Computing - Detailed Overview

Year 7	Autumn A	Autumn B	Spring C	Spring D	Summer A	Summer B
What Students Will Learn	Communicating Info Using Text Students will: • be introduced to the concepts that underpin computing lessons (Information, Communication, Technology) • share information about themselves using a range of communication strategies (verbal, signing, symbols, demonstrating preferences) • explore using the computer to collect and store information about themselves • use Publisher to record information about themselves		Creating Pictures Students will: • develop an understanding that creating pictures shares information about personal ideas • interact with MS Paint to edit or copy images • explore using tools within MS Paint to create images depicting own ideas • use functions such as undo and save	Introduction to Presentations Students will: explore PowerPoint presentations show an awareness of the benefits of using PowerPoint use PowerPoint to share information using various media (pics, words & text) begin to consider presentation of information (exploring formatting techniques)	E-Safety - What & Where We Share Students will: • develop an understanding of what e-safety means • share experiences of using technology to communicate • understand what personal information is • suggest good practise when using social media around sharing personal information	Inputs, Process & Outputs Students will: explore various technology (including sensory toys and everyday household technology) begin to understand that technology is controlled by the user communicate about technology that they regularly use (sharing preferences) identify inputs and outputs of technology
Key Vocabulary	Publisher, pictures, text, Word Art, toolbar, tabs, insert, copy, paste, open, save, server, drives, resize, edit, format, computing, inf, communication, technology.		Paint, images, pictures, develop, create, tools, tabs, resize, undo, redo, flood fill, colour, open with, save as, jpg, computing, inf, comm, tech.	PowerPoint, present, presentation, slide, pictures, text, sound, video, animations, transitions, toolbar, tabs, format, computing, inf, comm, tech.	E-safety, safe, internet, world wide web, browser, private, public, social media, private messaging, computing, inf, comm, tech.	Input process, output, control, commands, instructions, cause, effect computing, inf, comm, tech.
Key Skills	 Fine motor skills - use moderand select or make select Sorting - recognise the confiner of information and 'information' and 'information' and 'information' and 'information' are spondisharing info verbally/with using MS Publisher softw Organisation - open new which have been edited, files with support as approximation. 	tions using touch screen. difference between 'types rmation topics'. I to questions about self h symbols/VOCA and vare. files, save documents locate and open saved	 Creativity - exploring tools and their effects. Selection - choosing particular tools for specific purposes. Sequencing - building 'layers' on pictures (background then foreground). FMS - using various access methods to make marks. 	 Problem solving - consider ways a book can be shared more easily in a larger group. Comparing & evaluating - PowerPoint purpose and appearance. Organisation - create, save & use multimedia to create a talking book. 	 Communication - respond to q's about self & experiences of social media. Sorting - info into personal and private. Turn taking - class discussions, class games re e-safety. Literacy - writing rules around using social media safely. 	 FMS - explore technology and make something happen. Identify familiar control tech and how it is used. Sequence events of using technology. Be able to give suggested commands to enable technology to work.

Year 8	Autumn A	Autumn B	Spring C	Spring D	Summer A	Summer B
What Students Will Learn	Communicating Info with Numbers Students will: explore organising data to make information easier to read record data using written methods use technology to explore data display methods understand that using technology allows changes to be made to data more easily	An Intro to Binary Students will: • explore methods we use to share information • understand that computers only use two digits to share information • develop an understanding of bits and bytes of information • apply binary principle in other areas (pictures and sounds)	Capturing & Editing Digital Images Students will: explore ways in which 'moments in time' have been recorded compare technology used to capture images transfer images to be shared with others use software to enhance digital images (basic and advanced enhancements)	Computational Thinking (Boolean Theory) Students will: • explore problem solving techniques used everyday • understand that Boolean Theory links to the Binary system • apply Boolean theory to sorting information • use Boolean terms when conducting searches on the internet and in databases	Electronic Communication Students will: • explore methods used to share public/private info • compare sharing information via post and email • use an email account to read, send, sort, and reply to correspondence • identify the benefits of using email to communicate	Introduction to Databases Students will: • explore different types of data • recognise everyday systems used to store data, understanding why technology is preferred • collect data respectfully • use a database to store, sort and search data
Key Vocabulary	Excel, data, information, record, writing, numbers, accurate, charts, display, share, present, cell, more, less, save, compare, cells, edit, format.	Binary, digits, numbers, letters, shapes, decimal, zero, one, computer, technology, bits, bytes, off, on.	Photoshop, pictures, images, record, save, digital, camera, file, transfer, edit, change, software, hardware, server, open with, crop, cookie cutter, effects.	Boolean, yes, no, binary, zero, one, problem, solution, method, information, organise, search, sort.	Email, information, public, private, messages, text, pictures, attachment, files, compare, read, sort, send, delete, reply, spam, safe, trust.	Database, type, topic, information, text, number, picture, money, list, system, save, sort, search, GDPR, respect, safe, accurate, compare, technology, improve.
