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 mouse to navigate screen and select or make selections using touch screen. • Sorting - recognise the difference between 'types of information' and 'information topics'. • Communication - respond to questions about self sharing info verbally/with symbols/VOCA and using MS Publisher software. • Organisation – open new files, save documents which have been edited, locate and open saved files with support as appropriate.		• 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. • Identification - name familiar control tech and how it is used. • Sequencing - events of using technology. • Problem solving - suggesting 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	• Categorising – sort items on perceived and given criteria. • Comparing – methods used to share info. • Reasoning – why one method is better than another. • FMS – creating paper based chart, data entry, formatting charts.	• 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 on-screen 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 newspaper samples depending on the type of information used. • Literacy - reading/interpreting information displayed in newspaper format. • Communication - sharing information (verbally/VOCA/using symbols) about newspaper articles. • FMS - using the keyboard and mouse to enter information. • Reflective - being able to assess the validity of information they've read.		• 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.

Year 9 (SFL)	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:* • 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 edited more easily	**Introduction to 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 animation	**Creating 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	**Programming: 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.		Excel, numbers, cells, data, information, calculation, sum, equals, formula, code, save, edit, brackets, correct, edit.	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 newspaper samples depending on the type of information used. • Literacy - reading/interpreting information displayed in newspaper format, writing formally. • Communication - sharing information (verbally/VOCA/using symbols/in writing) about newspaper articles. • FMS – keyboard skills • Reflective - being able to assess the validity of information they've read.		• 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 • developing an understanding of how colours, shapes and text share information by matching them to familiar signs and brand logos • explore formatting tools and use them (with support as necessary) to display choices about colour schemes for a fictional company • explore public and private information, developing an understanding of what needs to be shared on a business or ID card		**Visual Programming: Coding with BeeBots** *Students will:* • understand that robots do not think for themselves but follow user commands • explore giving simple commands to humans, floor turtles and machines • recognise the result of given commands • predict what will happen when a command is given		**Handling Data** *Students will:* • explore various forms of data • sort data based on perceived and given attributes • answer yes/no questions about data • work collaboratively to create a branching database	
Key Vocabulary	Publisher, pictures, text, Word Art, toolbar, tabs, insert, copy, paste, open, save, server, drives, resize, edit, format, brand, colour, colour picker, business card.		Scratch, program, floor robot, onscreen robot, sprite, instruction, command, measurement, amount, direction, debug, fix, predict, plan, practise, record, code, blocks, run.		Database, data, information, attribute, sort, organise, binary, yes, no, branching database, pictures, text.	
Key Skills	• Matching – colours, shapes and text styles to common logos. • Exploring – colour schemes, recognising how colours project feelings. • Ordering – info and details in a suitable format. • Communication – sharing ideas and preferences.		• Communication – giving and following verbal commands, using single words and a series of commands. • Predicting – what might happen with given commands. • Ordering – instructions to achieve a specific outcome. • Problem solving – debugging instructions.		• Sorting – data into correct categories. • Describe – attributes of data, assigning categories. • Communication – answering and formulating yes/no questions. • Team work – contribute to class branching database.	

Year 10 (SFL)	Autumn A	Autumn B	Spring C	Spring D	Summer A	Summer B
What Students Will Learn	**<u>Creating Business Print Media</u>** *Students will:* • understand how colours, shapes and text share information by matching them to familiar signs and brand logos • use standard formatting tools appropriately • explore advanced colour formatting tools to create a whole document colour scheme • design a print media package for a fictional company		**<u>Programming: Block & Java Script</u>** *Students will:* • Understand that coding is used daily around, being able to identify everyday items that have been 'coded' • use blocks of code to achieve a given outcome • understand blocks of code have detailed code 'behind' them (developing an awareness of Java Script) • make predictions and debug programs to achieve a given outcome		**<u>Data Query Techniques</u>** *Students will:* • identify and collect various data types • develop understanding of data attributes • create yes/no q's to organise data/create branching database • query data by sorting importing and comparing	
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.		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.	
Key Skills	• Creativity – identify and explore colour schemes. • Design – explore and use shapes and formatting techniques to create a brand design. • Evaluating – feedback constructively on own and other's designs. • Literacy – sharing relevant information with text.		• Predict – what will happen when blocks of code are used. • Problem solve – identify why programs haven't run as expected and make alterations as appropriate. • Literacy – reading blocks of code. • Organising – sorting blocks of code to achieve given outcome.		• Sorting – data into correct categories. • Describe – detail attributes of data, assigning categories. • Communication – answering and formulating yes/no questions. • Planning – to create branching database.	

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 are used in leaflets, recognising the information they are sharing • work collaboratively to collect information from various sources (websites, image libraries, personal accounts) • select suitable text and pictures to share specific information • make and communicate choices about formatting options		**How a Computer Works** *Students will:* • explore the use of various hardware to make something happen on screen • name familiar hardware • recognise the function of hardware • exploring examples of networks, for example transport		**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 fictional image	**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
Key Vocabulary	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.		Hardware, software, switch, mouse, keyboard, screen, computer, speaker, headphones, printer, microphone, joystick, job, function, network.		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.
Key Skills	• Research – collect images and text from various sources. • Communication – share interests and preferences in larger and smaller groups. • Organisation – plan and position text and pictures appropriately. • Literacy – create short sentences to share information.		• 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.

Year 11 (SFL)	Autumn A	Autumn B	Spring C	Spring D	Summer A	Summer B
What Students Will Learn	**Producing an Information Leaflet** *Students will:* • Recognise key information types used in leaflets and use these to relay information with others • use various sources to collect information, recognising the reliability of these sources • organise information, using subsections to clear define different areas • use formatting tools consistently within desktop publishing software		**Computer Systems** *Students will:* • identify key hardware, be able to talk about its function, developing an understanding of how it interacts with other hardware • understand how binary is used in a computer • explore key internal components of a computer • understand the term network and recognise everyday networks such as transport and communication		**Capturing & Editing Digital Photos** *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	**CV Writing** *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 headings, etc
Key Vocabulary	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.		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.	Microsoft Word, personal statement, CV, job application, evaluate, personal details, school life, interests, hobbies, details, word processing, subheadings, format, highlight, professional, consistent.
Key Skills	• Research – search for, evaluate and collate images and text from various sources. • Organisation – plan and position text and pictures appropriately. • Literacy – use text (and longer sentences) to share more detailed info. • Creativity – use format & design tools to develop the design of the leaflet.		• FMS – connecting and using hardware devices. • Communicating – about functions and use of hardware. • Problem solving – troubleshooting hardware not working as expected. • Reflective – identify examples of own use 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.