: - To understand that binary represents numbers using 1s and 0s and these represent the on and off electrical states respectively in hardware and robotics. - To examine how whole numbers are used as the basis for representing all

To understand how to use a mouse and a trackpad. Components: - I can hold a computer mouse with my finger on the correct buttons. - I can use a mouse to make the cursor move around the computer screen where I want it to go. - I can click the correct mouse button to play games on the computer. - I can use a mouse accurately to click and drag objects on the screen. I can use the mouse roller to scroll up and down a page. - I can use a laptop touchpad. <u>Drawing Skills</u> Composite: To develop drawing skills on a computer. Components: - I can select colours when painting on the computer. - I can draw pictures on the computer to go with my work. - I can use a computer to draw with different widths of pens. - I can try the different tools that I can draw with on the computer. I can use the undo button correctly. - I can use the erase button. I can use a touchscreen device purposefully. I can draw on a computer using a mouse.	- To use the ‘speak’ and ‘count’ tools in 2Calculate to count items. <u>Tech Outside School</u> Composite: To understand a range of technology used outside of school. Components: - To find and understand examples of where technology is used in the local community. - To record examples of technology outside school.		Components: - To create a page in a presentation. - To add media to a presentation. - To add animations into a presentation. - To add timings to a presentation. - To use the skills learnt in previous weeks to design and present an effective presentation. <u>Micro: bits</u> Composite: To be able to program a micro: bit device. Components: - To understand the micro: bit is a tiny computer which needs instructions in code to make it work. - To code the micro: bit to show simple animations on its LED display output. - To code the micro: bit to make different outputs happen depending on different inputs. - To understand how to create sounds and music using the music editor.	Components: - To identify real-life examples of artificial intelligence and to recognise the impact of artificial intelligence in daily life. - To explore how artificial intelligence can assist and benefit us in various aspects of daily life. - To encourage critical thinking and creativity when thinking about the future of AI. - To use artificial intelligence to create music and art. <u>Micro: bits</u> Composite: To be able to program a micro: bit device. Components: - To understand how sensor inputs from the accelerometer can be used to detect movement, such as when a step is taken. - To understand how inputs, outputs, and computer code work together to make control systems. - To use the accelerometer via the ‘when gesture: shake’ block to start the code running. - To apply these concepts to make a computer simulation of a real-world tool.	- To change the look of text within a document. - To add features to a document to enhance its look and usability. - To use tables within MS Word to present information. - To introduce children to templates. - To consider page layout including heading and columns. <u>Using External Devices</u> Composite: To interact in the real world using external devices. Components : - To be able to upload a program to an external device. - To understand how a device can be programmed to be used as a game controller. - To create a simple quiz program that can be answered using an external device. - To create a program in which an external device can be used to monitor real world conditions. - To code, test, debug and share a program for the Purple Chip.	types of data in digital systems. - To explore how division by two can be used as a technique to determine the binary representation of any whole number by collecting remainder terms. - To examine how whole numbers are used as the basis for representing all types of data in digital systems. <u>Spreadsheets (MS Excel)</u> Composite: To use MS Excel Spreadsheets accurately. Components: - To navigate and enter data into cells. - To demonstrate how the use of Excel can save time and effort when performing calculations. - To use a spreadsheet to model a situation. - To demonstrate how Excel can make complex data clear by manipulating the way it is presented. - To use formulae for percentages, averages, max and min in spreadsheets. - To create a variety of graphs in Excel - To use a spreadsheet to model a real-life situation. - To apply spreadsheet skills to solving problems.