Key Skills	items on perceived and given criteria. Comparing - methods used to share info Reasoning - why one method is better than another. FMS - creating paper	 GMS - ball pool sorting. Organising info - sorting types of info. Ordering - binary number sequence. Pattern recognition - binary art problems. Team work - sorting large amounts of 'data' Communication. 	 Comparing - hardware and software used in editing pictures. Following instructions - transferring images. FMS - taking pictures, editing digital images. Organising - timeline of technology/images. Evaluating - own and others work. 	 Problem solving - identify and use everyday techniques. Decomposition - breaking strategies into smaller parts. Communication - questions formulation/ accurate responses. Sorting - recognising characteristics of data. 	 Communication - differences between spoken/written, formal/informal. Comparing - traditional and technological. Sequencing - timeline of communication methods. Critical thinking - decision making re: email to delete. 	 Communication - forming and asking questions. FMS - recording & entering data on paper. Teamwork - collecting information. Sorting & searching - the information. collected on paper and in the database.

Year 9	Autumn A	Autumn B	Spring C	Spring D	Summer A	Summer B
What Students Will Learn	Writing for Different Audiences (Fact, Opinion, Bias) Students will: • understand that newspapers use different types of information to communicate • explore word processing software and tools used to change the appearance of text • recognise true and false news reports • explore writing a fictional news report		Introduction to Spreadsheets Students will: • explore ways to complete calcs • understand the importance of organising data • store data • understand that technology can make calcs easier	Introduction to Animation Students will: • explore various types of animation • share preferences about animations • collaborate with others to create digital images • explore and choose sound files to add to an animation	Introduction to Programming Students will: • understand what an algorithm is • write an algorithm for an everyday problem • record commands using different 'languages' • knows when a program needs to be 'debugged'	Programming: BeeBots Students will: • understand that technology needs commands • use floor and onscreen turtles • sequence and input commands • use units of measurement in a program
Key Vocabulary	Word processing, Microsoft Word, software, hardware, information, type, topic, newspapers, public, cut, paste, words, pictures, importance, highlight, organise, find, replace, spellcheck, save, format, fact, fiction, bias, opinion, Photoshop.		Excel, numbers, cells, data, information, calculation, sum, equals, formula, code, save, edit.	Animation, real, drawn computer generated, model, paint, small changes, moving quickly, create, capture, camera, edit, tools, time, save, picture, sound, mp3, Windows Movie Maker.	Algorithm, problem, solution, language, command, control, controller, program, programmer, problem, debug, fix, instruction, outcome, flowchart.	Program, floor robot, onscreen robot, instruction, command, measurement, amount, direction, debug, fix, plan, practise, record.
