Burton Leonard Church of England (VC) Primary School

Computing
Sequences of Learning Year B

Autumn Term – Year B

Year 1 and Year 2 Autumn first half term	Year 1 and Year 2 Autumn second half term
Unit 1.1 Online Safety & Exploring Purple Mash weeks x 4 Pupils log in to Purple Mash using their own login. Pupils create their own avatar and understand why they are used. Pupils add their name to a picture they created on the computer. Pupils develop an understanding of ownership of work online. Pupils save work into the My Work folder in Purple Mash and understand that this is a private saving space just for their work. Pupils find their saved work in the Online Work area of Purple Mash. Pupils find messages that their teacher has left for them on Purple Mash. Pupils search Purple Mash to find resources. Pupils use the different types of topic templates in the Topics section. Pupils will be confident with the functionality of the icons in the topic templates. Pupils use the different icons and writing cues to add pictures and text to their work. Pupils explore the Tools section on Purple Mash and become familiar with some of the key icons: Save, Print, Open and New. Pupils have explored the Games section and looked at Table Toons (2x tables).	**Unit 2.4 Questioning weeks x 5** Programs – 2Question, 2Investigate Pupils understand that the information on pictograms cannot be used to answer more complicated questions. Pupils have used a range of yes/no questions to separate different items. Pupils understand what is meant by a binary tree. Pupils have designed a binary tree to sort pictures of pupils. Pupils understand that questions are limited to 'yes' and 'no' in a binary tree. Pupils understand that the user cannot use 2Question to find out answers to more complicated questions. Pupils have matched the 2Simple Avatar pictures to names using a binary tree. Pupils understand what is meant by a database. Pupils have used a database to answer simple and more complex search questions.

Pupils can log out of Purple Mash when they have finished using it and know why that is important. **Unit 1.5 Maze Explorers weeks x 3** Programs – 2Go Pupils know how to use the direction keys in 2Go to move forwards, backwards, left and right. Pupils know how to add a unit of measurement to the direction in 2Go Challenge 2. Pupils know how to undo their last move. Pupils know how to move their character back to the starting point. Pupils can use diagonal direction keys to move the characters in the right direction. Pupils know how to create a simple algorithm. Pupils know how to debug their algorithm. Pupils can use the additional direction keys to create a new algorithm. Pupils can challenge themselves by using the longer algorithm to complete challenges. Pupils can change the background images in their chosen challenge and save their new challenge. Pupils have tried each other's challenges as 2Dos.	
Year 3 and Year 4 Autumn first half term	**Year 3 and Year 4 Autumn second half term**
Unit 4.1 Coding weeks x 6 Pupils review coding vocabulary. Pupils can use sketching to design a program and reflect upon their design. Pupils can create code that conforms to their design. Pupils can create an 'If/else' statement. Pupils understand what a variable is in programming. Pupils can set/change the variable values appropriately. Pupils can interpret a flowchart that depicts an if/else flowchart.	**Unit 4.3 Spreadsheets weeks x 6** Programs – 2Calculate Pupils can use the number formatting tools within 2Calculate to appropriately format numbers. Pupils can add a formula to a cell to automatically make a calculation in that cell. Pupils can use the timer, random number and spin button tools. Pupils can combine tools to make fun ways to explore number.

Pupils can show how an object repeats an action and explain how they caused it to do so. Pupils can make an object respond to user keyboard input. Pupils can create a timer that prints a new number to the screen every second. Pupils can explain how they made their program change the number every second. Pupils can create an algorithm modelling the sequence of a simple event. Pupils can manipulate graphics in the design view to achieve the desired look for the program. Pupils can use an algorithm when making a simulation of an event on the computer. Decomposition and Abstraction - Pupils can make good attempts to break down their aims for a coding task into smaller achievable steps. **Unit 4.2 Online safety weeks x 4** Pupils know that security symbols such as a padlock protect their identity online. Pupils know the meaning of the term 'phishing' and are aware of the existence of scam websites. Pupils can explain what a digital footprint is and how it relates to identity theft. Pupils can give examples of things that they would not want to be in their digital footprint. Pupils can identify possible risks of installing free and paid for software. Pupils know that malware is software that is specifically designed to disrupt, damage, or gain access to a computer. Pupils know what a computer virus is. Pupils can determine whether activities that they undertake online, infringe another's' copyright. They know the difference between researching and using information and copying it.	Pupils can use a series of data in a spreadsheet to create a line graph. Pupils can use a line graph to find out when the temperature in the playground will reach 20°C. Pupils can make practical use of a spreadsheet to help them plan actions. Pupils can use the currency formatting in 2Calculate. Pupils can allocate values to images and use these to explore place value. Pupils can use a spreadsheet made in 2Calculate to check their understanding of a mathematical concept.

