

Progression of skills, knowledge and vocabulary in Computing

	EYFS	Year 1	Year 2	Year 3
Computer Science Control / Algorithms	Operates mechanical toys, e.g. turns the knob on a wind-up toy or pulls back on a friction car. Shows an interest in technological toys with knobs or pulleys, or real objects.	Explore a range of control toys and games. Discuss control in the world e.g. car park barriers, automatic lights.	Pre-programme control toys and objects onscreen. Enter a sequence of instructions simultaneously. Predict and test sequences of instructions. Describe devices that repeat instructions, such as photocopiers.	Pre-programme control toys and objects onscreen. Explore using maths knowledge such as degrees when controlling objects. Begin to use control programs to move objects and create models onscreen. Begin to write a procedure within a procedure (repeat).
Information Technology - Create	Completes a simple program on a computer. Interacts with age-appropriate computer software. Knows how to operate simple equipment.	To explore simple mark making, creating simple shapes and use the paint pallet tools. Understand how the mouse can be used to select and move objects on-screen. Begin to use a keyboard to input data on-screen. Create simple graphs by selecting or moving objects onscreen.	Independently use a range of mark making and text, programs. Manipulate text and object onscreen using a keyboard and mouse. Begin to combine text, graphics and sound in their work. Begin to save and retrieve work from a digital folder.	Edit text and manipulate for effect. Combine text, graphics and sound in their work with little support. Know how to use the keyboard keys to create differing symbols and effects. Save, retrieve and edit work into a designated location. Create and run a simple presentation of slide presenting ideas. Obtain and enter information into a spreadsheet and make a graph to print with support. Begin to explain that information can be held as numbers, choices or words. Begin to translate questions into search criteria Begin to be able to edit data and graphs by changing simple features such as titles and labels.
Digital Literacy – Websites & E-safety	Knows that information can be retrieved from computers.	Explore information from a variety of sources. Show an awareness of different types of information. Become aware of how to keep safe online. To identify a range of digital objects used in our day to day lives. Begin to log onto the computers.	Search and find information from a variety of sources. Begin to know where to find different types of information on the internet. Know how to keep safe online and know strategies to remove unwanted pages. Independently log onto the computers.	Demonstrate how to use a search engine to find information. Independently log onto the computers and the pupil shared network. Make a diagram of a network. Learn how to add work to shared network file. Learn about computer networks. Know how to keep safe online and know strategies to remove unwanted pages. Learn how to keep safe on technology to communicate.
	EYFS	Year 1	Year 2	Year 3
Vocabulary	E-safety Choices, Internet, Website. Equipment Buttons IWB Computer I-Pad, phone, Bee-bot, television, Alexa, microwave, Kindle, On/off Photo/video	Instructions, Debug, Add, remove, Keys, Technology, object, Create, move, find, Safety, data, digital , control, information, select, program, keyboard, screen, Login, Username, password.	Algorithm, bug, File, Organise, Store, Sequence, Save, presentation, manipulate, Command, Input , Output, code, Debugging, retrieve, search, search engine, Internet, share organise, digital content, control, information technology, Characters.	Touch typing, posture, row keys, space bar, return key, algorithm , bug, code block, code design, command, control, debugging, event, if, input, output, object, properties, repeat, selection, timer, variable, database, data, branching, network, monitor, speakers, keyboard, mouse,