Assessment checkpoints						
	Coding: - Children can both give and receive verbal instruction to achieve a simple outcome such as getting from one point of the classroom to the other whilst avoiding obstacles. Furthermore, they can use printed block-based code to also articulate a simple set of instructions. - Children can consider a variety of factors when coding, including the way that the program is designed. They can then design programs that control the look and the actions of objects. Spreadsheets: - Using the 2Calculate spreadsheet, children can save and open sheets.	Making Music: - Children use the sounds within 2Sequence to create a composition. They demonstrate their ability to manipulate digital content by editing and amending their composition. They will have explored different sounds to utilise within their tune and functions such as tempo. - Children create, upload and use their own sounds as part of this. Presenting ideas: - Most children will be able to use Purple Mash as a platform for collaboration. Specifically, they will create a presentation for their class using a tool of their choice.	Simulations: - They present their findings as part of a discussion and give reasons for the choices they made. - They will understand the importance of simulations to replicate events that could occur in real and hypothetical situations. Graphing: Children use 2Graph to enter data on a given number of fields and then present their data as a graph. - Most children can set up a graph within 2Graph with a given number of fields, enter data and manipulate the presentation of it using: Sort, block size, additional rows and editing of labels.	Effective Search: - Children can use search engines to provide helpful information to support their learning. They can search for intended information with a degree of accuracy and thus know that key words can be more effective than sentences when searching. - Most children will be able to locate information from the internet via a search engine using effective techniques such as truncating a question into just key words or concise phrases. They will be aware of the lack of need to use capital letters or punctuation when using this search technique. Hardware investigators:	Concept Maps: - Children can use 2Connect to design and create concept maps that collect and present a range of linked ideas. - Most children will be able to work successfully with others to create an online collaborative concept map using 2connect. Word Processing (Microsoft Word) - Children know what a word processing tool is for and they can create a word processing document. - Children can use bullet points and numbering (lesson 4). They consider the overall structure of the document using paragraph formatting, page breaks, headers and footers to increase the usefulness and	Quizzing: - Children can plan, design and create various quizzes using a variety of software- 2DIY, 2Quiz and 2Investigate. - Most children can create purposeful online quizzes for an intended audience using the 2DIY suite of applications. With ease, they combine text with images and audio to enhance their quizzes. The question types used are fit for audience and serve to add additional enhancements for the intended user. Binary: - Children will know that binary codes contain only the digits 0 and 1. - When looking at binary, children will be able to relate 0 to an ‘off’ switch and 1 to

	- Most Children will be able to save their 2Calculate files, using a memorable file name, to their own personal space on Purple Mash and understand that this can be retrieved later. - They can enter data into cells manipulate data using the ‘move cell’ tool and use the image toolbox to add clipart. Technology outside of school: - Children understand what is meant by technology and can identify a variety of examples both in and out of school. - Children’ discussion shows that they have a good understanding about the technological devices in use in their daily lives and how some of these facilitate communication of a variety of formats	Most children can plan their own presentation which will utilise either: 2Connect, 2Create a Story or a Publishing Template. They will effectively select the most appropriate tool to use during the planning and resource gathering stage of the task	Presenting (Microsoft PowerPoint) - Children can add text. pictures and shapes to a slide and format them with tools such as shadows and borders. - Children can insert slides into a presentation. - Children can use transition effects between slides and animations of the objects in slides. Microbits: - Children can explain that computers, like the micro:bit, need to be given instructions (algorithms) written in code. - Children can independently program the micro:bit to show text, images and animations. - They can transfer their program to a micro:bit and run it. - They can explain that repeat commands keep animations running without the need to add extra code to show the same thing repeatedly.	- Children recognise the main component parts of hardware which allow computers to join and form a network. Children can create their own leaflet to share their understanding of Computer Hardware. Artificial Intelligence: - Children demonstrate a fundamental understanding of artificial intelligence. They can explain that AI is a technology that helps machines think and learn like humans. They recognise basic AI applications, such as voice recognition and automated recommendations. - Children show an ability to identify artificial intelligence in everyday situations. They can recognise AI-powered technologies like voice assistants, smart devices, or personalised recommendations. They understand how AI enhances convenience and efficiency in these contexts. <u>Mircobits:</u> - Children can program a variable which counts how many times the micro:bit is shaken, transfer the code to the micro:bit and test it. They can describe, in their words, that variables are containers that hold data (information) that is changeable and that their code uses a variable so it can keep track of steps taken. - Children can independently program and test a nightlight in the simulator and on a real micro:bit. Children know a light sensor is used and can explain what sensors are in general terms (input devices that sense things in the real world, such as movement, temperature and light levels). Children can describe, in their own words, how ‘IF/ ELSE’ blocks work. - Children can independently program a game and transfer it to a micro:bit to test.	visual appeal of a document (lesson 5). Children can add images (lesson 2), text boxes and shapes (lesson 5) to a word document, they can resize and reposition objects using wrapping options. - Children can insert tables and edit the properties to include the information that they wish to; they can add and delete rows with guidance. Using External Devices: - Children understand the purpose of some external devices. They can connect the Purple Chip and host device to run programs making use of the Purple Chip external device. - Children know which code blocks to use to effect changes on the Purple Chip. - Children can write and code simple algorithms involving an external device. Children can create programs that make use of the functionality of the external device.	an ‘on’ switch and know that these represent the on and off electrical states respectively in hardware and robotics. - Children will be able to use their knowledge of binary and of code to make their own program which represents the state of an object as active or inactive, using the respective binary values or 1 or 0. Spreadsheets (Microsoft Excel): - Children understand and use the new vocabulary relating to spreadsheets: cells, columns, rows, cell names, sheets, workbook. They can locate frequently used functions and tools and know how to find the functions that they need. - Children can use a spreadsheet to carry out basic calculations including all the operators (addition, subtraction, multiplication and division) using formulae. - Children know that tools such as series fill exist and can make use of the assistance they provide.