Key Skills	 Categorising - sorting new depending on the type of Literacy - reading/interpr displayed in newspaper fo Communication - sharing in (verbally/VOCA/using synarticles. FMS - using the keyboard information. Reflective - being able to information they've read. 	information used. reting information rmat. nformation nbols) about newspaper and mouse to enter	 Sorting - grouping data items into text and numerical. Numeracy - number recognition, completing simple calculations, using maths equipment. Evaluating - methods of working with numbers. Problem solve - address issues with calcs which may not work. 	 Exploration - tolerate clips which may not be favourites. Communication - preferences about clips. Teamwork - working as a class to share ideas, acknowledging others' input. Planning - identifying number of images/clips required. 	 Problem solving - identifying solutions (algorithms) to everyday issues. Literacy - recording/writing solutions/algorithms. Evaluating - review and amend algorithms. Ordering - symbols or instructions of possible solutions. 	Ordering - commands to create correct instructions. FMS/GMS - manipulating buttons on floor robots. Numeracy - using numbs to include measurements. Problem solving - changing instructions where necessary to correct algorithm.

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9 (SFL)	Autumn A	Autumn B	Spring C	Spring D	Summer A	Summer B
	Writing for Diff	Writing for Different Audiences		Introduction to	Creating	<u>Programming:</u>
What Students Will Learn	(Fact, Opinion, Bias) Students will: • explore techniques used by newspapers to share information • use a range of tools within word processing software to share written information • understand that news reports are based on facts, however can be biased • recognise the impact that sharing factually incorrect information can have		Using Excel Students will: explore ways to complete calcs enter data accurately into Excel create formulas to complete calcs understand that using Excel allows data to be	Animation Students will: understand what an animation is recognise various types of animation create digital images for an animation use software to export images as an	Algorithms Students will: understand what an algorithm is use flowcharts to show logic use the terms 'if' and 'else' when writing an algorithm debug a program	Scratch Students will: explore writing programs using different methods use text programming use visual programming identify programming in everyday applications/life
Key Vocabulary	Word processing, Microsoft Word, software, hardware, information, type, topic, newspapers, public, cut, paste, words, pictures, importance, highlight, organise, find, replace, spellcheck, save, format, fact, fiction, false, bias, opinion, Photoshop, distributing.		edited more easily Excel, numbers, cells, data, information, calculation, sum, equals, formula, code, save, edit, brackets, correct, edit.	animation Animation, real, drawn computer generated, model, paint, small changes, moving quickly, create, capture, camera, edit, tools, time, save, export, picture, sound, mp3, Paint, Audacity, Windows Movie Maker.	Algorithm, problem, solution, language, command, control, controller, program, programmer, problem, debug, fix, instruction, outcome, flowchart, logic, if, else, and.	Scratch, program, floor robot, onscreen robot, sprite, instruction, command, measurement, amount, direction, debug, fix, predict, plan, practise, record, code, tabs, blocks, run, x and y coordinates.
Key Skills	 Categorising - selecting not depending on the type of Literacy - reading/interpolation of the communication o	information used. reting information rmat, writing formally. nformation nbols/in writing) about assess the validity of	 Sorting - grouping data items into text and numerical. Numeracy - number recognition, writing calcs, using maths equipment. Evaluating - methods of working with numbers. Problem solve - address issues with calcs which may not work. 	 Comparing - animation techniques. Communication - suggest suitable clips. Planning - identifying number of images/clips required. FMS - using mouse or touch screen to create images. 	 Problem solving - identifying solutions (algorithms) to everyday issues. Literacy - writing solutions/algorithms. Evaluating - review and amend algorithms. Ordering - instructions of possible solutions. Logical thinking - apply if & else appropriately. 	 Comparing - programming languages/software. Problem solving - creating algorithms for specific paths. Numeracy - using directional language, understanding angles and turns. Reflective - identifying programming in real life.

