



Kings Avenue Computing Long Term Plan - Unit Overviews (Purple Mash/Teach Computing)

	1	2	3	4	5	6
A1	<p>Unit 1.2 Online Safety AND Unit 1.9 Tech at Home</p> <p>Key skills:</p> <ul style="list-style-type: none"> To log in safely To save work To identify common used icons To identify technology in the community <p>Key Knowledge:</p> <ul style="list-style-type: none"> To know the terms - ownership, icon, technology To know that technology is everywhere To know some common uses of technology 	<p>Unit 2.1 Coding</p> <p>Key skills</p> <ul style="list-style-type: none"> To convert simple algorithms to programs To predict what a simple program will do To spot and fix (debug) errors in their programs. To be able to use logical reasoning to predict the behaviour of simple programs. <p>Key Knowledge</p> <ul style="list-style-type: none"> To understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. To know how to create and debug simple programs by going back to the set of 	<p>Unit 3.1 coding</p> <p>Key skills</p> <ul style="list-style-type: none"> To create an algorithm for an animated scene in the form of a storyboard To write a program in 2code to create an animation To design, write and debug programs that accomplish specific goals; solve problems by decomposing them into smaller parts. To be able to sequence ... in programs; work with variables and various forms of input and output and repetition. <p>Key knowledge</p> <ul style="list-style-type: none"> To know how to use logical reasoning to detect and correct errors in algorithms and programs.e.g. Follow instructions in order step by step to see 	<p>Unit 4.1 coding</p> <p>Key skills</p> <ul style="list-style-type: none"> To plan and design a program with a clear target audience To create a prototype/simulation To add functionality to their programs To know how to design, write and debug programs that accomplish specific goals. <p>Key knowledge</p> <ul style="list-style-type: none"> To know what features make a game successful To know how to use sequence, selection, and repetition in programs; To understand how to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in 	<p>Unit 5.1 Coding</p> <p>Key skills:</p> <ul style="list-style-type: none"> To turn a specified real-life situation into an algorithm for a program by deconstructing it into manageable parts To translate algorithms that include sequence, selection and repetition into code test and debug their program <p>Key Knowledge:</p> <ul style="list-style-type: none"> To know the terms - algorithm, code, program displays an understanding of the function of variables in coding s can explain how programs simulate physical systems 	<p>Unit 6.1 2Code</p> <p>Key skills:</p> <ul style="list-style-type: none"> To design, write and debug programs To solve problems by rereading code and making changes To use sequencing, selecting and repetition in programs. To be able to give commands to a text based program. To compare and contrast text based sequencing and sequencing on programs such as Scratch. <p>Key knowledge:</p> <ul style="list-style-type: none"> To know the purpose of different types of games e.g. first person platform, puzzle, multiplayer To know how variables affect algorithms e.g. score,

		instructions and checking sequences are accurate.	<p>what happens and where it goes wrong .</p> <ul style="list-style-type: none"> To understand what 'algorithm' is in a more complex form e.g. use a repeat loop 	<p>algorithms and programs.e.g. By explaining how their program works in 2code/Scratch .</p>		<ul style="list-style-type: none"> To know what QR codes are and able to use as a way of sharing projects To understand functions in a sequence. To know how to use user input in their program
A2	<p>Unit 1.5 - Maze Explorers</p> <p>Key Skills;</p> <ul style="list-style-type: none"> Create a simple algorithm Able to debug a simple algorithm To be able to use the direction keys - forwards, backwards, left and right, diagonal, back <p>Key Knowledge;</p> <ul style="list-style-type: none"> To understand the functionality of the basic direction keys - forwards, backwards, left and right Know what algorithm means (set of instructions) Know what debug means (find error and 	<p>Unit 2.2 - online safety</p> <p>Key Skills;</p> <ul style="list-style-type: none"> To be able to identify inappropriate content online To use the search tool on both purple mash and search engine such as Google <p>Key Knowledge;</p> <ul style="list-style-type: none"> Know to tell a teacher or trusted adult if they are worried about something they have seen online know that Email is a form of digital communication can explain what a digital footprint is (A digital footprint is a trail of data 	<p>Unit 3.9 - presenting (using powerpoint or google slides)</p> <p>Key Skills:</p> <ul style="list-style-type: none"> Pupils can change the design of the slides. Pupils can insert a new slide. • Pupils can insert pictures. • Pupils can edit pictures. • Pupils can insert video and audio. <p>Key Knowledge:</p> <ul style="list-style-type: none"> Pupils will know what PowerPoint is. • Pupils will know how to open PowerPoint. • Pupils will know how to add text and format it. • Pupils will know how to add shapes to a page. 	