

Computing Progression

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Digital Literacy	<u>Recognise common uses of information technology beyond school.</u> - I understand what is meant by technology and can identify a variety of examples both in and out of school. - I can make a distinction between objects that use modern technology and those that do not e.g. a microwave vs. a chair. <u>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.</u> - I understand the importance of keeping information, such as my usernames and passwords, private and actively demonstrate this in lessons. - I take ownership of my work and save this in my own private space such as	<u>Recognise common uses of information technology beyond school.</u> - I can effectively retrieve relevant, purposeful digital content using a search engine. - I can apply my learning of effective searching beyond the classroom. I can share this knowledge, e.g. 2Publish example template. - I can make links between technology I see around me, coding and multimedia work I do in school e.g. animations, interactive code and programs. <u>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.</u>	<u>Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.</u> - I can demonstrate the importance of having a secure password and not sharing this with anyone else. - I can explain the negative implications of failure to keep passwords safe and secure. - I understand the importance of staying safe and the importance of my conduct when using familiar communication tools such as 2Email in Purple Mash. - I know more than one way to report unacceptable content and contact	<u>Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.</u> - I can explore key concepts relating to online safety using concept mapping such as 2Connect. - I can help others to understand the importance of online safety. - I know a range of ways of reporting inappropriate content and contact.	<u>Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.</u> - I 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. - I can implicitly relate appropriate online behaviour to my right to personal privacy and mental wellbeing of myself and others.	<u>Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.</u> - I can demonstrate the safe and respectful use of a range of different technologies and online services. - I can identify more discreet inappropriate behaviours through developing critical thinking, e.g. 2Respond activities. - I can recognise the value in preserving my privacy when online for my own and other people's safety

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	their My Work folder on Purple Mash	- I know the implications of inappropriate online searches. - I can begin to understand how things are shared electronically such as posting work to the Purple Mash display board. - I can develop an understanding of using email safely by using 2Respond activities on Purple Mash and know ways of reporting inappropriate behaviours and content				
Computer Science	<u>Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.</u> -I can understand that algorithms are a set of instructions to achieve an objective. -I know that an algorithm written for a computer is a program. <u>Creating and debugging programs</u>	<u>Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.</u> - I can explain that an algorithm is a set of instructions to complete a task. - When designing simple programs, I can show an awareness of the need to be precise with their algorithms so that I can	<u>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</u> - I can turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. - My design shows that I am thinking of the desired task and how this translates into code. - I can identify an error within my program that	<u>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</u> - When turning a real-life situation into an algorithm, my design shows that I am thinking of the required task and how to accomplish this in code using coding structures for selection and repetition.	<u>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</u> - I may attempt to turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts. - I can test and debug my programs as I go and	<u>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</u> - I am 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 my knowledge of

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	-I can work out what is wrong with a simple algorithm when the steps are out of order, e.g. The Wrong Sandwich in Purple Mash and can write my own simple algorithm, e.g. Colouring in a Bird activity. - I know that an unexpected outcome is due to the code I have created and can make logical attempts to fix the code, e.g. Bubbles activity in 2Code. <u>Use logical reasoning to predict the behaviour of simple programs.</u> - When looking at a program, I can read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program. - I can, for example, interpret where the turtle in 2Go challenges will end up at the end of the program.	be successfully converted into code.	prevents it following the desired algorithm and then fix it. <u>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</u> - I can demonstrate the ability to design and code a program that follows a simple sequence. - I can experiment with timers to achieve repetition effects in programs. - I am beginning to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition effects. <u>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</u> My designs for my programs show that I am thinking of the structure of a program in logical,	- I can make more intuitive attempts to debug their own programs <u>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</u> - My use of timers to achieve repetition effects are becoming more logical and are integrated into my program designs. - I understand 'IF statements' for selection and attempt to combine these with other coding structures including variables to achieve the effects that I design in my programs. - As well as understanding how variables can be used to store information while a program is executing, I am able to use and manipulate the value of variables. - I can make use of user inputs and outputs such as 'print to screen'. e.g. 2Code.	can use logical methods to identify the approximate cause of any bug but may need some support identifying the specific line of code. <u>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</u> - I can translate algorithms that include sequence, selection and repetition into code with increasing ease and my own designs show that I am thinking of how to accomplish the set task in code utilising such structures. - I am combining sequence, selection and repetition with other coding structures to achieve my algorithm design. <u>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</u>	possible coding structures and applying skills from previous programs. - I can test and debug their program as I 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. <u>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</u> - I can translate algorithms that include sequence, selection and repetition into code and my own designs show that I am 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
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			achievable steps and absorbing some new knowledge of coding structures. For example, repetition and use of timers. - I can make good attempts to 'step through' more complex code in order to identify errors in algorithms and can correct this. e.g. In programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately <u>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.</u> - I can list a range of ways that the Internet can be used to provide different methods of communication. - I can use some of these methods of communication, e.g. being able to open, respond to and attach files to emails using 2Email.	<u>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</u> - My designs for my programs show that I am thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'IF' statements, repetition and variables. - I can trace code and use stepthrough methods to identify errors in code and make logical attempts to correct this. - In programs such as Logo, I can 'read' programs with several steps and predict the outcome accurately. <u>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.</u>	hen children code, they are beginning to think about their code structure in terms of the ability to debug and interpret the code later, e.g. the use of tabs to organise code and the naming of variables <u>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.</u> - I can understand the value of computer networks but am also aware of the main dangers. - I can recognise what personal information is and can explain how this can be kept safe. - I can select the most appropriate form of online communications contingent on audience and digital content, e.g.	from the user of the program such as button clicks and the value of functions. <u>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</u> - I am 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. <u>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.</u> - I understand and can explain in some depth the difference between the internet and the World Wide Web. Children know what a WAN and LAN are and
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			- I can describe appropriate email conventions when communicating in this way.	- I recognise the main component parts of hardware which allow computers to join and form a network. - My ability to understand the online safety implications associated with the ways the internet can be used to provide different methods of communication is improving.	2Blog, 2Email, Display Boards.	can describe how I access the internet in school.
Information Technology	<u>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</u> -I can sort, collate, edit and store simple digital content e.g. I can name, save and retrieve my work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count.	<u>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</u> - I can demonstrate an ability to organise data using, for example, a database such as 2Investigate and can retrieve specific data for conducting simple searches. - I am able to edit more complex digital data such as music compositions within 2Sequence. - I am confident when creating, naming, saving and retrieving content.	<u>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</u> - I can carry out simple searches to retrieve digital content. - I understand that to do this, I am connecting to the internet and using a search engine such as Purple Mash search or Internet-wide search engines. <u>Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of</u>	<u>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</u> - I understand the function, features and layout of a search engine. - I can appraise selected webpages for credibility and information at a basic level. <u>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</u>	<u>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</u> - I can search with greater complexity for digital content when using a search engine. - I am able to explain in some detail how credible a webpage is and the information it contains. <u>Select, use and combine a variety of software (including internet services) on a range of digital</u>	<u>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.</u> - I can demonstrate the safe and respectful use of a range of different technologies and online services. - I can identify more discreet inappropriate behaviours through developing critical thinking, e.g. 2Respond activities. - I can recognise the value in preserving my

