

Computing Curriculum Map – Knowledge Progression 2023-2024



	TERM 1	TERM 2	TERM 3	TERM 4	TERM 5	TERM 6
YEAR 1	<p><u>Online Safety/Exploring Purple Mash</u></p> <ul style="list-style-type: none"> -To log in safely. -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. -To become familiar with the icons and types of resources available in the Topics section. -To start to add pictures and text to work. - To explore the Tools and Games section of Purple Mash. -To learn how to open, save and print. -To understand the importance of logging out. <p><u>Grouping and Sorting</u></p> <ul style="list-style-type: none"> -To sort items using a range of criteria. -To sort items on the computer using the 'Grouping' activities in Purple Mash. 	<p><u>Pictograms</u></p> <ul style="list-style-type: none"> -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. <p><u>Lego Builders</u></p> <ul style="list-style-type: none"> -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. 	<p><u>Maze Explorers</u></p> <ul style="list-style-type: none"> -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. 	<p><u>Animated Story Books</u></p> <ul style="list-style-type: none"> -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. 	<p><u>Coding</u></p> <ul style="list-style-type: none"> -To understand what coding means. -To use design mode to set up a scene. -To add characters. -To use code blocks to make the character perform actions. -To use collision detection. -To save and share work. -To know the save, print, open and new icon. 	<p><u>Spreadsheets</u></p> <ul style="list-style-type: none"> -To know what a spreadsheet program looks like. -How to open 2Calculate in Purple Mash. - How 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. <p><u>Technology Outside School</u></p> <ul style="list-style-type: none"> -To walk around the local community and find examples of where technology is used. -To record examples of technology outside school.

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YAER 2	<p style="text-align: center;"><u>Coding</u></p> <ul style="list-style-type: none"> -To understand what an algorithm is. -To design algorithms and then code them. - To compare different object types. -To use the repeat command. -To use the timer command. -To know what debugging is and debug programs. 	<p style="text-align: center;"><u>Online Safety</u></p> <ul style="list-style-type: none"> -To know how to refine searches using the Search tool. -To use digital technology to share work on Purple Mash to communicate and connect with others locally. -To have some knowledge and understanding about sharing more globally on the Internet. -To introduce Email as a communication tool using 2Respond simulations. -To understand how we should talk to others in an online situation. -To open and send simple online communications in the form of email. -To understand that information put online leaves a digital footprint or trail. -To identify the steps that can be taken to keep personal data and hardware secure. <p style="text-align: center;"><u>Spreadsheets</u></p> <ul style="list-style-type: none"> -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. 	<p style="text-align: center;"><u>Questioning</u></p> <ul style="list-style-type: none"> -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. 	<p style="text-align: center;"><u>Effective Searching</u></p> <ul style="list-style-type: none"> -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. 	<p style="text-align: center;"><u>Creating Pictures</u></p> <ul style="list-style-type: none"> -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. 	<p style="text-align: center;"><u>Making Music</u></p> <ul style="list-style-type: none"> -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. <p style="text-align: center;"><u>Presenting Ideas</u></p> <ul style="list-style-type: none"> -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.

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YEAR 3	<p><u>Coding</u></p> <ul style="list-style-type: none"> -To design algorithms using flowcharts. -To design an algorithm that represents a physical system and code this representation. -To use selection in coding with the 'if' command. -To understand and use variables in 2Code. -To deepen understanding of the different between timers and repeat commands. 	<p><u>Online Safety</u></p> <ul style="list-style-type: none"> -To know what makes a safe password. -Methods for keeping passwords safe. -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. -To consider the truth of the content of websites. -To learn about the meaning of age restrictions symbols on digital media and devices. <p><u>Spreadsheets</u></p> <ul style="list-style-type: none"> -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. 	<p><u>Touch Typing</u></p> <ul style="list-style-type: none"> -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. 	<p><u>Email</u></p> <ul style="list-style-type: none"> -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. 	<p><u>Branching Databases</u></p> <ul style="list-style-type: none"> -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. <p><u>Simulations</u></p> <ul style="list-style-type: none"> -To consider what simulations are. -To explore a simulation. -To analyse and evaluate a simulation. 	<p><u>Graphing</u></p> <ul style="list-style-type: none"> -To enter data into a graph and answer questions. -To solve an investigation and present the results in graphic form. <p><u>Presenting</u></p> <ul style="list-style-type: none"> -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.