<p>Unit 4.9 Making Music AND Unit 4.6 Animations</p> <p>Key Skills;</p> <ul style="list-style-type: none"> To identify and discuss the main elements of music <ul style="list-style-type: none"> Pulse Rhythm Tempo Pitch Texture <ul style="list-style-type: none"> Create a simple animation on a program To edit an animation by adding backgrounds and onion skinning <p>Key Knowledge:</p> <ul style="list-style-type: none"> Know what melody is (sequence of single notes) Know what pitch is (highness or lowness of 	<p>Unit 5.8 - Word processing</p> <p>Key Skills:</p> <ul style="list-style-type: none"> consider copyright and attributions when they use images created by others can insert tables and edit the properties can alter the look of the text and navigate around the document can resize and reposition objects using wrapping options can add images,text boxes and shapes to a word document, can use bullet points and numbering using paragraph formatting, page 	<p>Unit 6.8 - Binary AND Unit 6.6 - Networks</p> <p>Key Skills</p> <ul style="list-style-type: none"> • Pupils can explain how all data in a computer is saved in the computer memory in a binary format. Pupils can explain that binary uses only the integers 0 and 1. Pupils can relate 0 to an 'off' switch and 1 to an 'on' switch. Pupils can count up from 0 in binary. Some may need visual aids to help them. Pupils can relate bits to computer storage.

	<ul style="list-style-type: none"> fix it) Know what error means (mistake) 	<p>you create while using the Internet)</p>		<ul style="list-style-type: none"> sound) Understand how music is created To know what an animation is (a sequence of pictures moving in a frame) To know what onion skinning is in animation (to see multiple frames at once in order to edit) 	<p>breaks, headers and footers to increase the usefulness and visual appeal of a document</p> <p>Key Knowledge</p> <ul style="list-style-type: none"> Pupils know what a word processing tool is for and they can create a word processing document. know how to find icons for the appropriate functionality Pupils know that word processors have template documents that can be used to save time, improve visual aspects and support writing 	<p>Key Knowledge</p> <ul style="list-style-type: none"> Pupils have an understanding of binary as a number system and its purpose and application in computing. Recognising 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)
SP1	<p>Unit 1.2 Grouping and Sorting (Lesson 1 & 2) Unit 1.3 Pictograms (Lesson 3-6)</p> <p>Key skills:</p> <ul style="list-style-type: none"> Pupils can physically sort, collate, edit, present, search through, re-order and restructure items using a range of given criteria pupils can sort 	<p>Unit 2.3. Spreadsheets</p> <p>Key skills :</p> <ul style="list-style-type: none"> Using the 2Calculate spreadsheet, pupils can open, edit and save sheets Pupils can enter data into cells to allocate a value to an image and manipulate data using copying 	<p>Unit 3.6 Branching Databases (lessons 1-3) Unit 3.8 Graphing (lessons 4-5)</p> <p>Key Skills:</p> <ul style="list-style-type: none"> pupils can create a branching database and are able to successfully debug it to improve the quality of their digital content creation. Pupils can 	<p>Unit 4.3 Spreadsheets</p> <p>Key skills:</p> <ul style="list-style-type: none"> Pupils will use 2Calculate to design a graph to solve a mathematical problem Pupils will present, format and analyse their data and information in a variety of ways and use their spreadsheets to solve and check 	<p>Unit 5.3 Spreadsheets</p> <p>Key Skills:</p> <ul style="list-style-type: none"> Pupils can create a formula using 2Calculate that converts metres into centimetres Pupils can program different variables to convert data from one format and present it in an alternative 	<p>Unit 6.4 Blogging</p> <p>Key Skills:</p> <ul style="list-style-type: none"> Pupils can identify the key features of a blog and share these using 2Write can create a blog for a specific purpose and can post comments on an existing class blog Pupils work collaboratively