Year 10	Autumn A	Autumn B	Spring C	Spring D	Summer A	Summer B
What Students Will Learn	Exploring Formatting Techniques Students will: • recall tools within desktop publishing software • match colours to familiar brands • explore formatting tools • make choices about	Editing Interactive Resources Students will: • use interactive resources • communicate preferences of resources • share ideas about popular topics • work collaboratively	Visual Programming: Block Coding (Scratch) Students will: • understand that robots follow user commands • give simple commands • recognise the result of given commands • predict what will happen when a	Organising Data Students will: • explore various forms of data • sort data based on perceived and given attributes • answer yes/no questions about data • work collaboratively	Public Info Systems - Weather Reports Students will: • communicate info about the weather • understand that info can be shared in different formats • collect and organise secondary info • use multimedia to	E-Safety (producing a comic strip) Students will: • identify good practice when sharing personal info • know how to get help if things feel wrong • recognise emails that may be inappropriate • identify and share
Key Vocabulary	colour schemes for a fictional company Publisher, pictures, text, Word Art, toolbar, tabs, insert, copy, paste, open, save, server, drives, resize, edit, format, brand, colour, colour picker, business card.	to collate and organise multimedia PowerPoint, SwitchIt, ChooseIt, interactive, topic, information, pictures, words, sounds, music, microphone, camera, save, open, organise.	command is given Scratch, program, floor robot, onscreen robot, sprite, instruction, command, measurement, amount, direction, debug, fix, predict, plan, practise, record, code, blocks, run.	to create a branching database Database, data, information, attribute, sort, organise, binary, yes, no, branching database, pictures, text.	create a weather report Information systems, public, private, personal, type, format, information, collect, organise, Audacity, Windows Movie Maker, camera, microphone, sound, images, symbols, videos.	rules about use technology safely E-Safety, Comic Life, personal, private, public, information, support, help, emails, inappropriate, spam, delete.
Key Skills	 Matching - colours to logos. Exploring - colour schemes. Ordering - info and details in a suitable format. Communication - sharing ideas and preferences. 	 GMS - using various hardware to interact with resources. Evaluating - talking about what which resource was best and why. Communication - preferences about topics. Team working - to create resources. 	 Communication - giving and following verbal commands. Predicting - what might happen with given commands. Ordering - instructions to achieve outcome. Problem solving - debugging instructions. 	 Sorting - data into correct categories. Describe - attributes of data, assigning categories. Communication - answering and formulate yes/no questions. Team work - contribute to class database. 	 Communication - acting out/talking about weather. Analysing - data and its validity. Numeracy - ordering temperatures, days and dates. Literacy - using simple sentences to describe the weather. 	 Literacy - reading emails, writing short sentences/rules about use of technology. Communication - respond to q's about self. Sorting - info into personal & private. Problem solving - what to do if things go wrong.

Year 10	Autumn A	Autumn B	Spring C	Spring D	Summer A	Summer B
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	Creating Business	Creating Interactive	Programming: Block	Branching	Public Info Systems	E-Safety: Phishing
What Students Will Learn	Print Media Students will: • understand why/how brands use colours • use standard formatting tools appropriately • explore advanced colour formatting • design a print media package for a fictional company	Resources Students will: • evaluate a range of interactive resources • identify a target audience and topic for a resource • collect a range of appropriate media • organise multimedia to create an interactive resource	& Java Script Students will: • use blocks of code to achieve a given outcome • understand blocks of code have detailed code 'behind' them • explore using JavaScript • make predictions and debug programs	Databases Students will: • identify and collect various data types • develop an understanding of data attributes • create yes/no questions to be able to organise data • create a branching database	 Weather Reports Students will: understand info can be shared in different formats recognise the diff between primary & secondary data collect and organise secondary info use multimedia to present weather info 	& Digital Footprints Students will: • identify good practice when sharing personal info • understand posts made online can be saved by others • understand what digital footprints are • recognise phishing emails
Key Vocabulary	Publisher, pictures, text, Word Art, toolbar, tabs, insert, copy, paste, open, save, server, drives, resize, edit, format, brand, colour scheme, colour picker, logo, business card, letterhead, template.	PowerPoint, SwitchIt, ChooseIt, evaluate, interactive, topic, audience, media, information, pictures, words, sounds, music, microphone, camera, save, open, organise.	Scratch, JavaScript, program, onscreen robot, sprite, instruction, command, measurement, amount, direction, debug, fix, predict, plan, practise, record, code, tabs, blocks, run, x and y coordinates, detail.	Database, data, information, type, attribute, sort, organise, binary, yes, no, branching database, pictures, text, question, formulate.	Information systems, public, private, personal, type, format, information, collect, organise, Audacity, Windows Movie Maker, camera, microphone, sound, images, symbols, videos, primary, secondary.	E-Safety, personal, private, public, information, support, help, emails, inappropriate, spam, delete, links, malware, digital footprint, online post, save, distribute.
