

Meridian Computing PROGRESSION OF SKILLS- (Purple Mash Scheme of Work)

		YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
A U T U M N T E R M	Enquiry	A. Online Safety and exploring Purple Mash	A. Online Safety B. Spreadsheets	A. Hardware Investigators B. Online Safety	A. Online Safety B. Effective Search	A. Online Safety B. Databases	A. Online Safety B. Networks
	NC link	A. 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.	A. Using the internet safely, respectfully and responsibly; B. Use technology purposefully to create, organise, store, manipulate and retrieve digital content	B. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	A. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact; B. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	A. Understand computer networks, including the Internet; Use technology safely, respectfully and responsibly; identify a range of ways to report concerns about content and contact. B. Select, use & combine a variety of software on a range of digital devices to design & create a range of programs, systems & content that accomplish given goals, including collecting, analysing, evaluating & presenting data & info	A. Use technology safely, respectfully and responsibly; identify a range of ways to report concerns about content and contact. Use search technologies effectively, appreciate how results are selected and ranked. B. 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
	Knowledge	A. Children understand the importance of keeping information, such as their usernames and passwords, private and actively demonstrate this in lessons. A. Children take ownership of their work and save this in their own private space such as their My Work folder on Purple Mash.	A. Children know the implications of inappropriate online searches. A. Children begin to understand how things are shared electronically such as posting work to the Purple Mash display board. A. They develop an understanding of using email safely by using 2Respond activities on Purple Mash and know ways of reporting inappropriate behaviours and content to a trusted adult. B. Children can create a table of knowledge /Children demonstrate an ability to organise data and can retrieve specific data for conducting simple searches. B. Children are able to edit more complex digital data. B. Children are confident when creating, naming, saving and retrieving content.	B. Children demonstrate the importance of having a secure password. B. Furthermore, children can explain the negative implications of failure to keep passwords safe and secure. B. They understand the importance of staying safe and the importance of their conduct when using familiar communication tools such as 2Email in Purple Mash. B. They know more than one way to report unacceptable content and contact.	A. Children can explore key concepts relating to online safety using concept mapping such as 2Connect. A. They can help others to understand the importance of online safety. A. Children know a range of ways of reporting inappropriate content and contact. B. Children understand the function, features and layout of a search engine. B. They can appraise selected webpages for credibility and information at a basic level.	A. Children have a secure knowledge of common online safety rules and can apply this by demonstrating the safe and respectful use of a few different technologies and online services. A. Children implicitly relate appropriate online behaviour to their right to personal privacy and mental wellbeing of themselves and others; B. Exploring and working with Databases	A. Children demonstrate the safe and respectful use of a range of different technologies and online services. A. They identify more discreet inappropriate behaviours through developing critical thinking, e.g. Respond activities. A. They recognise the value in preserving their privacy when online for their own and other people's safety. B. Children understand and can explain in some depth the difference between the internet and the World Wide Web. B. Children know what a WAN and LAN are and can describe how they access the internet in school.
	Skills	- To search Purple Mash to find resources - To know how to find saved work - To be more familiar with tables and graphs - To explore tools and games	- Reviewing prior use of spreadsheet - Using a spreadsheet to add amounts - Creating a table and block graph	- To know what makes a good password and why it is important to keep it safe; - Children understand age restrictions	- What is our digital footprint? - To identify the risks and benefits of installing software including apps - How do present work found online - To identify the positive and negative influences of technology on health and the environment.	- Thinking about digital content - Positive and negative effects of digital content - Citing work found online; Reliable resources; - Searching databases, exploring, contributing to and creating databases.	- What do we know about our digital footprint - Can we consider the impact of our digital footprint on our health - Children consider the future of the internet - What is LAN and WAN
	Vocabulary	Log in/ Log out, Username, Purple Mash	Columns , Cells , Equals tool, Lock tool Move cell tool, Rows, Spreadsheet	Blog ; Username, Website	Cookies, Digital footprint , Malware, Search engine, Spoof website	Online safety, Reputable ,Encryption Citations; Sort, Group and Arrange	PEGI rating, Phishing – The; Network ; Local area network (LAN)- Wide area network (WAN) -

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Enquiry	Grouping and Sorting Pictograms	Coding	Coding	Coding	Coding	Coding
NC link	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Create and debug simple programmes. Use logical behaviour to predict the behaviour of simple programmes.	- 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; Computer	- 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	- Design, write & debug programs that accomplish specific goals, including controlling or simulating systems - Solve problems by decomposing them into smaller parts - Use sequence, selection & repetition in programs; work with variables & various forms of input & output - Use logical reasoning to explain how some simple algorithms work and to detect & correct errors in algorithms - Select, use and combine a variety of software on a range of digital devices to design & create a range of programs, systems and content that accomplish given goals.	- 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.