	<p>physical objects using a range of criteria e.g., shape: Number of sides, colour, equal length sides etc</p> <ul style="list-style-type: none"> • Pupils can collate and organise class data into a physical pictogram and a virtual pictogram • Pupils can create, store, retrieve and share their own pictograms <p>Key knowledge:</p> <ul style="list-style-type: none"> • To know the vocabulary sort/ criteria/ pictogram/ data/ collate • Pupils know how to use grouping/sorting /pictograms to answer given questions • Pupils know how to save using a memorable file name, to their own personal space on Purple Mash and understand that this can be retrieved later • They demonstrate that they can use 2Count to group collated 	<ul style="list-style-type: none"> • and pasting pupils will be able to create a spreadsheet which includes a graph <p>Key knowledge:</p> <ul style="list-style-type: none"> • Pupils use images and can present data in a variety of ways • Pupils can utilise spreadsheets both own and pre-made to manipulate data e.g. generate a graph from a table, produce desired calculations on numerical data e.g. simple addition calculations • pupils will know how to use 2Calculate to record collected data into a table and use this data to create a block graph manually 	<p>select the most appropriate graph format to present their data</p> <ul style="list-style-type: none"> • pupils present their graph by sharing it on a class blog • pupils 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 • pupils can present information in a range of graphical formats which includes attention to detail regarding appropriate labelling and block sizing <p>Key Knowledge:</p> <ul style="list-style-type: none"> • They will understand how to collect, analyse, evaluate, and present their data and information throughout the unit initially as a paper Yes/No game 	<p>mathematical problems and concepts</p> <ul style="list-style-type: none"> • can use spreadsheets to collate data and extract information from it to answer questions e.g. pupils can create line graphs and can use it to identify when something will happen using 2Calculate <p>Key knowledge:</p> <ul style="list-style-type: none"> • Pupils know how to use the number formatting tools within 2Calculate to appropriately format numbers • Pupils will know how to be fluent in copying and pasting contents between cell(<p>way</p> <p>Key Knowledge:</p> <ul style="list-style-type: none"> • Pupils know how to use, manipulate, and create spreadsheets • Pupils know how to use formulae such as converting between measures and incorporating text variables to perform calculations. 	<p>and individually to plan, design and create a blog.</p> <p>Key Knowledge:</p> <ul style="list-style-type: none"> • Pupils understand the features of a blog and the differences between a blog page and a blog post • Pupils understand the implications of inappropriate use of the blog •
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	data into pictorial representations)		<ul style="list-style-type: none"> Pupils analyse each other's branching databases and can make further suggestions for improvement 			
SP2	<p>Unit 1.6 Animated Stories</p> <p>Key Skills:</p> <ul style="list-style-type: none"> create an interactive story manipulate the properties of their story by - changing the images, <ul style="list-style-type: none"> - adding animations - adding sound - typing, - copying - pasting pages Able to save their work, overwriting saved files and retrieving their saved work. can include their name and date within the text of their e-books <p>Key Knowledge:</p> <ul style="list-style-type: none"> Pupils demonstrate their understanding by discussing e-books and by sharing their own book with 	<p>Unit 2.4 Questioning</p> <p>Key Skills:</p> <ul style="list-style-type: none"> can create pictograms to represent data Pupils demonstrate their ability to organise data using a database can run simple searches on their data set pupils use and create a binary tree to sort information and can manipulate their data, answering questions relating to this will store and retrieve data <p>Key Knowledge:</p> <ul style="list-style-type: none"> To understand pictograms To understand binary trees To understand YES/NO questioning To understand what type of questioning will create more in 	<p>Unit - Animation (Teach Computing)</p> <p>Key