Key Skills	 Creativity - identify and explore colour schemes. Design - explore and use formatting techniques. Evaluating - feedback on own and other's designs. Literacy - sharing information with text. 	 Communication - sharing, listening and responding to ideas. Research - identify audience and possible interests. Ordering - collect and organise various media sources. Evaluating - giving feedback on own & others resources. 	 Predict - what will happen when blocks of code are used. Problem solve - identify why programs haven't run as expected. Literacy - using common words in JavaScript. Organising - sorting blocks of code to achieve given outcome. 	 Sorting - data into correct categories. Describe - attributes of data, assigning categories. Communication - answering and formulate yes/no questions. Planning - to create branching database. 	 Analysing - data and its validity. Research - collect data from primary and secondary sources. Numeracy - ordering temperatures, days and dates. Literacy - using words/text to give info about weather. 	 Sorting - info into personal & private. Literacy - reading emails, understand content & context. Communication - respond appropriately to q's about self (maintaining privacy). Problem solving - what to do if things go wrong.

Year 11	Autumn A	Autumn B	Spring C	Spring D	Summer A	Summer B
What Students Will Learn	Sharing Information Using Technology Students will: • identify where images & text used in leaflets • work collaboratively to collect info from various sources • share info using suitable text and pictures • make choices about	Creating an Animation Students will: • explain key features of an animation • recognise popular stop motions animations • capture digital images • combine images and sound to create a stop motion animation	How a Computer Works Students will: • use hardware to make something happen on screen • name familiar hardware • recognise the function of hardware • develop an understanding of	Capturing & Editing Digital Photos Students will: • use technology with support to capture digital images • compare software and identify advantages • use basic tools to edit an image • explore layering images to make a	Communicating Info (Personal Statements) Students will: • share basic personal info about self, using speech/symbols/VOCA • share preferences about learning • add text and pictures to documents • print and save documents	Exploring Digital Recording Equipment Students will: • use technology to access music videos • share preferences about music videos • use digital recording equipment with support • explore digital video editing software
Key Vocabulary	formatting options Publisher, information, communicate, public, private, type, topic, pictures, text, map, numbers, times, prices, collect, save, organise, publish, print, leaflet, source, edit, format, icon, toolbar, highlight, select, font, emphasise.	Animation, like, don't like, model, small changes, moving quickly, capture, camera, tripod, computer, edit, tools, time, save, export, sound, mp3, Audacity, Windows Movie Maker.	networks Hardware, software, switch, mouse, keyboard, screen, computer, speaker, headphones, printer, microphone, joystick, job, function, network.	fictional image Photoshop, pictures, images, record, save, digital, camera, file, transfer, edit, change, software, hardware, evaluate, server, open with, crop, cookie cutter, magnetic lasso, layers.	Personal statement, about me, school life, words, pictures symbols, texts, favourite, enjoy, learn, achieve, lesson, insert, new page, save, print, share.	Sharing information, celebration, audio files, music, movie clips, Movie Maker, like, don't like, YouTube, mp3, video recorder, cable, edit, clip, save.
