

Computing Long Term Plan 2023- 2024



	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year R	<p>Begin to understand that ICT (the internet) gives rapid access to a wide variety of information and resources • Talk about their use of ICT and other ways of finding information • Begin to develop key questions and find information to answer them- TEACHER MODELLED NOT INDEPENDENT ACCESS</p>	<p>Begin to understand that computers provide access to a variety of information in different forms • Begin to appreciate the relationship between graphical representations and real data</p>	<p>Data logging Be aware that digital devices (such as metal detectors, thermometers and microphones) can be used to show external changes</p>	<p>Digital imagery Understand that computers are good for still and moving images (video) • Understand there are a variety of tools in a graphics package and they each have a different purpose • Understand digital still or video cameras (and later visualiser or scanners) can capture an image. • Talk about their use of a paint package and their choice of tools</p>	<p>Begin to understand that all kinds of ICT tools are used for different modes of communication • Understand that messages can be sent electronically over distances and that people can reply to them. • Understand that communications can be in pictures, sound and text</p>	<p>Understand that devices respond to commands • Talk about devices in the home that are controlled by commands. • Begin to be aware of and have opportunities to use computer controlled devices in the outside world (pelican crossing, automatic doors, cash point machines supermarket technology Understand that technological devices can be used to record and play back sounds • Be aware that sound can be recorded on the computer as a sound file. • Recognise that an electronic keyboard can be used to select and control sounds</p>
Year 1	<p>Computing systems and networks – Technology around us</p>	<p>Creating media – Digital painting</p>	<p>Programming A – Moving a robot</p>	<p>Data and information – Grouping data</p>	<p>Creating media – Digital writing</p>	<p>Programming B – Programming animations</p>

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	<p>Recognising technology in school and using it responsibly.</p> <p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Recognise common uses of information technology beyond school.</p> <p>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.</p> <p>Input output debug program instructions robot</p>	<p>Choosing appropriate tools in a program to create art and making comparisons with working non-digitally.</p> <p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <p>Image document PDF portable format</p>	<p>Writing short algorithms and programs for floor robots and predicting program outcomes.</p> <p>Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions.</p> <p>Create and debug simple programs.</p> <p>Use logical reasoning to predict the behaviour of simple programs.</p> <p>Recognise common uses of information technology beyond school.</p> <p>Presentation digital image</p>	<p>Exploring object labels, then using them to sort and group objects by properties.</p> <p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Recognise common uses of information technology beyond school.</p> <p>Sound effects dialogue PowerPoint voice memo</p>	<p>Using a computer to create and format text, before comparing to writing non-digitally.</p> <p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content. 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.</p> <p>Type insert copy paste</p>	<p>Designing and programming the movement of a character on screen to tell stories.</p> <p>Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions.</p> <p>Create and debug simple programs.</p> <p>Use logical reasoning to predict the behaviour of simple programs.</p> <p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <p>Algorithm edit video camera decomposition</p>
Year 2	<p>Computing systems and networks – Information technology around us Identifying IT and how its responsible use improves our world in school and beyond.</p> <p>Use technology purposefully to create, organise, store,</p>	<p>Creating media – Digital photography</p> <p>Capturing and changing digital photographs for different purposes.</p> <p>Use technology purposefully to create, organise, store,</p>	<p>Programming A – Robot algorithms</p> <p>Creating and debugging programs, and using logical reasoning to make predictions.</p> <p>Understand what algorithms are, how</p>	<p>Data and information – Pictograms</p> <p>Collecting data in tally charts and using attributes to organise and present data on a computer.</p> <p>Use technology purposefully to create,</p>	<p>Creating media – Making music</p> <p>Using a computer as a tool to explore rhythms and melodies, before creating a musical composition.</p> <p>Use technology purposefully to create,</p>	<p>Programming B – Programming quizzes</p> <p>Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.</p>

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	<p>manipulate and retrieve digital content. 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.</p>	<p>manipulate and retrieve digital content. Recognise common uses of information technology beyond school.</p>	<p>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.</p>	<p>organise, store, manipulate and retrieve digital content. 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.</p>	<p>organise, store, manipulate and retrieve digital content.</p>	<p>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.</p>
Year 3	<p>Computing systems and networks – Connecting computers</p> <p>Identifying that digital devices have inputs, processes and outputs and how devices can be connected to make networks.</p> <p>Use sequence, selection and repetition in programs; work with variables and various forms of input and output. Understand computer networks, including the internet; how they can provide multiple services, such as the</p>	<p>Creating media – Stop-frame animation</p> <p>Capturing and editing digital still images to produce a stop-frame animation that tells a story.</p> <p>Select, use and combine a variety of software 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>	<p>Programming A – Sequencing sounds</p> <p>Creating sequences in a block-based programming language to make music.</p> <p>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</p>	<p>Data and Information – Branching databases</p> <p>Building and using branching databases to group objects using yes/no questions.</p> <p>Select, use and combine a variety of software 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>	<p>Creating media – Desktop publishing</p> <p>Creating documents by modifying text, images and page layouts for a specified purpose.</p> <p>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 on a range of digital devices to design and create a range of programs,</p>	<p>Programming B – Events and actions in programs</p> <p>Writing algorithms and programs that use a range of events to trigger sequences of actions.</p> <p>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</p>