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		- I can use a range of media in their digital content including photos, text and sound.	<u>programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</u> - I 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. - I can consider what software is most appropriate for a given task. - I can create purposeful content to attach to emails, e.g. 2Respond.	<u>collecting, analysing, evaluating and presenting data and information.</u> - I am able to make improvements to digital solutions based on feedback. - I can make informed software choices when presenting information and data. - I can create linked content using a range of software such as 2Connect and 2Publish+. - I can share digital content within their community, i.e. using Virtual Display Boards.	<u>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</u> - I am 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 my own program to meet a design brief using 2Code. - I can objectively review solutions from others. - I am able to collaboratively create content and solutions using digital features within software such as collaborative mode. - I am able to use several ways of sharing digital content, i.e. 2Blog, Display Boards and 2Email.	privacy when online for their own and other people's safety.
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Vocabulary	Online Safety and Exploring Purple Mash: Log in, Username, password, Avatar, Log out, Save, Notification Technology Outside of School: Technology Animated Story Books: Animation, E-Book, Font, File, Sound Effect, Display Board Coding: Action, Button, Character, Coding, Command, Debug/Debugging, Input, Object	Online Safety: Search, Internet, Sharing, Digital footprint, Email Effective Searching: Internet, Search, Search engine Coding: Action, Algorithm, Bug, Character, Code block, Debug/Debugging, Input, Object Presenting Ideas: Concept map, Presentation, Audience, Node	Touch typing- Posture, Top/ Home/Bottom row keys, Space bar Coding- Action, Algorithm, Bug, Code Block, Code design, Command, Control, Debug/Debugging, Event, If, Input, Output, Object, Properties, Repeat, Selection, Timer, Variable Emails- Communication, Email, Send, Attachment, Address Book, Password Branching Databases- Branching Database, Data, Database Hardware detectives- Motherboard, CPU, RAM, Graphics card, Network Card, Monitor, Speakers, Keyboard, Mouse	Coding- Action, Alert, Algorithm, Bug, Command, Control, Debug/Debugging, Event, Get input, If, If/Else, Input, Output, Object, Repeat, Selection, Timer, Variables Animation- Animation, Frame, Onion skinning, Background, Play, stop motion 3D Modelling- CAD(Computer aided design, Modelling, 3D, Viewpoint, 2D, Net, Points, Template Effective Searching- Easter Egg, Internet, Internet Browser, Search, Search Engine, Spoof website, Website	Coding- Action, Alert, Algorithm, Bug, Code Design, Command, Control, Debug/Debugging, Design Mode, Event, Get input, If, If/Else, Input, Output, Object, Repeat, Sequence, Selection, Timer, Variable Databases- Avatar, Branching Database, Charts, Collaborative, Data, Database, Find, Record, Sort, Group, Arrange, Reports, Table Game Creator- Animation, Computer Game, Customise, Evaluation, Image, Instructions, Interactive, Screenshot, Texture, Perspective, Playability	Coding- Action, Alert, Algorithm, Bug, Code Design, Command, Control, Debug/Debugging, Event, Function, Get Input, If, If/Else, Input, Output, Object, Repeat, Sequence, Selection, Timer, Variable Blogging- Audience, Blog, Blog Page, Blog Post, Collaborative, Icon Quizzing- Audience, Collaboration, Concept Map, Database, Quiz Networks- Internet, World Wide Web, Network, Local Area Network (LAN), Wide area Network (WAN), Router, Network Cable, Wireless
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