



Curriculum Progression Map – Computing

Predominant Area of Computing*		
	Computer Science	
	Information Technology	
	Digital Literacy	

*Most units will include aspects of all strands.



	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
YEAR 1 NC Objectives	Computer Science	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.				
	Information Technology	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.				
	Digital Literacy	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.				

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	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
YEAR 1 Units	Technology Outside School 	Online Safety & Exploring Purple Mash 	Lego Builders 	Maze Explorers 	Coding 	Animated Story Books
YEAR 1 Unit Objectives	<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. 	<ul style="list-style-type: none"> *To log in safely. <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> To compare the effects of adhering strictly to instructions to completing tasks without complete instructions. <ul style="list-style-type: none"> To follow and create simple instructions on the computer. To consider how the order of instructions affects the result. 	<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. 	<ul style="list-style-type: none"> 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. 	<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.





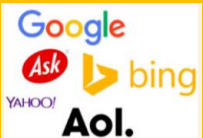




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Year 2 NC objectives	Computer Science	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.
		Create and debug simple programs.
		Use logical reasoning to predict the behaviour of simple programs.
	Information Technology	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.
	Digital Literacy	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.

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
YEAR 2 Units	Online Safety  Sharing  2Email	Effective Searching 	Spreadsheets  2Calculate	Questioning  2Count 2Investigate 2Question	Coding  2Dos Free code chimp Tools	Presenting Ideas  2Create a story 2Connect 2Quiz 2Plan
Year 2 Unit objectives	<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. 	<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. 	<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. 	<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. 	<ul style="list-style-type: none"> 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. 	<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 NC objectives	Computer Science	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.
	Information Technology	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.
	Digital Literacy	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
YEAR 3 Units	Online Safety 	Touch Typing 	Email (including email safety) 	Simulations 	Coding 	Presenting
YEAR 3 Unit Objectives	<ul style="list-style-type: none"> • To know what makes a safe password. • To learn 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 	<ul style="list-style-type: none"> • To introduce typing terminology. • To understand the correct way to sit at the keyboard. <ul style="list-style-type: none"> • To learn how to use the home, top and bottom row keys. • To practise typing with the left and right hand. 	<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 	<ul style="list-style-type: none"> • To consider what simulations are. • To explore a simulation. • To analyse and evaluate a simulation. 	<ul style="list-style-type: none"> • To understand what a flowchart is and how flowcharts are used in computer programming. <ul style="list-style-type: none"> • To understand that there are different types of timers and select the right type for purpose. • To understand how to use the repeat command. <ul style="list-style-type: none"> • To understand the importance of nesting. • To design and create an interactive scene. 	<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 NC objectives	Computer Science	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.
	Information Technology	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.
	Digital Literacy	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.

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	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
YEAR 4 Units						
YEAR 4 Unit Objectives	<ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> To learn the structure of the coding language of Logo. <ul style="list-style-type: none"> 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. 	<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. 	<ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> To create a playable game. 	<ul style="list-style-type: none"> To discuss what makes a good animated film or cartoon. To learn how animations are created by hand. <ul style="list-style-type: none"> 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.



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YEAR 5 NC Objectives

Computer Science	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.
Information Technology	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.
Digital Literacy	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
YEAR 5 Units	Online Safety 	Concept maps 	Word Processing 	3D modelling 	Coding 	Game Generator
YEAR 5 Unit Objectives	<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. 	<ul style="list-style-type: none"> 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. 	<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 children to templates. To consider page layout including heading and columns. 	<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 design a 3D Model to fit certain criteria. To refine and print a model. 	<ul style="list-style-type: none"> 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 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. 	<ul style="list-style-type: none"> 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.

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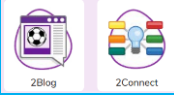
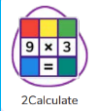

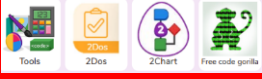



	<ul style="list-style-type: none"> To search the Internet with a consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information. To ensure reliability through using different methods of communication. 				
YEAR 6 NC Objectives	Computer Science	<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</p> <p>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p> <p>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.</p>			
	Information Technology	<p>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</p> <p>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.</p>			
	Digital Literacy	<p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.</p>			

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YEAR 6 Units	<p>Online Safety & Networks</p>	<p>Blogging</p> 	<p>Spreadsheets</p> 	<p>Binary</p> 	<p>Coding</p> 	<p>Text Adventures</p> 
YEAR 6 Unit Objectives	<ul style="list-style-type: none"> To identify benefits and risks of mobile devices broadcasting the location of the user/device. <ul style="list-style-type: none"> To identify secure sites by looking for privacy seals of approval. To identify the benefits and risks of giving personal information. To review the meaning of a digital footprint. <ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> To identify the positive and negative influences of technology on health and the environment. 	<ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> To understand the importance of commenting on blogs 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> To examine how whole numbers are used as the basis for representing all types of data in digital systems. <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> To find out what a text adventure is. <ul style="list-style-type: none"> To use 2Connect to plan a story adventure. To make a story-based adventure using 2Create a Story. To introduce an alternative model for a text adventure which has a less sequential narrative. To use written plans to code a map-based adventure in 2Code.