Progression of Computing Knowledge and Skills

	Computing systems and networks Digital literacy	Creating media Information technology	Data and information Information technology	Programming Computer science	Vocabulary
Year 3	• I can describe what a computer is (input > process > output). • I can recognise that school computers are connected. • Keeping password safe • When not to share personal info • Games/films have age ratings	• I can present ideas and information by combining media independently, e.g. text and images. • I can design and create simple digital content for a purpose/audience, e.g. poster. • I can edit digital content to improve it, e.g. resize text.	• I can use a branching database • I can create a branching database • I can identify the features of a good question in a branching database. • I can evaluate a given branching database and suggest improvements	• Modify an existing program, • Create examples of algorithms containing count-controlled loops. • Use a forever loop in a program to keep something happening. • Identify errors in a block or text-based program and correct them. • Recognise that different inputs can be used to control a program	• Digital device, input, output, process Program Connection , network, network switch, server, wireless access point (WAP) • Scratch, programming, blocks, commands, code, sprite, costume, stage, backdrop Sequence, event, task, design, code, run the code Design, algorithm, bug, debug • Branching database, database, attribute, value, questions, objects, equal, even, separate • Text, images Landscape, portrait, orientation, placeholder, template • Motion, event, sprite, algorithm, logic Move, resize, extension block,
Year 4	• Remember and use an individual password. • Recognise what kinds of websites are trustworthy sources of information.	• Collect, organise and present information using a range of media. • Design, create and edit digital content for a specific purpose	• Draw conclusions from information stored in a database, chart or table. • Design a questionnaire and collect a range of data on a theme.	• Create a program using a range of events/inputs to control what happens. • Explain when to use forever loops and count-controlled	• Internet, network, router, network security Network switch, server, wireless access point (WAP), router, route tracing, browser content, download,

	• Recognise the benefits and risks of different apps and websites. • Recognise that the media can portray groups of people differently. • Can rate a game or film they have made and explain their rating	• Identify the features of a good piece of digital content and apply these in own design. • Know where to find copyrightfree content, e.g. creative images. • Collaborate with peers using online tools	• Choose appropriate formats to present data to convey information	loops, and use them in programs. • Recognise selection in a program or algorithm. • Use selection in algorithms in programs e.g. if…then… • Design a program for a purpose. • Recognise common mistakes in programs and how to correct them.	sharing, ownership, permission • Program, turtle, commands, code snippet Algorithm, design, debug, Logo commands, Pattern, repeat, repetition, count-controlled loop, algorithm, • Data, table (layout) Input device, sensor, data logger, data point, interval, analyse, data set, import, export • Scratch, programming, sprite, blocks, code, loop, repeat, value, Block, forever, infinite loop, count-controlled loop, costume design, algorithm, duplicate, debug, refine, evaluate
Year 5	• I can explain the difference between the internet and the World Wide Web; and between a search engine and a web browser • I can perform a complex search for information • Know where to find copyright free images and audio, and why this is important. – • Critically evaluate websites for reliability of information and authenticity.	• Use different drawing tools to create images • Create images by layering and duplicating images to create more complex pieces of work • Evaluate and improve their own designs	• I know the difference between data and information • I can perform a search to answer questions about data • I can create graphs and charts from data	• Name a range of sensors in physical systems • Predict what will happen in a program or algorithm when the input changes • Use two-way selection i.e. if… then…else… • Recognise variables in a program • Create programs including 'repeat until' loops. • Create and use simple variables, e.g. to keep score. • Create an algorithm for a physical system (with sensor)	• System, connection, digital, input, process, output Protocol, address, packet • Microcontroller, Crumble controller, components, LED, Sparkle, program, repetition, infinite loop , selection, controlled loop,Task, design, selection, condition, action, microcontroller, algorithm, • Database, data, information, record, field, sort, order, group graph, chart, axis, compare, filter • Vector, drawing tools, shapes, object, icons, toolbar organise, zoom, select, rotate, object,

					alignment grid, resize, handles, consistency,
Year 6	• Explain what makes a strong password and why this is important at school and in the wider world. • Explain how algorithms are used to track online activities with a view to targeting advertising and information. • Know that there are laws around the purchase of games; the production, sending and storage of images; what is written online; and around online gambling	• Select, combine and remix a range of media to create original content. • Consider all steps of the design process when creating content (e.g. identify problem, plan, create, evaluate, share.) • Identify the most effective tools to present information for a specific purpose.	• Recognise what a spreadsheet is and what it is used for. • Use simple formulae in a spreadsheet to find out information from a set of data. • Collect data for a purpose and plan out a spreadsheet to present it effectively, using relevant formulae. • Produce graphs from data in a spreadsheet to answer a question. • Analyse and evaluate data and information in a spreadsheet, chart or database.	• Design and program a system that uses sensors. • Recognise and use procedures (sub-routines) in programs. • Plan out a program in detail, including task, algorithm, code and execution level. • Use nested selection statements in a program • Combine a variable with relational operators (< = >) to determine when a program changes • Recognise key concepts (sequence, selection, repetition and variables)	• refine index, crawler, bot, search engine, Ranking, Website, web page, browser, media, Hypertext Markup Language (HTML) Web page, website, logo, layout, header, media, purpose Copyright, fair use, hyperlink, • Variable, name, value, set, change Task, algorithm, design, artwork, program, project, code, test, debug • Spreadsheet, data, data heading, data set, cells, columns and rows, Formula, calculation, input, output. cells, cell reference • 2D, 3D, Rotate, position, select, duplicate Dimensions, placeholder, • Micro:bit, MakeCode, input, process, output, flashing, USB Selection, condition, if… then… else, variable, random accelerometer