Pupils know about citing sources that they have used. Pupils can take more informed ownership of the way that they choose to use their free time. They recognise a need to find a balance between being active and digital activities. Pupils can give reasons for limiting screen time.	
Year 5 and Year 6 Autumn first half term	**Year 5 and Year 6 Autumn second half term**
Unit 6.1 Coding Designing and writing a more complex program weeks x 6 Pupils can plan a program before coding to anticipate the variables that will be required to achieve the desired effect. Pupils can follow through plans to create the program. Pupils can debug when things do not run as expected. Pupils can explain what functions are and how they can be created and labelled in 2Code. Pupils can explain how to move code from one tab to another in 2Code. Pupils can explain how they organised code in a program into functions to make it easier to read. Pupils can code programs that take text input from the user and use this in the program. Pupils can attribute variables to user input. Pupils are aware of the need to code for all possibilities when using user input. Pupils can follow flowcharts to create and debug code. Pupils can create flowcharts for algorithms using 2Chart. Pupils can be creative with the way they code to generate novel visual effects. Pupils can follow through the code of how a text adventure can be programmed in 2Code. Pupils can adapt an existing text adventure to make it unique to their requirements.	**Unit 6.3 Spreadsheets weeks x 5** Programs – 2Calculate Pupils can create a spreadsheet to answer a mathematical question relating to probability. Pupils can take copy and paste shortcuts. Pupils can problem solve using the count tool. Pupils can create a machine to help work out the price of different items in a sale. Pupils can use the formula wizard to create formulae. Pupils can use a spreadsheet to solve a problem. Pupils can use a spreadsheet to model a real-life situation and come up with solutions. Pupils can make practical use of a spreadsheet to help plan actions. Pupils can use a spreadsheet to model a real-life situation and come up with solutions that can be applied to real life.

Unit 6.2 Online safety weeks x 3 Pupils have used the example game and further research to refresh their memories about risks online including sharing location, secure websites, spoof websites, phishing and other email scams. Pupils have used the example game and further research to refresh their memories about the steps they can take to protect themselves including protecting their digital footprint, where to go for help, smart rules and security software. Pupils understand how what they share impacts upon themselves and upon others in the long-term. Pupils know about the consequences of promoting inappropriate content online and how to put a stop to such behaviour when they experience it or witness it as a bystander. Pupils' actions demonstrate that they also feel a responsibility to others when communicating and sharing content online. Pupils can take more informed ownership of the way that they choose to use their free time. They recognise a need to find a balance between being active and digital activities. Pupils can give reasons for limiting screen time. Pupils can talk about the positives and negative aspects of technology and balance these opposing views. Pupils have an internalised in-depth understanding of the risks and benefits of an online presence.	
Spring Term – Year B	
Year 1 and Year 2 Spring first half term	**Year 1 and Year 2 Spring second half term**
Unit 2.2 Online Safety weeks x 3 Pupils can use the search facility to refine searches on Purple Mash by year group and subject. Pupils can share the work they have created to a display board.	**Unit 2.7 Making Music weeks x 3** Programs – 2Sequence Pupils understand what 2Sequence is and how it works. Pupils have used the different sounds within 2Sequence to create a tune. Pupils have explored how to speed up and slow down tunes.

