COMPUTING Year 1			
	Autumn	Spring	Summer
Prior			
Knowledge	**<u>1.3 Pictograms</u>** 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. **<u>1.5 Maze explorers</u>** To understand the functionality of the direction keys. To understand how to create and debug a set of instructions (algorithm). To use the additional direction keys as part of an algorithm. To understand how to change and extend the algorithm list. To create a longer algorithm for an activity. To set challenges for peers. To access peer challenges set by the teacher as 2Dos. **<u>1.4 Lego builders</u>** To compare the effects of adhering strictly to instructions to completing tasks without complete instructions. To follow and create simple instructions on the computer. To consider how the order of instructions affects the result.	**<u>1.8 Spreadsheets</u>** To know what a spreadsheet program looks like. To locate 2Calculate in Purple Mash. To enter data into spreadsheet cells. To use 2Calculate image tools to add clipart to cells. To use 2Calculate control tools: lock, move cell, speak and count. **<u>1.2 Grouping and sorting</u>** To sort items using a range of criteria. To begin to think logically about the steps of a process. To sort items on the computer using the 'Grouping' activities in Purple Mash. To introduce the term 'algorithm' to describe logically following a process. **<u>1.6 Animated stories</u>** To introduce e-books and the 2Create a Story tool. To add animation to a story. To add sound to a story, including voice recording and music the children have composed. To work on a more complex story, including adding backgrounds and copying and pasting pages. To share e-books on a class display board.	**<u>1.9 Tech outside school</u>** To walk around the local community and find examples of where technology is used. To record examples of technology outside school. **<u>1.7 Coding</u>** To understand what instructions are and predict what might happen when they are followed. To use code to make a computer program. To understand what object and actions are. To understand what an event is. 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.

COMPUTING Year 2			
	Autumn	Spring	Summer
Prior			
Knowledge	**2.1 Coding** To understand what an algorithm is. To create a computer program using an algorithm. To create a program using a given design. To understand the collision detection event. To understand that algorithms follow a sequence. To design an algorithm that follows a timed sequence. To understand that different objects have different properties. To understand what different events do in code. To understand the function of buttons in a program. To understand and debug simple programs. **2.6 Creating Pictures** To learn the functions of the 2Paint a Picture tool. To learn about and recreate the Impressionist style of art (Monet, Degas, Renoir). To recreate Pointillist art and look at the work of pointillist artists such as Seurat. To learn about the work of Piet Mondrian and recreate the style using the lines template. To learn about the work of William Morris and recreate the style using the patterns template. To explore surrealism and eCollage.	**2.4 Questioning** To learn about data handling tools that can give more information than pictograms. To use yes/no questions to separate information. To construct a binary tree to identify items. To use 2Question (a binary tree database) to answer questions. To use a database to answer more complex search questions. To use the Search tool to find information. **2.3 Spreadsheets** To use 2Calculate image, lock, move cell, speak and count tools to make a counting machine. To learn how to copy and paste in 2Calculate. To use the totalling tools. To use a spreadsheet for money calculations. To use the 2Calculate equals tool to check calculations. To use 2Calculate to collect data and produce a graph. **2.5 Effective searching** To understand the terminology associated with searching. To gain a better understanding of searching on the Internet. To create a leaflet to help someone search for information on the Internet	**2.7 Making music** To make music digitally using 2Sequence. To explore, edit and combine sounds using 2Sequence. To edit and refine composed music. To think about how music can be used to express feelings and create tunes which depict feelings. To upload a sound from a bank of sounds into the Sounds section. To record and upload environmental sounds into Purple Mash. To use these sounds to create tunes in 2Sequence. **2.8 Presenting ideas** To explore how a story can be presented in different ways. To make a quiz about a story or class topic. To make a fact file on a non-fiction topic. To make a presentation to the class.