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Computer Science						
	Henwood Class		Plusha Class		Caradon Class	
	Y1	Y2	Y3	Y4	Y5	Y6
Statement	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.	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.	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. 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.	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. 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.	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. 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.	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. 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.
Outcome	Children understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. They know that a computer program turns an algorithm into code that the computer can understand. Children can work out what is wrong with a simple algorithm when the steps are out of order, e.g. The Wrong Sandwich in Purple Mash and can write their own simple algorithm, e.g. Colouring. in a Bird activity. Children know that an unexpected outcome is due to the code they have created and can make logical attempts to fix the code, e.g. Bubbles activity in 2Code. When looking at a program, children can read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program. Children can, for example, interpret where the turtle in 2Go challenges will end up at the end of the program.	Children can explain that an algorithm is a set of instructions to complete a task. When designing simple programs, children show an awareness of the need to be precise with their algorithms so that they can be successfully converted into code. Children can create a simple program that achieves a specific purpose. They can also identify and correct some errors, e.g. Debug Challenges: Chimp. Children’s program designs display a growing awareness of the need for logical, programmable steps. Children can identify the parts of a program that respond to specific events and initiate specific actions. For example, they can write a cause and effect sentence of what will happen in a program.	Children can turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. Their design shows that they are thinking of the desired task and how this translates into code. Children can identify an error within their program that prevents it following the desired algorithm and then fix it. Children demonstrate the ability to design and code a program that follows a simple sequence. They experiment with timers to achieve repetition effects in their programs. Children are beginning to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition effects. Children’s designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, repetition and use of timers. They make good attempts to ‘step through’ more complex code in order to identify errors in algorithms and can correct this. e.g. In programs such as Logo, they can ‘read’ programs with several steps and predict the outcome accurately. Children can list a range of ways that the Internet can be used to provide different methods of communication. They can use some of these methods of communication, e.g. being able to open, respond to and attach files to emails using 2Email. They can describe appropriate email conventions when communicating in this way	When turning a real-life situation into an algorithm, the children’s design shows that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition. Children make more intuitive attempts to debug their own programs. Children’s use of timers to achieve repetition effects are becoming more logical and are integrated into their program designs. They understand ‘IF statements’ for selection and attempt to combine these with other coding structures including variables to achieve the effects that they design in their programs. As well as understanding how variables can be used to store information while a program is executing, they are able to use and manipulate the value of variables. Children can make use of user inputs and outputs such as ‘print to screen’. e.g. 2Code. Children’s designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, ‘IF’ statements, repetition and variables. They can trace code and use step-through methods to identify errors in code and make logical attempts to correct this. In programs such as Logo, they can ‘read’ programs with several steps and predict the outcome accurately Children recognise the main component parts of hardware which allow computers to join and form a network. Their ability to understand the online safety implications associated with the ways the internet can be used to provide different methods of communication is improving.	Children may attempt to turn more complex real life situations into algorithms for a program by deconstructing it into manageable parts. Children are able to test and debug their programs as they go and can use logical methods to identify the approximate cause of any bug but may need some support identifying the specific line of code. Children can translate algorithms that include sequence, selection and repetition into code with increasing ease and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures. They are combining sequence, selection and repetition with other coding structures to achieve their algorithm design. When children code, they are beginning to think about their code structure in terms of the ability to debug and interpret the code later, e.g. the use of tabs to organise code and the naming of variables. Children understand the value of computer networks but are also aware of the main dangers. They recognise what personal information is and can explain how this can be kept safe. Children can select the most appropriate form of online communications contingent on audience and digital content, e.g. 2Blog, 2Email, Display Boards.	Children are able to turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs. Children test and debug their program as they go and use logical methods to identify the cause of bugs, demonstrating a systematic approach to try to identify a particular line of code causing a problem. Children translate algorithms that include sequence, selection and repetition into code and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures, including nesting structures within each other. Coding displays an improving understanding of variables in coding, outputs such as sound and movement, inputs from the user of the program such as button clicks and the value of functions. Children are able to interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm together to explain the program as a whole. Children understand and can explain in some depth the difference between the internet and the World Wide Web. Children know what a WAN and LAN are and can describe how they access the Internet in school.