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	<p>World Wide Web and the opportunities they offer for communication and collaboration. Select, use and combine a variety of software 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> <p>Malware mail servers chart data graph opinion questions rating scale research survey</p>	<p>Sequence input output debug graphics algorithm animation program script storyboard</p>	<p>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. Select, use and combine a variety of software 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> <p>Virus scanning Software hardware personal information attachment email e- safety spam spoofed link video conference virus</p>	<p>Movie maker input Commentary analysis audio close-up editing footage panning shooting video camera zooming</p>	<p>systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</p>	<p>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. Select, use and combine a variety of software 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> <p>Internet protocol Diagnostic tools domain names IP address command prompt internet network packet of data ping router wi-fi</p>
Year 4	<p>Computing systems and networks – The internet Recognising the internet as a network of networks including the</p>	<p>Creating media – Audio editing Capturing and editing audio to produce a podcast, ensuring that copyright is considered.</p>	<p>Programming A – Repetition in shapes Using a text-based programming language to explore</p>	<p>Data and information – Data logging Recognising how and why data is collected over time, before using</p>	<p>Creating media – Photo editing Manipulating digital images and reflecting on the impact of changes and whether</p>	<p>Programming B – Repetition in games Using a block-based programming language to explore count-controlled and</p>

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	<p>WWW and why we should evaluate online content.</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> <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 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> <p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify</p>	<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 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> <p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about consent and contact.</p> <p>chart data-logging forecast graph measurement prediction spreadsheet temperature</p>	<p>count-controlled loops when drawing shapes.</p> <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>Select, use and combine a variety of software 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>	<p>data loggers to carry out an investigation.</p> <p>Use sequence, selections and repetition in programs; work with variables and various forms of input and output.</p> <p>Select, use and combine a variety of software 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>	<p>the required purpose is fulfilled.</p> <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 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> <p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>	<p>infinite loops when creating a game.</p> <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>Select, use and combine a variety of software 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>
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	<p>a range of ways to report concerns about consent and contact.</p> <p>code HTML HTTP (hyper text transfer protocol) hyperlink tag URL web page attachment email e-safety spam spoofed link video conference virus</p>					
Year 5	<p>Op art geometric landscape sprite symmetry vector graphics</p>	<p>Creating media – Video editing</p> <p>Planning, capturing and editing video to produce a short film.</p> <p>Use search technologies effectively, appreciate how results are selected and ranked and by discerning in evaluating digital content.</p> <p>Select, use and combine a variety of software 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>	<p>Programming A – Selection in physical computing</p> <p>Exploring conditions and selection using a programmable microcontroller.</p> <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</p>	<p>Data and Information – Flat-file databases</p> <p>Using a database to order data and create charts to answer questions.</p> <p>Use search technologies effectively, appreciate how results are selected and ranked and by discerning in evaluating digital content.</p> <p>Select, use and combine a variety of software 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>	<p>Creating media – Vector drawing</p> <p>Creating images in a drawing program by using layers and groups of objects.</p> <p>Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting a range of ways to report concerns about content and contact.</p>	<p>Programming B – Selection in quizzes</p> <p>Exploring selection in programming to design and code an interactive quiz.</p> <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 simple algorithms work and to detect and correct errors in algorithms and programs.</p>

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Year 6	<p>Computing systems and networks – Internet communication</p> <p>Recognising how the WWW can be used to communicate and be searched to find information.</p> <p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and</p>	<p>Creating media – Webpage creation</p> <p>Designing and creating webpages, giving consideration to copyright, aesthetics and navigation.</p> <p>Use search technologies effectively, appreciate how results are selected, ranked and be discerning in evaluating digital content.</p> <p>Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, systems and content that accomplish given</p>	<p>Programming A – Variables in games</p> <p>Exploring variables when designing and coding a game.</p> <p>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.</p> <p>Use logical reasoning to explain how some simple algorithms work</p>	<p>Data and Information – Introduction to spreadsheets</p> <p>Answering questions by using spreadsheets to organise and calculate data.</p> <p>Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting a range of ways to report concerns about content and contact.</p>	<p>Creating media – 3D modelling</p> <p>Planning, developing and evaluating 3D computer models of physical objects.</p> <p>Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting a range of ways to report concerns about content and contact. Use technology safely, respectfully and responsibly; recognise acceptable/unaccept</p>	<p>Programming B – Sensing</p> <p>Designing and coding a project that captures inputs from a physical device.</p> <p>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.</p> <p>Use logical reasoning to explain how some</p>

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