Pupils understand that the teacher approves work before it is displayed. Pupils are beginning to understand how things can be shared electronically for others to see both on Purple Mash and the Internet. Pupils know that Email is a form of digital communication. Pupils understand how 2Repond can teach them how to use email. Pupils can open and send an email to a 2Respond character. Pupils have discussed their own experiences and understanding of what email is used for. Pupils have discussed what makes us feel happy and what makes us feel sad. Pupils can explain what a digital footprint is. Pupils can give examples of things that they would not want to be in their digital footprint. **Unit 1.6 Animated Story Books weeks x 5** Programs – 2Create A Story Pupils know the difference between a traditional book and an e-book. Pupils can use the different drawing tools to create a picture on the page. Pupils can add text to a page and change the colour, font and size of the text. Pupils can add an animation to a page. Pupils can play the pages created. Pupils can save changes and overwrite the file. Pupils can add a sound to the page. Pupils can add voice recording to the page. Pupils can create music for a page. Pupils can add a background to the page. Pupils can copy and paste a page in the book. Pupils can enhance the features of an e-book by adding additional pages and animations. Pupils can share e-books on a class story book display board.	Pupils understand what happens to the tune when sounds are moved. Pupils add sounds to a tune they have already created to change it. Pupils have considered how music can be used to express feelings. Pupils can change the volume of the background sounds. Pupils create two tunes which depict two feelings. Pupils upload and use their own sound chosen from a bank of sounds. Pupils have created, uploaded and used their own recorded sound. Pupils have created their own tune using some of the chosen sounds. **Unit 2.3 Spreadsheets weeks x 4** Programs – 2Calculate Pupils can explain what rows and columns are in a spreadsheet. Pupils can open, save and edit a spreadsheet. Pupils can add images from the image toolbox and allocate them a value. Pupils can add the count tool to count items. Pupils can use copying a pasting to help make spreadsheets. Pupils can use tools in a spreadsheet to automatically total rows and columns. Pupils can use a spreadsheet to solve a mathematical puzzle. Pupils can use images in a spreadsheet. Pupils can work out how much they need to pay using coins by using a spreadsheet to help calculate. Pupils can create a table of data on a spreadsheet. Pupils can use the data to create a block graph manually.

Year 3 and Year 4 Spring first half term	Year 3 and Year 4 Spring second half term
Unit 4.4 Writing for different audiences weeks x 5 Programs – 2Email, 2Connect, 2DIY Pupils have used text formatting to make a piece of writing fit for its audience and purpose. Pupils have role-played the job of a journalist in a newsroom. Pupils have interpreted a variety of incoming communications and used these to build up the details of a story. Pupils have used the incoming information to write their own newspaper report. Pupils have used 2Connect to mind-map ideas for a community campaign. Pupils have used these ideas to write a persuasive letter or poster as part of the campaign. Pupils have assessed their texts using criteria to judge their suitability for the intended audience.	**Unit 4.5 Logo weeks x 4** Programs – Logo Pupils know what the common instructions are in Logo and how to type them. Pupils can follow simple Logo instructions to create shapes on paper. Pupils can follow simple instructions to create shapes in Logo. Pupils can create Logo instructions to draw patterns of increasing complexity. Pupils understand the pu and pd commands. Pupils can write Logo instructions for a word of four letters. Pupils can follow Logo code to predict the outcome. Pupils can create shapes using the Repeat function. Pupils can find the most efficient way to draw shapes. Pupils can use the Procedure feature. Pupils can create 'flowers' or 'crystals' using Logo.
Year 5 and Year 6 Spring first half term	**Year 5 and Year 6 Spring second half term**
Unit 6.4 Blogging weeks x 5 Programs – 2Blog Pupils understand how a blog can be used as an informative text. Pupils understand the key features of a blog. Pupils can work collaboratively to plan a blog. Pupils can create a blog with a specific purpose. Pupils understand that the way in which information is presented has an impact upon the audience. Pupils understand that blogs need to be updated regularly to maintain the audience's interest and engagement. Pupils can post comments and blog posts to an existing class blog.	**Unit 6.5 Text Adventures weeks x 5** Programs – 2Code, 2Connect Pupils can describe what a text adventure is. Pupils can map out a story-based text adventure. Pupils can use 2Connect to record their ideas. Pupils can turn a simple story with 2 or 3 levels of decision making into a logical design. Pupils can use the full functionality of 2Create a Story Adventure mode to create, test and debug using their plan. Pupils can split their adventure-game design into appropriate sections to facilitate creating it. Pupils can map out an existing text adventure.