Information Technology						
	Henwood Class		Plusha Class		Caradon Class	
	Y1	Y2	Y3	Y4	Y5	Y6
Statement	Use technology purposefully to create, organise store, manipulate and retrieve digital content.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	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 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 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 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.
Outcome	Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count.	Children demonstrate an ability to organise data using, for example, a database such as 2Investigate and can retrieve specific data for conducting simple searches. Children are able to edit more complex digital data such as music compositions within 2Sequence. Children are confident when creating, naming, saving and retrieving content. Children use a range of media in their digital content including photos,	Children can carry out simple searches to retrieve digital content. They understand that to do this, they are connecting to the internet and using a search engine such as Purple Mash search or internet-wide search engines. Children can collect, analyse, evaluate and present data and information using a selection of software, e.g. using a branching database (2Question), using software such as 2Graph. Children can consider what software is most appropriate for a given task. They can create purposeful content to attach to emails, e.g. 2Respond.	Children understand the function, features and layout of a search engine. They can appraise selected webpages for credibility and information at a basic level. Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked content using a range of software such as 2Connect and 2Publish+. Children share digital content within their community, i.e. using Virtual Display Boards.	Children search with greater complexity for digital content when using a search engine. They are able to explain in some detail how credible a webpage is and the information it contains. Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. e.g. creating their own program to meet a design brief using 2Code. They objectively review solutions from others. Children are able to collaboratively create content and solutions using digital features within software such as collaborative mode. They are able to use several ways of sharing digital content, i.e. 2Blog, Display Boards and 2Email.	Children readily apply filters when searching for digital content. They are able to explain in detail how credible a webpage is and the information it contains. They compare a range of digital content sources and are able to rate them in terms of content quality and accuracy. Children use critical thinking skills in everyday use of online communication. Children make clear connections to the audience when designing and creating digital content. The children design and create their own blogs to become a content creator on the Internet, e.g. 2Blog. They are able to use criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements.

Digital Literacy						
	Henwood Class		Plusha Class		Caradon Class	
	Y1	Y2	Y3	Y4	Y5	Y6
Statement	Recognise common uses of information technology beyond school. 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.	Recognise common uses of information technology beyond school. 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 safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.