Knowledge	Children are able to sort, collate, edit and store simple digital content	- Children can explain that an algorithm is a set of instructions to complete a task - When designing simple programs, children show an awareness of the need to be precise with their algorithms - Children can create a simple program that achieves a specific purpose - They can also identify and correct some errors, e.g. Debug Challenges: Chimp - Children display a growing awareness of the need for logical, programmable steps - Children can identify the parts of a program that respond to specific events and initiate specific actions.	- Children can turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. - Their design shows that they are thinking of the desired task and how this translates into code. - Children can identify an error within their program that prevents it following the desired algorithm and then fix it. - Children demonstrate the ability to design and code a program that follows a simple sequence. - They experiment with timers to achieve repetition effects in their programs. - Children are beginning to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition effects - Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures.	- When turning a real-life situation into an algorithm, the children's design shows that they are thinking of the required task and how to accomplish this in code using coding structures. - Children make more intuitive attempts to debug their own program. - Children's use of timers to achieve repetition effects - They understand 'if statements' for selection & attempt to combine these with other coding structures. - As well as understanding how variables can be used to store information while a program is executing, they are able to use and manipulate the value of variables. - Children can make use of user inputs and outputs such as 'print to screen'. e.g. 2Code. - Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. - They can trace code and use step through methods to identify errors in code & attempts to correct this.	- Children may attempt to turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts. - Children are able to test and debug their programs as they go and can use logical methods to identify the approximate cause of any bug but may need some support identifying the specific line of code. - Children can translate algorithms that include sequence, selection & repetition into code with increasing ease and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures. - They are combining sequence, selection and repetition with other coding structures to achieve their algorithm design. - When children code, they are beginning to think about their code structure in terms of the ability to debug & interpret the code later, e.g. use of tabs to organise code & the name variables	- Children are able to turn a more complex programming task into an algorithm by identifying the important aspects of the task then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs. - Children test & debug their program as they go and use logical methods to identify the cause of bugs, demonstrating a systematic approach to try to identify a particular line of code causing issues. - Children translate algorithms that include sequence, selection and repetition into code and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures, including nesting structures. - Coding displays an improving understanding of variables in coding, outputs such as sound and movement, inputs from the user of the program such as button clicks & the value of functions. - Children are able to interpret a program in parts & can make logical attempts to put the separate parts of an algorithm together to explain the programme.
Skills	Children use the data collected to create a pictogram	- To understand what an algorithm is - To design algorithms and then code them - Containing the repeat command and the timer command - To know what debugging is and debug programs.	- Children can create a design that represents a sequential algorithm - Confidently discuss their program - Children include timers, variables and statements in their program - Children have a clear idea of how to use a design document to start debugging a program.	- Children can use sketching to design a program and reflect upon their design - Children can create a code to represent their sketch using variables - Children can create an algorithm modelling the sequence of a simple event	- Use sketching to design a code - Select the relevant features of a situation to incorporate into simulation by using decomposition & abstraction - Children can create a games - Children can include buttons & objects that launch windows to websites and programs	- To design programs using 2code functions - To debug a program and organise the code into tabs; Consider how to include interactivity in programming; - To use flowcharts to test and debug a program; To explore how 2Code can be used to make a text-based adventure game.
Vocabulary	Pictogram, Data, Collate, Collect and combine	Algorithm, Bug , Code block Command ,Debug/Debugging,	Design, Event, Computer simulation	Flowchart Bug, Debug/Debugging, Get Input If/Else, Simulation	Algorithm ; Bug, Sequence, Selection	Code Design, Control, Debug/Debugging, Event, If

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	Enquiry	Lego Builders Maze Explorers	Questioning	Touch Typing	Spreadsheets	Game Creator	Spreadsheets
S P R I N G T E R M	NC link	- 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.	Use technology purposefully to create, organise, store, manipulate and retrieve 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	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 - Information Design - write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	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
	Knowledge	- Children understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. - They know that an algorithm written for a computer is called a program. - Children can work out what is wrong with a simple algorithm when the steps are out of order - When looking at a program, children can read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program	- Children demonstrate an ability to organise data using, for example, a database such as 2Investigate and can retrieve specific data for conducting simple searches. - Children are able to edit more complex digital data. - Children are confident when creating, naming, saving and retrieving content	- Children can collect, analyse, evaluate and present data and information using a selection of software, e.g. using a branching database (2Question), using software such as 2Graph. - Children can consider what software is most appropriate for a given task. - They can create purposeful content to attach to emails, e.g. 2Respond.	- Children are able to make improvements to digital solutions based on feedback. - Children make informed software choices when presenting information and data. - They create linked content using a range of software such as 2Connect and 2Publish+. - Children share digital content within their community, i.e. using Virtual Display Boards.	- Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. E.g. creating their own program to meet a design brief using 2Code. - They objectively review solutions from others. - Children are able to collaboratively create content and solutions using digital features within software such as collaborative mode. - They are able to use several ways of sharing digital content, i.e. 2Blog, Display Boards and 2Email	- Children can create a database, - Children can use formula wizard to create formulae. - Children can use spreadsheets to solve a problem. - Children use a spreadsheet to model a real-life situation and come up with solutions that can be applied in real life.