COMPUTING Year 3			
	Autumn	Spring	Summer
Prior			
Knowledge	**3.1 Coding** To understand what a flowchart is and how flowcharts are used in computer programming. To understand that there are different types of timers and select the right type for purpose. To understand how to use the repeat command. To understand the importance of nesting. To design and create an interactive scene. **3.5 Email** To think about different methods of communication. To open and respond to an email using an address book. To learn how to use email safely. To add an attachment to an email. To explore a simulated email scenario.	**3.7 Simulations** To consider what simulations are. To explore a simulation. To analyse and evaluate a simulation. **3.8 Graphing** To use the symbols more than, less than and equal to, to compare values. To use 2Calculate to collect data and produce a variety of graphs. To use the advanced mode of 2Calculate to learn about cell references **3.4 Touch typing** To introduce typing terminology. To understand the correct way to sit at the keyboard. To learn how to use the home, top and bottom row keys. To practise typing with the left and right hand. **3.3 Spreadsheets** To use the symbols more than, less than and equal to, to compare values. To use 2Calculate to collect data and produce a variety of graphs. To use the advanced mode of 2Calculate to learn about cell references	**3.6 Branching databases** To sort objects using just 'yes' or 'no' questions. To complete a branching database using 2Question. To create a branching database of the children's choice. **3.9 Presenting (Using Microsoft Powerpoint)** To understand the uses of PowerPoint. To create a page in a presentation. To add media to a presentation. To add animations to a presentation. To add timings to a presentation. To use the skills learnt to design and create an engaging presentation.

COMPUTING Year 4			
	Autumn	Spring	Summer
Prior			
Knowledge	**4.1 Coding** To begin to understand selection in computer programming. To understand how an IF statement works. To understand how to use co-ordinates in computer programming. To understand the 'repeat until' command. To understand how an IF/ELSE statement works. To understand what a variable is in programming. To use a number variable. To create a playable game. **4.7 Effective searching** 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. **4.9 Making music** To identify and discuss the main elements of music. To understand and experiment with rhythm and tempo. To create a melodic phrase. To electronically compose a piece of music.	**4.3 Spreadsheets** To format cells as currency, percentage, decimal to different decimal places or fraction. To use the formula wizard to calculate averages. To combine tools to make spreadsheet activities such as timed times tables tests. To use a spreadsheet to model a real life situation. To add a formula to a cell to automatically make a calculation in that cell. **4.4 Writing for different audiences** To explore how font size and style can affect the impact of a text. To use a simulated scenario to produce a news report. To use a simulated scenario to write for a community campaign.	**4.5 Logo** To learn the structure of the coding language of Logo. To input simple instructions in Logo. Using 2Logo to create letter shapes. To use the Repeat function in Logo to create shapes. To use and build procedures in Logo. **4.6 Animation** To discuss what makes a good animated film or cartoon. To learn how animations are created by hand. To find out how animation can be created in a similar way using the computer. To learn about onion skinning in animation. To add backgrounds and sounds to animations. To be introduced to ‘stop motion’ animation. To share animation on the class display board and by blogging.

COMPUTING Year 5			
	Autumn	Spring	Summer
Prior			
Knowledge	**5.1 Coding** To begin to simplify code. To create a playable game. To understand what a simulation is. To program a simulation using 2Code. To know what decomposition and abstraction are in computer science. To a take a real-life situation, decompose it and think about the level of abstraction. To understand how to use friction in code. To begin to understand what a function is and how functions work in code. To understand what the different variables types are and how they are used differently. To understand how to create a string. To understand what concatenation is and how it works. **5.4 Databases** To understand the need for visual representation when generating and discussing complex ideas. To understand the uses of a 'concept map'. To understand and use the correct vocabulary when creating a concept map. To create a concept map. To understand how a concept map can be used to retell stories and information. To create a collaborative concept map and present this to an audience.	**5.5 Game creators** To plan a game. To design and create the game environment. To design and create the game quest. To finish and share the game. To self and peer evaluate. **5.9 External devices** To understand how a device can be programmed to be used as a game controller. To explore the functions available for the Purple Chip and appraise their uses. 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.	**3D Modelling** To be introduced to 2Design and Make and the skills of computer aided design. To explore the effect of moving points when designing. To design a 3D Model to fit certain criteria. To refine and print a model. **5.8 Word processing (Microsoft Word)** To know what a word processing tool is for. To add and edit images to a word document. To know how to use word wrap with images and text. 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.