Outcome	Children understand what is meant by technology and can identify a variety of examples both in and out of school. They can make a distinction between objects that use modern technology and those that do not e.g. a microwave vs. a chair. Children understand the importance of keeping information, such as their usernames and passwords, private and actively demonstrate this in lessons. Children take ownership of their work and save this in their own private space such as their My Work folder on Purple Mash.	Children can effectively retrieve relevant, purposeful digital content using a search engine. They can apply their learning of effective searching beyond the classroom. They can share this knowledge, e.g. 2Publish example template. Children make links between technology they see around them, coding and multimedia work they do in school e.g. animations, interactive code and programs. Children know the implications of inappropriate online searches. Children begin to understand how things are shared electronically such as posting work to the Purple Mash display board. They develop an understanding of using email safely by using 2Respond activities on Purple Mash and know ways of reporting inappropriate behaviours and content to a trusted adult.	Children demonstrate the importance of having a secure password and not sharing this with anyone else. Furthermore, children can explain the negative implications of failure to keep passwords safe and secure. They understand the importance of staying safe and the importance of their conduct when using familiar communication tools such as 2Email in Purple Mash. They know more than one way to report unacceptable content and contact.	Children can explore key concepts relating to online safety using concept mapping such as 2Connect. They can help others to understand the importance of online safety. Children know a range of ways of reporting inappropriate content and contact.	Children have a secure knowledge of common online safety rules and can apply this by demonstrating the safe and respectful use of a few different technologies and online services. Children implicitly relate appropriate online behaviour to their right to personal privacy and mental wellbeing of themselves and others.	Children demonstrate the safe and respectful use of a range of different technologies and online services. They identify more discreet inappropriate behaviours through developing critical thinking, e.g. 2Respond activities. They recognise the value in preserving their privacy when online for their own and other people's safety.

Cross-Curricular links	
Art	Digital art- Year 5 and 6 children created a mash of children’s faces. Resources used: iPads to take photos Laptops to put the features together to form one face. A memory stick to transfer the work to print. Creating Pictures unit in Year 2 where they explore a range of artists.
Mathematics	The use of laptops or iPads to complete Mathletics work set. Year 4 Multiplication Check is completed on a device. Hit-The-Button practise and other mathematical games
Humanities (History, Religious Education and Geography)	Conducting research on topics on a laptop or iPad. Making PowerPoint presentations about a topic to present to the class. Use of ‘Now Press Play’.
Music	Use of iPads to record a piece they have done. Garage Band.
Science	Use of timers on iPads during an investigation and experiment. Take pictures of their experiment or to use during an investigation to see their observations over time Use of decibels. Virtual Tee- An app with the use of a t-shirt to see the inside of the human body and exploring the function of different organs. Use of ‘Now Press Play’.
Spelling	To help children with their spelling practise we use Spelling Shed. This is available to the children through a laptop or the use of an iPad.
Design Technology	We used Bee-bots during a topic in DT. The children had to design a map of the school for the Bee-bot to travel around. Conducting research to help with their thinking and planning stage of a project.
Geography	There is a compass to use on iPads for the children to use during lessons. Use of Google Maps and Google Earth. Use of research.

EYFS Vocabulary													
Computer	Skill	Safety	Mouse	Keyboard	Drawing	Online	Relationships	Explore	Information	Health	Well-being	Lifestyle	Privacy
Security	Technology	Digital	Problem solving	Resources	Motivate	Sensory	Photography	Magnifiers	Investigate	Board	Educational	Create	Button

Years 1 & 2 Vocabulary	
Online Safety	Alert, Avatar, Button, Device, File Name, Filter , Home Screen, Icon, Login , Log out, Menu, Notification, Password, Private, Saving, Search, Shared Folder, Textbox, Tool bar, Typing, Attachment, Digital footprint, Email, Identifying, Internet, Personal information, Private information, Protection, Reply, Search, Secure, Sharing.
