Lower KS2 Progressions of Skills-Computing

Year B	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computing Topic National Curriculum Subject Content	Who were the Anglo-Saxons?	Is this Art?	Would you survive a natural disaster?	Pandora's box (Ancient Greeks)	Does it fasten?	What part would I play in the Industrial Revolution?
Global Goals	9. Industry, Innovation and infrastructure	16. Peace, Justice and Strong Intuitions	13. Climate Action 15. Life on Land 14.Life below water	11 Sustainable Cities and Communities	12. Responsible consumption and production	8. Decent Work and Economic Growth.
British Values	Democracy	Rule of Law	Individual Liberty	Mutual Respect	Democracy	Rule of Law
Purple Mash unit (Y3)	3.2 Online Safety	3.4 Touch Typing	3.9 Presenting (Google Slide)	Unit 3.1 Coding	Unit 3.3 Spreadsheets	Unit 3.7 Simulation
Knowledge						
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		
Information Technology		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				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 concerns about content and contact					

Skills

	To know what makes a safe password, how to keep passwords safe and the consequences of giving your passwords away. To understand how the Internet can be used to help us to communicate effectively. To understand how a blog can be used to help us communicate with a wider audience.	To introduce typing terminology. Understand the correct way to sit at the keyboard. To learn how to use the home, top and bottom row keys. To practise and improve typing for home, bottom and top rows. To practise the keys	Creating a page in a presentation Adding in media to a presentation Animating a presentation Adding in timings to a presentation Creating a presentation linked to a topic	To review coding vocabulary that relates to Object, Action, Output, Control and Event. To use 2Chart to represent a sequential program design. To use the design to write the code for the program	To create pie charts and bar graphs. To use the 'more than', 'less than' and 'equals' tools. To introduce the Advanced Mode of 2Calculate and use coordinates.	To look at what simulations are. To explore a simulation. To analyse and evaluate a simulation.

	For children to consider if what they read on websites is always true? To look at some 'spoof' websites. To create a 'spoof' webpage. To think about why these sites might exist and how to check that the information is accurate. To learn about the meaning of age restrictions symbols on digital media and devices. To discuss why PEGI restrictions exist. To know where to turn for help if they see inappropriate content or have inappropriate contact from others.	typed with the left hand. To practise the keys typed with the right hand.	Creating a presentation linked to a topic	To design and write a program that simulates a physical system. To look at the grid that underlies the design and relate this to X and Y properties. To introduce selection in their programming by using the if command. To combine a timer in a program with selection To understand what a variable is in programming. To use a variable to create a timer To create a program with an object that repeats actions indefinitely. To use a timer to make characters repeat actions. To explore the use of the repeat command and how this differs from the timer To know what debugging means. To understand the need to test and debug a program repeatedly.		

| | | | | To debug simple programs.

To understand the importance of saving periodically as part of the code development process. | | |
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| Purple Mash unit (Y4) | Year 3 unit completed | Year 3 unit completed | 4.7 Effective Searching | 4.1 Coding | 4.8 Hardware | 4.6 Animation |
| **Knowledge** | | | | | | |

Computer Science			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.	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 | Select, use and combine a variety of software | | Select, use and combine a variety of software |

				how results are selected and ranked, and be discerning in evaluating digital content.	(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.		(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							

				Using a Search Engine - Children can structure search queries to locate specific information. Use Search Effectively - Children have used search to answer a series of questions. Children have written search questions for a friend to solve. To Answer Questions - Children can analyse the contents of a web page for clues about the credibility of the information.	Design, Code, Test and Debug - Children can explore different object types in 2Code. Children can use a background and objects to create a scene. Children can plan an algorithm for their scene and use 2Code to program it. IF Statements - Children can create a program that includes an IF statement. Children can interpret a flowchart that depicts an IF statement. Co-ordinates - Children can make use of the X and Y properties of objects in their coding.	Hardware - Children can name the different parts of a desktop computer. Children know what the function of the different parts of a computer is. Parts of a Computer - Children have created a leaflet to show the function of computer parts	Animating an Object - Children have put together a simple animation using paper to create a flick book. Children understand animation frames. Children have made a simple animation using 2Animate. 2Animate Tools - Children know what the Onion Skin tool does in animation. Children can use the Onion Skin tool to create an animated image. Children can use backgrounds and sounds to make more complex and imaginative animations.

				Children can create a program that includes an IF statement. Repeat Until and IF/ELSE Statements- Children can read code that includes repeat until and IF/ ELSE and explain how it works. Children can create a program that includes an IF/ ELSE statement. Children can interpret a flowchart that depicts an IF/ ELSE statement. Number Variables - Children can explain what a variable is in programming. Children can create and use variables when programming. Making a Playable Game- Children can read code that includes repeat until and IF/ ELSE and explain how it works. Children can create a program that includes and IF/ ELSE statement. Children can interpret a flowchart that depicts an IF/ ELSE statement.		Stop Motion Animation - Children know what 'stop motion' animation is and how it is created. Children have used ideas from existing 'stop motion' films to recreate their own animation. Children have shared their animations and commented on each other's work using display boards and blogs in Purple Mash.