Skills:</p> <ul style="list-style-type: none"> To be able to create a storyboard To be able to create an animation To be able to edit an animation using onion skinning editing tools To be able to improve animations To be able to add multimedia to the animation <p>Key Knowledge:</p> <ul style="list-style-type: none"> 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, 	<p>Unit 4.4 Writing for Different Audiences</p> <p>Key Skills:</p> <ul style="list-style-type: none"> To create content for a select audience To make informed choices about the best way to present information e.g. appropriate font/text formatting To be able to alter fonts, styles and sizes to suit an intended audience <p>Key Knowledge:</p> <ul style="list-style-type: none"> be able to explain the purpose of the watermark/ symbol on the photograph and can discuss where they might be used elsewhere across a range of digital content 	<p>Unit 5.4 Databases</p> <p>Key Skills:</p> <ul style="list-style-type: none"> Pupils know the term 'database' (a tool that allows us to store and then sort information) To create an individual and collaborative database To design and enter information accurately onto a database To use search functionality To use graphical tools, table views and search for appropriate content <p>Key Knowledge:</p> <ul style="list-style-type: none"> use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; 	<p>Unit 6.9 Spreadsheets (using Microsoft Excel)</p> <p>Key Skills:</p> <ul style="list-style-type: none"> 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.

	<p>others on a class display board</p> <ul style="list-style-type: none"> pupils will know how to save their animated story files, using a memorable file name, to their own personal space on Purple Mash and understand that this can be retrieved later 	<p>depth answers</p> <ul style="list-style-type: none"> To know the limitations of different types of questioning 	<p>including collecting, analysing, evaluating and presenting data and information</p> <ul style="list-style-type: none"> use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 		<p>identify a range of ways to report concerns about content and contact.</p>	<p>Key Knowledge:</p> <ul style="list-style-type: none"> To know what a spreadsheet looks like and what it is used for (a software tool used for organising information). To understand how to use simple data formulae including addition, subtraction, multiplication and division formulae Understands and can explain what is shown in a SUM cell To use formulae for percentages, averages, max and min into their spreadsheets.
SUM1	<p>Unit 1.7 Coding</p> <p>Key Skills:</p>	<p>Unit 2.6 Creating Pictures (THIS CAN BE CROSS CURRICULAR WITH ART LESSONS)</p>	<p>Unit 3.4- Touch Typing (Use 2Type and Google Docs)</p>	<p>Unit 4.5 Logos</p> <p>Key Skills:</p> <ul style="list-style-type: none"> can 'read' Logo 	<p>Unit 5.5 Game Creator</p> <p>Key Skills:</p> <ul style="list-style-type: none"> Design, write 	<p>Unit 6.7 Quizzing</p> <p>Key Skills:</p> <ul style="list-style-type: none"> To create a

	<ul style="list-style-type: none"> - Can design and manipulate how their program looks by adding and changing backgrounds, characters and objects - can break a problem down into small chunks and then combine it to see an outcome e.g., combine two parts of code "When we click the red bubble, red bubble hides." <p>Key Knowledge:</p> <ul style="list-style-type: none"> - they know that an object will get clicked on and then an object will do something in response. - know that any unexpected outcome is due to the code that they have created and make logical attempts to try to fix this code - Know how to save files, using a memorable file name in their personal area 	<p>Unit 2.7 Making Music</p> <p>Unit 1.7</p> <p>Key Skills:</p> <ul style="list-style-type: none"> - Using 2Paint a Picture, pupils can create an image replicating an established style e.g. pointillism <p>Key Knowledge:</p> <ul style="list-style-type: none"> - Children know how to re create art using a computer program - Children know of different art techniques e.g. impressionism, pointillism, surrealism, and artists such as Piet Mondrian and William Morris - can efficiently store and retrieve their work from their saved area 	<p>Key Skills:</p> <ul style="list-style-type: none"> - Able to touch type using nth hands <p>Key Knowledge:</p> <ul style="list-style-type: none"> - understand how to touch type using the home, bottom and top row keys using both hands. - Understand the correct way to sit at the keyboard. 	