Pupils understand the approval process that their posts go through and demonstrate an awareness of the issues surrounding inappropriate posts and cyberbullying. Pupils can comment on and respond to other blogs. Pupils can assess the effectiveness and impact of a blog. Pupils understand that content included in their blog carefully considers the end user.	Pupils can contrast a map-based game with a sequential story-based game. Pupils can make a comprehensive design map with a sequence of rooms including rooms in which the player needs to make a choice and collect items in a certain order to complete the game. Pupils can create their own text-based adventure based upon a map. Pupils can use coding concepts of functions, two-way selection (if/else statements) and repetition in conjunction with one another to code their game. Pupils make logical attempts to debug their code when it does not work correctly.
Summer Term – Year B	
Year 1 and Year 2 Summer first half term	**Year 1 and Year 2 Summer second half term**
Unit 1.3 Pictograms weeks x 3 Programs – 2Count Pupils can discuss and illustrate the transport used to travel to school. Pupils can contribute to the collection of class data. Pupils have used these illustrations to create a simple pictogram. Pupils can contribute to a class pictogram. Pupils can discuss what the pictogram shows. Pupils can collect data from rolling a die 20 times and recording the results. Pupils can represent the results as a pictogram.	**Unit 2.8 Presenting Ideas weeks x 4** Pupils have examined a traditional tale presented as a mind map, as a quiz, as an e-book and as a fact file. Pupils know that digital content can be represented in many forms. Pupils have made a quiz about a story using 2Quiz. Pupils can talk about their work and make improvements to solutions based on feedback received. Pupils have added appropriate clipart. Pupils have added an appropriate photo. Pupils know that data can be structured in tables to make it useful. 4 To make a presentation to the class. Pupils can use a variety of software to manipulate and present digital content and information. Pupils can collect, organise and present data and information in digital content. Pupils can create digital content to achieve a given goal by combining software packages.
Year 3 and Year 4 Summer first half term	**Year 3 and 4 Summer second half term**

Unit 4.6 Animation weeks x 3 Programs – 2Animate Pupils have put together a simple animation using paper to create a flick book. Pupils understand animation frames. Pupils have made a simple animation using 2Animate. 2 To learn about onion skinning in animation. Pupils know what the Onion Skin tool does in animation. Pupils can use the Onion Skin tool to create an animated image. Pupils can use backgrounds and sounds to make more complex and imaginative animations. Pupils know what 'stop motion' animation is and how it is created. Pupils have used ideas from existing 'stop motion' films to recreate their own animation. Pupils have shared their animations and commented on each other's work using display boards and blogs in Purple Mash. **Unit 4.7 Effective Search weeks x 3** Programs – Browser Pupils can structure search queries to locate specific information. Pupils have used search to answer a series of questions. Pupils have written search questions for a friend to solve. Pupils can analyse the contents of a web page for clues about the credibility of the information.	**Unit 4.8 Hardware Investigators weeks x 2** Pupils can name the different parts of a desktop computer. Pupils know what the function of the different parts of a computer is. Pupils have created a leaflet to show the function of computer parts.
Year 5 and Year 6 Summer first half term	**Year 5 and Year 6 Summer second half term**
Unit 6.6 Networks weeks x 3 Pupils know the difference between the World Wide Web and the internet. Pupils can provide examples of the difference between the World Wide Web and the Internet.	**Unit 6.7 Quizzing weeks x 6** Programs – 2Quiz, 2DIY, Text Toolkit, 2Investigate Pupils have used the 2DIY activities to create a picture-based quiz.

Pupils know about their school network. Pupils can explain the differences between more than two network types such as: LAN, WAN, WLAN and SAN. Pupils have researched and found out about Tim Berners-Lee. Pupils have considered some of the major changes in technology which have taken place during their lifetime and the lifetime of their teacher/another adult.	Pupils have considered the audience's ability level and interests when setting the quiz. Pupils have shared their quiz and responded to feedback. Pupils understand the different question types within 2Quiz. Pupils have ideas about what sort of questions are best suited to the different question types. Pupils have used 2Quiz to make and share a science quiz. Pupils have considered the audience's ability level and interests when setting the quiz. Pupils have shared their quiz with peers. Pupils have given and responded to feedback. As a class, pupils have collaborated on a quiz. Pupils have tried out the different types of Text Toolkit grammar games. Pupils have chosen an appropriate Text Toolkit tool to make their own grammar game. Pupils have used a 2Investigate quiz to answer quiz questions. Pupils have designed their own quiz based on one of the 2Investigate example databases. Pupils have used their knowledge of quiz types to create a quiz show quiz based on a curriculum area. Pupils have given and responded to feedback. In response they have edited and redesign their quizzes appropriately.