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YEAR 4	<p><u>Coding</u></p> <ul style="list-style-type: none"> -To use selection in coding with the 'if/else' command. -To understand and use variables in 2Code. -To use flowcharts for design of algorithms including selection. -To use the 'repeat until' with variables to determine the repeat. -To learn about and use computational thinking terms; decomposition and abstraction. 	<p><u>Online Safety</u></p> <ul style="list-style-type: none"> -To understand how children can protect themselves from online identity theft. -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. -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. -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. <p><u>Making Music</u></p> <ul style="list-style-type: none"> -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. 	<p><u>Spreadsheets</u></p> <ul style="list-style-type: none"> -Formatting cells as currency, percentage, decimal to different decimal places or fraction. -Using the formula wizard to calculate averages. -Combining tools to make spreadsheet activities such as timed times tables tests. -Using a spreadsheet to model a real-life situation. -To add a formula to a cell to automatically make a calculation in that cell. 	<p><u>Writing for Different Audiences</u></p> <ul style="list-style-type: none"> -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. 	<p><u>Logo</u></p> <ul style="list-style-type: none"> -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. <p><u>Animation</u></p> <ul style="list-style-type: none"> -To discuss what makes a good animated film or cartoon. -To learn how animations are created by hand. -To find out how 2Animate 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. 	<p><u>Effective Search</u></p> <ul style="list-style-type: none"> -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. <p><u>Hardware Investigators</u></p> <ul style="list-style-type: none"> -To understand the different parts that make up a computer. -To recall the different parts that make up a computer.

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YAER 5	<u>Coding</u>	<u>Online Safety</u>	<u>Databases</u>	<u>Game Creator</u>	<u>3D Modelling</u>	<u>Word Processing</u>
	<ul style="list-style-type: none"> -To represent a program design and algorithm. -To create a program that simulates a physical system using decomposition. -To explore string and text variable types so that the most appropriate can be used in programs. -To use the Launch command in 2Code Gorilla. -To program a playable game with timers and scorepad. 	<ul style="list-style-type: none"> -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. -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. -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. -Ensuring reliability through using different methods of communication. <p style="text-align: center;"><u>Spreadsheets</u></p> <ul style="list-style-type: none"> -Using the formula wizard to add a formula to a cell to automatically make a calculation in that cell. -To copy and paste within 2Calculate. -Using 2Calculate tools to test a hypothesis. -To add a formula to a cell to automatically make a calculation in that cell. -Using a spreadsheet to model a reallife situation and answer questions. 	<ul style="list-style-type: none"> -To learn how to search for information in a database. -To contribute to a class database. -To create a database around a chosen topic. 	<ul style="list-style-type: none"> -To set the scene. -To create the game environment. -To create the game quest. -To finish and share the game. -To evaluate their and peers' games. 	<ul style="list-style-type: none"> -To be introduced to 2Design and Make and the skills of computer aided design. -To explore the effect of moving points when designing. -To understand designing for a purpose. -To understand printing and making. <p style="text-align: center;"><u>Concept Maps</u></p> <ul style="list-style-type: none"> -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 create a concept map. -To understand how a concept map can be used to retell stories and present information. -To create a collaborative concept map and present this to an audience. 	<ul style="list-style-type: none"> -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 pupils to templates and the pdf format. -To consider page layout including headings and columns.

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YEAR 6	<u>Coding</u>	<u>Online Safety</u>	<u>Spreadsheets</u>	<u>Blogging</u>	<u>Text Adventures</u>	<u>Networks</u>
	<ul style="list-style-type: none"> -To use the program design process, including flowcharts, to develop algorithms for more complex programs using and understanding of abstraction and decomposition to define the important aspects of the program. -To code, test and debug from these designs. To use functions and tabs in 2Code to improve the quality of the code. -To code user interactivity using input functions. 	<ul style="list-style-type: none"> -Identify benefits and risks of mobile devices broadcasting the location of the user/device. -Identify secure sites by looking for privacy seals of approval. -Identify the benefits and risks of giving personal information. -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. - 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. <p style="text-align: center;"><u>Understanding Binary</u></p> <ul style="list-style-type: none"> -To know what the terms binary and denary mean and how they relate to the number system, the digital system and the terms base-10 and base-2. -To relate binary to the on and off states of electrical switches. -To convert numbers from decimal to binary. To convert numbers from binary to decimal. -To represent states of object in their own program using binary. 	<ul style="list-style-type: none"> -To use a spreadsheet to investigate the probability of the results of throwing many dice. -Using the formula wizard to add a formula to a cell to automatically make a calculation in that cell. -To create graphs showing the data collected. -To type in a formula for a cell to automatically make a calculation in that cell. -Using a spreadsheet to create computational models and answer questions. <p style="text-align: center;"><u>MS Excel</u></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. 	<ul style="list-style-type: none"> -To identify the purpose of writing a blog and its key features. To plan the theme and content for a blog and write the content. -To consider the effect upon the audience of changing the visual properties of the blog. -To understand the importance of regularly updating the content of a 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. 	<ul style="list-style-type: none"> -To find out what a text adventure is. -To plan a story adventure. -To make a story-based adventure. -To introduce map-based text adventures. -To code a map-based text adventure. 	<ul style="list-style-type: none"> -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. <p style="text-align: center;"><u>Quizzing</u></p> <ul style="list-style-type: none"> -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. -Are you smarter than a 10- (or 11-) year-old? To make a quiz to test your teachers or parents.