	Year 4	Year 5	Year 6
Computer Science Control / Algorithms	Identify devices that operate on instructions (a barrier in a car park, traffic lights) Begin to use a control box. Children write own procedures to create multiple effects at once and in a sequence. Measure and analyse environmental data.	Control simple devices, such as small motors, light bulbs, buzzers, by giving direct instructions. Use simple procedures to control more than one output device. Control output devices, by building a sequence of events, to solve a problem. Write algorithms to control multiple objects onscreen and create sounds. Measure and analyse environmental data.	Review the control boxes. Understand how cause and effect devices work in everyday life of technology. Understand timed event and an event that occurs as a result of measuring physical change. Use more complex algorithms such as To use ‘if...then...’ and ‘repeat forever’. Design, build, test, evaluate and modify a system.
Information Technology - Create	Change the font, format and size of any text. Delete, insert and replace text to create a mood. Use a spell checker at all times to edit spellings. Highlight text to copy and paste. Use control c/v to copy and paste any words from a document. Create a text box and position. Align my text independently. Amend text using the find and replace function. Change the page layout independently. Confidently format all text to suit the purpose. Use bullets and numbering. Use word count tool. Begin to use the ‘save as’ function. Use stamps and the cut copy tool. Copy graphics from a range of sources. Alter text and graphics to suit the purpose. Use ICT such as cameras, IPOD and IPADS to capture still images independently.	Create a page fit for purpose. Confidently choose the correct page setup option when creating my document. Confidently format all text to suit the purpose. Independently incorporate graphics. Use the word count tool. Use bullets and numbering tools. Use the ‘save as’ function. Use search engines for information, images and video online with awareness that filtering. Explore the menu options within graphic publications. Add special effects to alter the appearance of a graphic. Confidently use ICT such as cameras, IPAD or other digital devices to record sounds and capture video. Make multimedia presentations with a variety of effects. Produce a slide show that contains links. Search a database. To be able to search a database using ‘AND’, ‘OR’. Create charts, graphs and tables that are then copied and pasted into other documents. Use ICT to create graphs. Use a branching database.	Change font size and how to use bold, cut and paste. Amend text, using delete and find and replace – children to choose better vocabulary Demonstrate the use of the spell check To use suggested programmes to polish/edit a piece of text e.g narrative or recount. Ensure that the finished piece is ‘fit for purpose’.Link work into more independent topics or class topics which allow children the freedom to use the array of skills learnt in lessons. Topic work to be word processed and aimed at ultimately sharing with other children or younger children in school. Reordering text using cut and paste. Children are to be given task and responsibility is on them recognising how a piece of work should be presented. Discuss techniques used in paint packages such as Textease paint and the limitations of using these specific packaged. Show a variety of multimedia page designs to the children and then they evaluate them for effectiveness. Demonstrate how to record sounds using a microphone and how to create a button which plays the sounds when pressed within the presentation. Demonstrate how buttons can create links between pages (i.e. within the presentation itself).
Digital Literacy – Websites & E-safety	Use websites as a tool to research. Model how to retrieve a file, such as a homework activity, from the pupil shared network file Connect and video chat with another child. Attach a file to an email. Demonstrate how to write a blog. Learn about ‘responsible use of the internet’ Learn what are age appropriate website and safe search engines.	Add and retrieve information or files from the pupil shared network. Understand wireless and wired networks. LAN and WAN Networks. Understand the use of routers, servers and meaning of terms such as “gateways”, “hubs” and “switches”. Learn that network connects can be establishes through radio or satellite signals, copper wires or fibre-optic cables. Search sensibly for images and video online with awareness that filtering can vary depending on setting in school and at home, avoiding advertising popups and other distractions. Understand Wikis are multi-author web documents which have not always been verified. Demonstrate safe practice in selecting and uploading appropriate images, text, sound and video to the school website. Extend online publishing to using Podcasting sound and video, creating forums and polls and selecting and setting up RSS feeds. Understanding severity of the Impact on an individual of sending to a wider audience views the content. Understand malicious adults use the internet to make contact and groom” young children” and how to report any suspicions.	Add and retrieve information or files from the pupil shared network Understand in further depth what a computer network is and know that the internet is a network. Understanding that data is digitised numerally. Binary Code. Understand the term “protocol” or IP. Understand the range of communication via networks (such as email, video conferencing, blogs, forums, social networks) and collaboration, such as wikis (including Wikipedia) Search sensibly for images and video online with awareness that filtering can vary depending on setting in school and at home, avoiding advertising popups and other distractions. Use a range of sources to check validity and recognise different viewpoints. They critically evaluate the information they use, and understand some of the potential dangers of not doing so. Recognise that not all information on the internet is accurate or unbiased. Understand the issues of plagiarism, copyright and data protection in relation to their work Understand that the resources they find may be covered by copyright. They understand that not all information on the internet is legal to use or copy, even if sources are acknowledged. Demonstrate safe practice in selecting and uploading appropriate images, text, sound and video to the school website. Extend online publishing to using Podcasting sound and video, creating forums and polls and selecting and setting up RSS feeds. Understanding severity of the Impact on an individual of sending or uploading unkind or inappropriate content particularly when a wider audience views the content. Understand and discuss the need to use privacy settings on SNS. Understanding the pitfalls of your site being linked from your friends’ sites. Understand malicious adults use the internet to make contact and groom” young children” and how to report any suspicions.
	Year 4	Year 5	Year 6
Vocabulary	Action, alert, algorithm, bug, command, control, debugging, event, if/else, input, output, object, repeat, selection, timer, variables, animation, frame, background, play, stop motion, CAD, 3D, Viewpoint, 2D Net, points, template, motherboard, graphics card, RAM, CPU.	Action, alert, algorithm, bug, command, control, debugging, event, if/else, input, output, object, repeat, selection, timer, variables, avatar, branching, database, charts, collaborative, data, find, record, sort, group, arrange, report, table. Animation, computer game, customise, evaluation, image, instructions, interactive, screenshot, texture, perspective, playability.	Action, alert, algorithm, bug, code design, command, control, debugging, event, function, get input, if/else, input, output, object, repeat, sequence, audience, blog, blog page, post, collaborative, icon, concept map, database, , LAN, WAN, Router, Network, Wireless. HTML, Research, Interpret, investigation, perspective, playability.