Grouping and Sorting	Activities, Criteria, Describe, Equal, Groups, Less than, More than, Sort
Pictograms	Collect Data, Compare, Data, Pictogram, Record Results, Title, Totals, Visual
Lego Builders	Algorithm, Code, Computer, Debugging, Instructions, Machine, Program, Recipe, Sequence
Maze Explorers	Algorithm, Challenge, Command, Delete, Direction, Instruction, Left and Right, Route, Undo, Unit
Animated Story Books	Animation, Background, Category, Clip-art gallery, Copy, Drop-down menu, E-book, Edit, Eraser, Features, Font, Sound, Overwrite, Paint tools, Paste, Play Mode, Redo, Save, Sound effect, Text, Undo, Voice recording
Coding	Action, Algorithm, Background, Click, Code, Code block, Coding, Code view, Command, Debug\ Debugging, Design View, Event, Execute, Instruction, Object, Output, Plan, Programmer, Properties, Run, Scale, Scene, Software, Sound, When Clicked, Bug, Button, Click events, Collision detection, Collision detection action, Collision detection event, Image, Interaction, Interval, Predict, Sequence, Test, Text, Timer, Turtle Object, When Key Event, When Swiped Event)
Spreadsheets	Button, Calculations, Cell, Clipart, Column, Count tool, Data, Delete, Image, Lock cell, Move cell, Row, Select, Speak tool, Spreadsheet, Value, Addition, Block graph, Copy, Cut, Drag, Image value, Label, Paste, Table, Toolbox, Total, URL, Web Address, Web Page, Web Site, World Wide Web
Technology Outside School	Computer, Technology
Questioning	Avatar, Binary Tree, Data, Database, Field, Information, Pictogram, Question, Record, Search, Sort
Effective Searching	Browser, Device, Digital Footprint, Domain, Internet, Network, Search Engine
Creating Pictures	Clipart, Dilute, eCollage, Fill, Impressionism, Palette, Parallel, Pointillism, Repeating pattern, Rotated, Stamps, Surrealism, Symmetry
Making Music	Bars, Beat, Compose, Note, Tune, Repeat, Sound Effect, Soundtrack, Speed, Tempo, Volume
Presenting Ideas	E-book, Fact file, Fiction, Mind Map, Multiple-choice, Node, Non-fiction, Presentation, Quiz

Years 3 & 4 Vocabulary	
Coding	Action, Alert, Algorithm, Background, Bug, Button, Click event, Code, Collision detection event, Command, Debug\ Debugging, Degrees, Event, Flowchart, Implement, Input, Interval, Nest, Object, Predict, Properties, Repeat, Right-Angle, Run, Scene, Sequence, Test, Timer, Turtle Object, Code blocks, Co-ordinates, Design, Execute, Prompt, Selection, Variable
Online Safety	Appropriate, Blog, Inappropriate, Internet, Password, Personal information, Permission, Reliable Source, Reputable source, Spoof, Verify, Vlogs, Website, AdFly, Attachment, Citation, Collaborate, Collaborative data, Cookies:, Copyright, Data analysis, Digital footprint, Malware, Phishing, Plagiarism, Ransomware, Report, SMART rules, Software, Spam, Virus, Watermark
Spreadsheets	Advanced Mode, Bar graph, Cell address, Data, Equals, Less than, More than, Pie Chart, Quiz tool, Spinner tool, Table, Average, Budget, Calculations, Chart, Column, Decimal place, Format Cell, Formula, Formula wizard, Line graph, Percentage, Place value, Random number tool, Resize, Row, Set image, Timer, Totals
Touch Typing	Key, Posture, Spacebar, Typing
Email	Address Book, Attachment, BCC – Blind Carbon Copy, CC – Carbon Copy, Communication, Compose, Email, Inbox, Link, Mind mapping, Node, Password, Personal Information, Save to draft, Trusted Contact
Branching Databases	Binary Tree, Branching Database, Data, Database, Debugging
Simulations	Advantages, Analysis, Decision, Disadvantages, Evaluation, Modelling, Point-of-view, Realistic, Simulation, Solution, Unrealistic
Graphing	Axis, Chart, Column, Data, Graph, Investigation, Row, Sorting, Survey, Tally Chart, Title
Presenting with Microsoft PowerPoint / Google Slides	Animation, Audio, Border Properties, Duration, Editing, Fill colour, Font formatting, Layer, Media, Presentation, Presentation Design, Preview, Review, Slide, Slideshow, Sound effect, Textbox, Theme, Timing, Transition, Video, WordArt.
