

St John's RC Primary School, Burnley Whole School Curriculum Map Computing



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		EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn	Торіс	EXPLORING PROGRAMABLE TOYS To begin to understand that a programmable toy follows your instruction. EXPLORING DRAW /PAINTING PROGRAMS To develop mouse control when making marks on a painting program.	Technology around us Recognising technology in school and using it responsibly. Digital painting Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally	Information technology around us Identifying IT and how its responsible use improves our world in school and beyond. Digital photography Capturing and changing digital photographs for different purposes.	connecting computers Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks. Stop-frame animation Capturing and editing digital still images to produce a stop-frame animation that tells a story.	The internet Recognising the internet as a network of networks including the WWW, and why we should evaluate online content. Audio production Capturing and editing audio to produce a podcast, ensuring that copyright is considered.	Systems and searching Recognising IT systems in the world and how some can enable searching on the internet. Video production Planning, capturing, and editing video to produce a short film.	Communication and collaboration Exploring how data is transferred by working collaboratively online. Creating media Webpage creation Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation.

NC reference/ Personal Social and Use technology Use technology Use sequence, selection, **Understand** computer Select, use and combine a Design, write and debug ELG **Emotional** purposefully to create, purposefully to create, and repetition in networks, including the variety of software programs that accomplish Development organise, store, programs; work with internet; how they can (including internet specific goals, including organise, store, Show resilience and services) on a range of controlling or simulating manipulate, and manipulate, and retrieve variables and various provide multiple perseverance in the retrieve digital digital devices to design physical systems; solve digital content forms of input and services, such as the face of a challenge. content Recognise common uses output World Wide Web, and and create a range of problems by decomposing Know and talk Recognise common of information Understand computer the opportunities they programs, systems and them into smaller parts about the different uses of information networks, including the offer for communication technology beyond content that accomplish Understand computer factors that support technology beyond school Use technology internet; how they can and collaboration given goals, including networks, including the their overall health school safely and respectfully, provide multiple Use search technologies collecting, analysing, internet; how they can and wellbeing: -Use technology safely keeping personal services, such as the effectively, appreciate evaluating and presenting provide multiple services, sensible amounts of and respectfully, information private; World Wide Web, and how results are selected data and information Use such as the World Wide 'screen time'. keeping personal identify where to go for the opportunities they and ranked, and be technology safely, Web, and the **Physical** information private; help and support when offer for communication discerning in evaluating respectfully and opportunities they offer and collaboration for communication and Development identify where to go they have concerns digital content responsibly; recognise • Develop their small for help and support about content or contact Select, use and combine Select, use and combine acceptable/unacceptable collaboration motor skills so that when they have on the internet or other a variety of software a variety of software behaviour; identify a range Select, use and combine a they can use a range concerns about online technologies. (including internet (including internet of ways to report concerns variety of software of tools competently, content or contact on services) on a range of services) on a range of about content and contact (including internet safely and confidently. the internet or other digital devices to design digital devices to design **Understand** computer services) on a range of Expressive Arts and online technologies and create a range of and create a range of networks, including the digital devices to design Design programs, systems and programs, systems and internet; how they can and create a range of • Explore, use and content that accomplish content that accomplish provide multiple services, programs, systems and refine a variety of given goals, including given goals, including such as the World Wide content that accomplish collecting, analysing, artistic effects to Web, and the given goals, including collecting, analysing, express their ideas evaluating and evaluating and opportunities they offer collecting, analysing, and feelings. ELG presenting data and presenting data and for communication and evaluating and presenting data and information Personal, Social and information information collaboration **Emotional** Use technology safely, Use technology safely, Use search technologies Development respectfully and respectfully and effectively, appreciate how Managing Self • Be responsibly; recognise responsibly; recognise results are selected and confident to try new acceptable/unacceptabl acceptable/unacceptabl ranked, and be discerning activities and show e behaviour; identify a e behaviour: identify a in evaluating digital independence. range of ways to report range of ways to report content resilience and concerns about content concerns about content and contact and contact perseverance in the face of challenge. • Explain the reasons for rules, know right from wrong and try to behave accordingly. Expressive Arts and Design Creating with Materials • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and

function.

	Торіс	Online Safety Smartie PenguinLearn how to keep ourselves and others safe online TAKING I PAD PHOTOS AND PLAYING GAMES Learn to switch on and find the camera icon. With support take a photograph of plants and life cycle of creatures	Moving a robot Writing short algorithms and programs for floor robots, and predicting program outcomes. Grouping data Exploring object labels, then using them to sort and group objects by properties.	Robot algorithms Creating and debugging programs, and using logical reasoning to make predictions. Pictograms Collecting data in tally charts and using attributes to organise and present data on a computer.	Sequencing sounds Creating sequences in a block-based programming language to make music. Branching databases Building and using branching databases to group objects using yes/no questions	Repetition in shapes Using a text-based programming language to explore count- controlled loops when drawing shapes. Data logging Recognising how and why data is collected over time, before using data loggers to carry out an investigation.	Selection in physical computing Exploring conditions and selection using a programmable microcontroller. flat-file databases Using a database to order data and create charts to answer questions.	Variables in games Exploring variables when designing and coding a game. Introduction to spreadsheets Answering questions by using spreadsheets to organise and calculate data.
Spring	NC reference/ ELG	As Above	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. Recognise common uses of information technology beyond school	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 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	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, a nd 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 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 Use	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 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 Use sequence, selection,	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 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 Use search technologies effectively, appreciate how results are selected and ranked, and be discerning	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 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 Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable

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					technology safely, respectfully and responsibly; recognise acceptable/unacceptabl e behaviour; identify a range of ways to report concerns about content and contact	and repetition in programs; work with variables and various forms of input and output	in evaluating digital content	behaviour; identify a range of ways to report concerns about content and contact
Summer	Topic	WORD PROCESSING TO TYPE AND PRINT SIMPLE WORDS/PHRASES (C) To type simple words and phrases. To start to learn how to log on. To type own first name. USING ICT AT HOME AND SCHOOL To explore and talk about the similarities and differences between technology at home and school, understanding their purposes.	Digital writing Using a computer to create and format text, before comparing to writing non-digitally Programming animations Designing and programming the movement of a character on screen to tell stories.	Digital music Using a computer as a tool to explore rhythms and melodies, before creating a musical composition. Programming quizzes Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.	Desktop publishing Creating documents by modifying text, images, and page layouts for a specified purpose Events and actions in programs Writing algorithms and programs that use a range of events to trigger sequences of actions.	Photo editing Manipulating digital images, and reflecting on the impact of changes and whether the required purpose is fulfilled. Repetition in games Using a block-based programming language to explore count- controlled and infinite loops when creating a game.	Introduction to vector graphics Creating images in a drawing program by using layers and groups of objects. Selection in quizzes Exploring selection in programming to design and code an interactive quiz.	3D modelling Planning, developing, and evaluating 3D computer models of physical objects. Sensing movement Designing and coding a project that captures inputs from a physical device.
	NC reference/ ELG	As Above	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.	Use technology purposefully to create, organise, store, manipulate, and retrieve digital content 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	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 Design, write and debug programs that accomplish specific	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 Use technology safely, respectfully and responsibly; recognise	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, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Use sequence, selection, and repetition in programs; work with	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 Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact Design, write and debug programs that accomplish specific goals, including

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