	Skills	- Children develop confidence moving characters/objects. - Children's computer fluency improves becoming confident editing including the setting - Children know how to add a unit of measurement to the direction in 2Go Challenge - Children can challenge themselves by using the longer algorithm to complete challenges	- Children produce their own pictograms depicting data they have collected from the class - Children learn to categorise objects using yes/no questions - Children learn create a binary tree, what is a database and how could we create one? - Children use a search tool to find out information.	Developing touch typing skills, focus on using two hands.	- Develop confidence using formulas. - Children explore number using tools. - Creating graphs. Develop 2Calculate skills.	- Evaluate, design and create computer games. - Children develop all components of their games design and program. - Self and peer evaluation.	- Spreadsheets- solving mathematical problems. - Develop formula wizard skills. - Using spreadsheets to model real life situations
	Vocabulary	Rewind ,Forward, Backwards, Debug Instruction, Algorithm	Pictogram, Data, Collate, Binary Tree, Avatar, Database	Posture , Top row keys, Home row keys , Bottom row keys, Space bar	Average, Columns, Cells, Charts, Formula Wizard , Spreadsheet	Animation, Interactive, Texture, Perspective, Playability	Advance mode, Count, Equals tool, Timer

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Enquiry		Coding	Creating Pictures	Email	Writing for Different Audiences	Spreadsheets	Text Adventures
S P R I N G T E R M	NC link	- 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.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	- Understand computer networks, including the Internet; how they can provide multiple services - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour	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	- Design, write and debug programs that accomplish specific goals, by decomposing them into smaller parts - Use sequence, selection and repetition in programs - Select, use and combine a variety of software to design and create a range of programs, systems and content that accomplish given goals.
	Knowledge	- Children understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. - They know that an algorithm written for a computer is called a program. - Children can work out what is wrong with a simple algorithm when the steps are out of order - When looking at a program, children can read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program	- Children demonstrate an ability to organise data using, for example, a database such as 2Investigate and can retrieve specific data for conducting simple searches. - Children are able to edit more complex digital data such as music compositions within 2Sequence. - Children are confident when creating, naming, saving and retrieving content. - Children use a range of media in their digital content including photos, text and sound.	- Children can collect, analyse, evaluate and present data and information using a selection of software, e.g. using a branching database (2Question), using software such as 2Graph. - Children can consider what software is most appropriate for a given task. - They can create purposeful content to attach to emails, e.g. 2Respond.	- Children are able to make improvements to digital solutions based on feedback. - Children make informed software choices when presenting information and data. - They create linked content using a range of software such as 2Connect and 2Publish+. - Children share digital content within their community, i.e. using Virtual Display Boards.	- To use formulae within a spreadsheet, check formula for accuracy - Children can search databases for information using symbols - Children create their own database - To use a spreadsheet to model a real-life problem	- Children are able to turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs. - Children test and debug their program as they go and use logical methods to identify the cause of bugs, demonstrating a systematic approach to try to identify a particular line of code causing a problem. - Children translate algorithms that include sequence, selection and repetition into code and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures, including nesting structures within each other. - Coding displays an improving understanding of variables in coding, outputs such as sound and movement, inputs from the user of the program such as button clicks and the value of functions.
	Skills	- Children know that for the computer to make something happen, it needs to follow clear instructions - Children design characters and settings can program a sound to play when objects collide. - Children to use the when clicked blocks	- I can use 2Paint a Picture to create my own impressionist art - I can use the eCollage function in 2Paint a Picture to create my own surrealist art using drawing and clipart	- Children can open an email, respond and send emails. - Children aware of CC and confident attaching work to emails.	- Children have used 2Connect to mind-map ideas for a community campaign - Children have used these ideas to write a persuasive letter or poster as part of the campaign.	- Children explore maths formulas in spreadsheets - Children can use the 'how many' tool - Children can create simple formulae that use different variables - Children can use a spreadsheet to model a real-life situation and come up with solutions that can be practically applied	Children are able to interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm together to explain the program as a whole.