COMPUTING Year 6			
	Autumn	Spring	Summer
Prior			
Knowledge	**6.1 Coding** To design a playable game with a timer and a score. To plan and use selection and variables. To understand how the launch command works. To use functions and understand why they are useful. To understand how functions are created and called. To use flowcharts to create and debug code. To create a simulation of a room in which devices can be controlled. To understand how user input can be used in a program. To understand how 2Code can be used to make a text-adventure game. **6.5 Text adventures** To find out what a text adventure is. To use 2Connect to plan a story adventure. To make a story-based adventure using 2Create a Story. To read and understand given code for a text adventure game. To debug and improve a text adventure game **6.8 Binary** To examine how whole numbers are used as the basis for representing all types of data in digital systems. To recognise that digital systems represent all types of data using number codes that ultimately are patterns of 1s and 0s (called binary digits, which is why they are called digital systems). To understand that binary represents numbers using 1s and 0s and these represent the on and off electrical states respectively in hardware and robotics.	**6.6 Networks** To learn about what the Internet consists of. To find out what a LAN and a WAN are. To find out how the Internet is accessed in school. To research and find out about the age of the Internet. To think about what the future might hold. **6.3 Spreadsheets** 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. 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. **6.9 Spreadsheets** To know what a spreadsheet looks like. To navigate and enter data into cells. To introduce some basic data formulae in Excel for percentages, averages and max and min numbers. To demonstrate how the use of Excel can save time and effort when performing calculations. To use a spreadsheet to model a real life situation. To demonstrate how Excel can make complex data clear by manipulating the way it is presented. To create a variety of graphs in Excel. To apply spreadsheet skills to solving problems.	**6.4 Blogging** To identify the purpose of writing a blog. To identify the features of a successful blog. To plan the theme and content for a blog. To understand how to write a blog and a blog post. To consider the effect upon the audience of changing the visual properties of the blog. To understand how to contribute to an existing blog. To understand how and why blog posts are approved by the teacher. To understand the importance of commenting on blogs. **6.7 Quizzing** To create a picture-based quiz for young children. To learn how to use the question types within 2Quiz. To explore the grammar quizzes. To make a quiz that requires the player to search a database. To make a survey and analyse the responses.

ONLINE SAFETY Years 1 - 6

	Autumn	Spring	Summer
Knowledge (substantive and disciplinary)	**Year 1** To log in and out safely. To explore the Tools and Games section of Purple Mash. **Year 2** To use the search facility to refine searches on Purple Mash by year group and subject. To share the work they have created to a display board. To understand that the teacher approves work before it is displayed. To begin to understand how things can be shared electronically for others to see both on Purple Mash and the Internet. **Year 3** To know what makes a safe password. To learn methods for keeping passwords safe. **Year 4** To understand how children can protect themselves from online identity theft. To understand that information put online leaves a digital footprint or trail and that this can aid identity theft. To identify the risks and benefits of installing software including apps. **Year 5** To gain a greater understanding of the impact that sharing digital content can have. To review sources of support when using technology and children's responsibility to one another in their online behaviour. **Year 6** To identify benefits and risks of mobile devices broadcasting the location of the user/device. To identify secure sites by looking for privacy seals of approval. To identify the benefits and risks of giving personal information.	**Year 1** To learn how to find saved work in the Online Work area and find teacher comments. To learn how to search Purple Mash to find resources. **Year 2** To know that Email is a form of digital communication To open and send an email to a 2Respond character. To discuss their own experiences and understanding of what email is used for and what makes them happy and sad. **Year 3** To understand how the Internet can be used in effective communication. To understand how a blog can be used to communicate with a wider audience. **Year 4** To understand that copying the work of others and presenting it as their own is called 'plagiarism' and to consider the consequences of plagiarism. To identify appropriate behaviour when participating or contributing to collaborative online projects for learning. **Year 5** To know how to maintain secure passwords. To understand the advantages, disadvantages, permissions and purposes of altering an image digitally and the reasons for this. To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online. **Year 6** To review the meaning of a digital footprint. To have a clear idea of appropriate online behaviour. To begin to understand how information online can persist.	**.Year 1** To learn how to open, save and print. To understand the importance of logging out. **Year 2** To explain what a digital footprint is. To give examples of things that they would not want to be in their digital footprint. **Year 3** To consider the truth of the content of websites. To learn about the meaning of age restrictions symbols on digital media and devices **Year 4** To identify the positive and negative influences of technology on health and the environment. To understand the importance of balancing game and screen time with other parts of their lives. **Year 5** To learn about how to reference sources in their work. To search the Internet with a consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information. To ensure reliability through using different methods of communication. **Year 6** To understand the importance of balancing game and screen time with other parts of their lives. To identify the positive and negative influences of technology on health and the environment.