Writing for Different Audiences	Campaign, Format, Font, Genre, Opinion, Reporter, Viewpoint
Logo	Debugging, Grid, Logo, Logo Commands (e.g. FD, BK, RT, LT), Multi Line Mode, Pen Down, Pen Up, Prediction, Procedure, Repeat, Run Speed, SETPC, SETPS
Animation	Animation, FPS (Frame Per Second), Frame, Onion skinning, Pause, Stop motion
Effective Searching	Balanced view, Easter eggs, Internet, Key words, Reliability, Results page, Search engine
Hardware investigators	Components, CPU, Graphics Card, Hard Drive, Hardware, Input, Motherboard, Network Card, Output, Peripherals, RAM, Software
Making Music	BPM, Dynamics, Harmonious, Melody, Pitch, Pulse, Rhythm, Tempo, Texture, Synths
Micro: bit	Accelerometer, Animation, Conditionals, Data, Gestures, Hardware, Image, Infinite loop, Input, LED, Light Sensor, Logic, Output, Program, Repeat, Selection, Sensor, Sequence, Simulation, Software, Speaker, Variable

Years 5 & 6 Vocabulary	
Coding	Abstraction, Action, Algorithm, Command, Concatenation, Co-ordinates, Debug\ Debugging, Decomposition, Efficient, Event, Flowchart, Friction, Output, Physical System, Predict, Print to Screen, Properties, Random, Repeat, Selection, Sequence, Simplify, Simulation, String, Tabs, Timer, Variable, Execute\ Run, Input, Launch Command, Object, Procedure, Text Object, Timer, Turtle Object, x and y properties
Online Safety	Appropriate, Avatar, Bibliography, Citation, Collaborate, Communication, Copyright, Creative commons licence, Critical thinking, Digital Footprint, Encrypt, Identity theft, Image manipulation, Malware, Ownership, PEGI ratings, Phishing, Password, Personal information, Plagiarism, Reference, Reliability, Responsibility, Reliable Source, Screenshot, SMART rules, Spoof, Validity, Data Analysis, Inappropriate, Location sharing, Print Screen, Screen Time, Secure websites
Spreadsheets	Advance Mode, Area, Budget, Computational Model, Data, Format Cell, Formula, Formula Bar, Formula Wizard, ‘How Many?’ Tool, Perimeter, Profit, Rows, Spreadsheet, Totalling tool, Variable, Advanced mode, Chart, Columns, Count (How Many?) Tool, Expense, Move Cell Tool, Percentage, Probability
Databases	Arrange, Avatar, Chart, Collaborative, Data, Database, Database Report, Field, Group, Record, Search, Sort, Statistics
Game Creator	Evaluation, Feedback, Image, Instructions, Promotion, Quest, Scene, Screenshot, Texture, Theme
3D Modelling	2D, 3D, 3D Printing, CAD – Computer Aided Design, Design Brief, Net, Pattern Fill, Points, Template
Concept Maps	Concept, Concept Map, Connection, Collaborate, Heading, Sub-Heading, Node, Presentation Mode, Story Mode
Word Processing with Microsoft Word / Google Docs	Attributing, Bulleted lists, Breaks, Caps Lock, Captions, Column (table), Columns (newspaper), Copy and Paste, Copyright, Creative Commons, Cropping, Cursor, Distributing Columns, Document, Drop Capitals, Editor Options, Font, Front Screen, Grammar check, Hyperlink, Image Editing, Image Transparency, Merge Cells, Numbered lists, Page Orientation, Readability, Row, Selecting/highlighting, Sharing, Spell check, Styles, Template, Text Box, Text Formatting, Text Wrapping, Word Art, Word Processing Tool, Zoom
Blogging	Approval, Archive, Blog, Blog post, Collaborate, Commenting, Connections, Nodes, Vlog
Text Adventures	Debug\ Debugging, Function, Link, QR Code, Repeat, Sprite, Text Adventure, Selection, Variables
Networks	Data, DNS (Domain Name Server), Ethernet, Hosting, Hub\Switch, Internet, IP address, ISP (Internet Service Provider), LAN (Local Area Network), Network, Router, Search engine, WAN (Wide Area Network), Web Page, Web server, Website, WLAN: (Wireless Local Area Network), Wi-Fi, World Wide Web
Quizzing	Audience, Audio, Case-Sensitive, Clipart, Clone, Cloze, Copy\Paste, Database, Database Record, Database Field, Image, Image Filter, Selfie, Statistics, Undo\Redo, Preview, Quiz
Binary	Binary, Bit, Decimal, Denary, Digit, Game States, Integer, Microprocessor, Nanotechnology, Nibble, Byte, Kilobyte, Megabyte, Gigabyte and Terabyte, Switch, Transistor, Variable
Spreadsheets with Microsoft Excel / Google Sheets	Auto fit, Average, Budget, Calculation, Categories Ribbon, Cell, Cell Reference, Chart, Column, Computational Model, Conditional formatting, Currency, Data, Expense, Filter, Flash-fill, Formatting, Formula, Formula Bar, Graph, Horizontal axis, Maximum, Minimum, Profit, Range, Row, Series, Sheet, Sorting, Spreadsheet, Template, Text Wrapping, Vertical axis, Workbook

Computing SEND Strategies	
	Here is how we will help:
Attention Deficit Hyperactivity Disorder	● Reinforce instructions on how to use the computing equipment ● Be explicit about the rules of when to use the equipment and to be listening and focusing on verbal instructions
Anxiety	● Arrange for another child to be a ‘buddy’ for computing lessons so that they know they can have a consistent friend to help if needed ● Where possible, the child will work in a group rather than independently so that they feel supported if they experience any issue =s with the computer/other equipment
Autism Spectrum Disorder	● Teacher/TA to discuss what the computing session will involve and what programme/software/computing equipment will be used ● Where possible, the child will work in the same group/team for each session ● Where possible/necessary, discuss any unfamiliar technical vocabulary that might be used prior to the lesson
Dyscalculia	● Provide printouts of the instructions that will be used in the lesson ● Where necessary provide screenshots of the computer programme that will be used in the lesson
Dyslexia	● When using interactive whiteboard avoid black text on a white background and ensure this is avoided when sharing documents on Chromebooks or in pupil’s shared areas ● Show the child how to enlarge or zoom in on a page when using a computer so that the text and images can be clearly read and understood
Dyspraxia	● Provide opportunities for the child to sit in a spot in the classroom where there is plenty of room, particularly when a computer is needed ● Make sure that instructions are clearly explained and repeated if necessary ● Allow extra time to complete task, especially when new concepts/programmes/software are being used
Hearing Impairment	● Ensure that the child is able to sit near to the interactive whiteboard and/or the teacher ● Repeat instructions for independent learning to ensure the child knows what to do ● Ensure that any videos that are shown in computing lessons are subtitled ● Provide printouts or screenshots from the main input in lessons which the child can refer to ● New and unfamiliar technical vocabulary is discussed at the start of a new computing unit ● Ensure that the background noise is kept to a minimum particularly when sound is being used with computers ● Provide headphones for all children if the background noise is going t hinder the hearing impaired child
Toileting Issues	● Let me leave and return to the classroom discreetly and without having to get permission whenever I need the toilet
Cognition and learning challenges	● Provide small steps to complete in independent learning activities as the computing tasks could be unfamiliar ● Provide a word bank to explain unfamiliar technical vocabulary ● Provide screenshots of the computer programmes that will be used in computing lessons ● Use plenty of modelling on a screen to ensure the child understands how to access programmes and the information within them
Speech, Language & Communication Needs	● Be prepared to adapt instructions, particularly those that contain unfamiliar technical vocabulary, so that the child can understand them ● Provide lots of ‘talk’ opportunities so that new concepts can be discussed prior to beginning independent learning ● Provide printouts which include the images of symbols/icons/buttons that will be used in the lesson
Tourette Syndrome	● Provide a list of components to include in a task to aid attention ● Be aware that a piece of work may not be fully completed
Experienced Trauma	● The PACE approach should be used, using playfulness, acceptance, curiosity and empathy to understand my emotions and behaviour ● Before the lesson come up with strategies for if difficulties occur during the lesson and ways these can be overcome, reminding children that learning is about trial and error ● Use simple, specific instructions that are clear to understand and deliver these slowly
Visual Impairment	● Ensure that the child is taught how to adjust the screen resolutions on computers (brightness, contrast) and how to zoom in and out ● Consider the colour of backgrounds and text on interactive whiteboards when teaching and that of the computers when accessing shared documents ● Ensure that when the computer is being used it is in a space where there is little glare as possible ● Consider dimming or switching off the classroom lights during computing lessons ● Allow breaks from the computer during extended periods of work where there could be a risk of fatigue through continually looking at a screen