	Vocabulary	Code block, Coding , Collision Detection, Command	Palette, Template	Email , Report to the teacher, Attachment, Address book, CC	Font , Bold, Italic , Underline	Advance mode, Equals tool, Formula Move cell tool, Spin Tool	Text-based adventure, Concept map, Sprite, Function

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S U M M E R T E R M	Enquiry	A. Spreadsheets B. Technology Outside School	A. Effective Searching B. Presenting Ideas	A. Simulations B. Branching Databases	A. Logo B. Animation	A. 3D modelling	A. Blogging
	NC link	B. Recognise common uses of information technology beyond school	A. Use technology purposefully to create, organise, store, manipulate and retrieve digital content B. Recognise common uses of information technology beyond school	A. 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	A. Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts A. Use sequence, selection and repetition in programs; work with variables and various forms of input and output; A. Use logical reasoning to explain how some simple algorithms work & to detect & correct errors in algorithms B. 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.	A. 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	A. 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 A. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour A. Identify a range of ways to report concerns about content and contact*.
	Knowledge	A. Exploring basic spreadsheets/ A. Children are able to sort, collate, edit and store simple digital content B. Technology in our community B. Children understand what is meant by technology and can identify a variety of examples both in and out of school. B. They can make a distinction between objects that use modern technology and those that do not e.g. a microwave vs. a chair.	A. Children can effectively retrieve relevant, purposeful digital content using a search engine. A. They can apply their learning of effective searching beyond the classroom. B. They can share this knowledge, e.g. 2Publish example template. B. Children make links between technology they see around them, coding and multimedia work they do in school e.g. animations, interactive code and programs	A. Children can carry out simple searches to retrieve digital content. A. They understand that to do this, they are connecting to the internet and using a search engine such as Purple Mash search or internet-wide search engines. B. Children can collect, analyse, evaluate and present data and information using a selection of software, e.g. using a branching database (2Question), using software such as 2Graph. B. Children can consider what software is most appropriate for a given task. They can create purposeful content to attach to emails, e.g. 2Respond.	A. When turning a real-life situation into an algorithm, the design shows that they are thinking of the required task and how to accomplish this in code using coding structures for selection & repetition. B. Children make more intuitive attempts to debug their program. B. Children's use of timers to achieve repetition effects B. They understand 'if statements' for selection & attempt to combine these with other coding structures. B. As well as understanding how variables can be used to store information while a program is executing, they are able to use & manipulate the value of variables. B. Children can make use of user inputs & outputs such as 'print to screen'. B. Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. B. They can trace code and use step through methods to identify errors in code and make logical attempts to correct this.	A. Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. e.g. creating their own program to meet a design brief using 2Code. A. They objectively review solutions from others. Children are able to collaboratively create content and solutions using digital features within software such as collaborative mode. A. They are able to use several ways of sharing digital content, i.e. 2Blog, Display Boards and 2Email.	A. Children make clear connections to the audience when designing and creating digital content. A. The children design and create their own blogs to become a content creator on the internet, e.g. 2Blog. A. They are able to use criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements.
	Skills	A. Children explore spreadsheets; B. Children learn to identify different types of technology outside of school.	A. Increased confidence discussing key internet search terms. A. Can effectively carry out an internet search.	A. Children can explore a simulation & can use a simulation to try out different options & test predictions A. Children can begin to evaluate simulations & identify the rules on which the simulations are based & test predictions B. Children can create a branching database B. Children know how to use and debug their own branching database.	A. Children can follow simple instructions to create shapes in Logo A. Children's skills develop in Lego B. Children have made a simple animation using 2Animate B. Children can use the Onion Skin tool to create an animated image B. Children can use backgrounds and sounds to make more complex and imaginative animations	A. Children have explored the different viewpoints in 2Design and Make whilst designing a building. A. Children have explored how to edit the polygon 3D models to design a 3D model for a purpose. A. Children have explored the possibilities of 3D printing	A. Children can create a blog with a specific purpose. A. Children interact within their blogs
	Vocabulary	Cursor, Columns, Cells, Rows, Spreadsheet, Technology	Internet, Search, Search Engine	Simulation, Branching database, Database	LOGO, Animation, Onion skinning, Stop motion	CAD, 3Net, 3D Printing	Blog, Blog page, Blog post