Key Skills	 Research - collect images and text from various sources. Communication - share interests and preferences. Organisation - plan and position text and pictures appropriately. Literacy - create short sentences to share info. 	 Comparing - animation techniques. Communication - share preferences and suggest suitable clips. FMS - using digital camera to capture images. Organisation - order clips to create animation. Numeracy - adjust timings appropriately. 	 FMS/GMS - using a range of hardware appropriately. Literacy - reading hardware names, symbols/keywords. Communicating - about functions and use of hardware. Independence - setting up/using hardware correctly. 	 Comparing - software used to edit pictures. FMS - taking pictures, editing digital images. Evaluating - own and others work. Communication - requesting consent to take pics. 	 Communication - sharing info about self in large and small groups. Recording - using pics and words. Organise - text and pictures to share info. Review - previous info shared, ideas noted and edit where appropriate. 	 Communication - preferences about clips, make suggestions. Teamwork - working as a class to share ideas, acknowledging others' input. Planning - record ideas about clips to capture. FMS - to use digital recording.

Year 11 (SFL)	Autumn A	Autumn B	Spring C	Spring D	Summer A	Summer B
r.	<u>Producing an</u> <u>Information Leaflet</u>	Animations using Multimedia	<u>Computer</u> Systems	Capturing & Editing Digital Photos	<u>CV</u> Writing	Creating Digital Media Content
What Students Will Learn	Students will: • recognise key info shared in leaflets • use various reliable sources to collect info • organise information creating subsections • use formatting tools consistently within desktop	Students will: • explain key features of an animation • understand how stop motion animations are created • capture and organise digital images • combine images, sound and text to create a	Students will: understand how hardware interacts understand how binary is used in a computer explore key components of a computer understand the term network and recognise	Students will: use technology to capture digital images transfer and organise files using suitable filenames use advanced tools to edit and layer images print and export an images	Students will: • evaluate CVs & identify good practise • identify the best software to create a CV • formally record info about their academic career using MS Word • use basic formatting tools to highlight	Students will: • share preferences about music videos • use digital recording hardware • use video editing software to combine video and sound clips • use advanced editing functions within the
Key Vocabulary	publishing software Publisher, information, communicate, public, private, type, topic, pictures, text, map, numbers, times, prices, collect, save, organise, publish, print, leaflet, source, edit, format, icon, toolbar, highlight, select, font, emphasise, subsection, consistency, reliability, validity.	stop motion animation Animation, real, drawn computer generated, model, small changes, moving quickly, capture, camera, tripod, file transfer, edit, tools, time, save, export, sound, mp3, credits, Audacity, Windows Movie Maker.	everyday networks Hardware, software, operating system, binary, computer, motherboard, input unit, output unit, CPU, GPU, RAM, storage unit, memory, speed, writing, processing, network, wide area (WAN), local area (LAN), personal area (PAN).	Photoshop, pictures, images, record, save, optical, digital, camera, file, transfer, edit, change, software, hardware, evaluate, server, open with, crop, cookie cutter, magnetic lasso, layers, files, folders, rename.	headings, etc Microsoft Word, personal statement, CV, job application, evaluate, personal details, school life, interests, hobbies, details, word processing, subheadings, format, highlight, professional, consistent.	software to crop clips Sharing information, celebration, audio files, music, movie clips, Movie Maker, YouTube, mp3, video recorder, USB cable, transfer, organise, rename, edit, clip, save, export, synchronize.
Key Skills	 Research - collect images and text from various sources. Organisation - plan and position text and pictures appropriately. Literacy - use text to share more detailed info. Creativity - use format & design tools 	 Comparing - animation techniques. Communication - share preferences and suggest suitable clips. FMS - using digital camera to capture images. Organisation - ordering images. Numeracy - adjust timings appropriately. 	 FMS - connecting hardware devices. Communicating - about functions and use of hardware. Problem solving - troubleshooting hardware not working as expected. Reflective - identify examples of networks. 	 Comparing - software used to edit pictures. Following instructions - transferring images. FMS - taking pictures, editing digital images. Evaluating - own and others work. Communication - requesting consent. Life skills - awareness of GDPR. 	 Evaluating - review others and own CV. Literacy - create sentences to share info about self. Communication - use appropriate formal language. Creativity - use formatting tools to ensure professional presentation. 	 Communication - preferences about clips, make suggestions. Teamwork - working as a class to share ideas, acknowledging others' input. Planning - record ideas about clips to capture. FMS - to use digital recording and video editing software.