<p>programs with several steps and predict the outcome accurately</p> <ul style="list-style-type: none"> - can manipulate instructions within Logo to create common shapes using repeat functions - can edit instructions to produce shapes <p>Key Knowledge:</p> <ul style="list-style-type: none"> - understand the repeat command - Understand the procedure function - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. 	<p>and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</p> <ul style="list-style-type: none"> - can combine text, sound, and graphic components within a 2DIY3D game. <p>Key Knowledge:</p> <ul style="list-style-type: none"> - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. - analyse what makes a successful computer game 	<p>picture-based quiz for young pupils.</p> <ul style="list-style-type: none"> - To use the question types within 2Quiz. - To make a quiz that requires the player to search a database. <p>Key Knowledge:</p> <ul style="list-style-type: none"> - To know how to create a game in 2Quiz for an audience - Pupils know the different quiz types (multiple choice/ yes or no/ scored/ true false/) <p>Design, write and debug programs that accomplish specific goals</p>
SUM2	Unit 1.4 LEGO Builders	Unit 2.5 - Effective Searching (lessons 1-3) Unit 2.8 Presenting Ideas	Unit 3.2 Online Safety (Lessons 1-3)	Unit 4.7 Effective Searching (Lessons 1-3)	Unit 5.6 3D Modelling Key Skills:	Teach Computing Unit: Web Page Design

	<p>Key Skills:</p> <ul style="list-style-type: none"> - To give clear instructions - To follow and create simple instructions on the compute - Pupils can organise instructions for a simple recipe. <p>Key Knowledge:</p> <ul style="list-style-type: none"> - To know the importance of following instructions - Know the term 'debugging' (finding and correcting mistakes) 	<p>(lessons 4- 6)</p> <p>Key Skills:</p> <ul style="list-style-type: none"> - To identify the basic parts of a web search engine search page. - To create an information booklet for an audience - 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. <p>Key Knowledge:</p> <ul style="list-style-type: none"> - To know what the internet is (a global computer network providing a variety of information and communication facilities) - To know what a search engine is (a program to help find things on the internet e.g Bing/Google/Yahoo) - To know what WWW stands for (world wide web) - Pupils know 	<p>Unit 3.5 Email (Use Google Classroom emails) (Lessons 4-6)</p> <p>Key Skills:</p> <ul style="list-style-type: none"> - pupils can appraise the accuracy of the information on a website and make decisions on whether it is a trustworthy source of information - pupils recognise the PEGI ratings and can give examples of why content is rated a <p>Key Knowledge:</p> <ul style="list-style-type: none"> - Pupils understand the importance of a secure password and not sharing this with anyone else - To know the difference between fact/fiction online - To know what an email is (messages sent and received over the internet) 	<p>Unit 4. 8 Hardware Investigators (Lessons 4-5)</p> <p>Key Skills:</p> <ul style="list-style-type: none"> - To use the search function effectively - To name the different parts of a desktop computer. <p>Key Knowledge:</p> <ul style="list-style-type: none"> - To know the term 'reliable' (to be trusted) - To know how to effectively search for information to retrieve and make sense of information - To know the term hardware (Hardware refers to the physical parts of a computer or device) - To know the term software (Software describes the programs that run on the computer) 	<ul style="list-style-type: none"> - evaluate, refine, edit, and adapt models to suit a design brief - design a 3D model to fit certain criteria <p>Key Knowledge:</p> <ul style="list-style-type: none"> - Pupils know what the Design and Make tool is for. - To understand that models are made for a purpose and identify audience - To know what it means to refine a design 	<p>This unit introduces learners to the creation of websites for a chosen purpose. Learners identify what makes a good web page and use this information to design and evaluate their own website using Google Sites. Throughout the process learners pay specific attention to copyright and fair use of media, the aesthetics of the site, and navigation paths.</p>
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		that digital content can be represented in many forms e.g. as a mind map, as a quiz, as an e-book and as a fact file.				
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