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|  | Computing systems and networks  Digital literacy | Creating media  Information technology | Data and information  Information technology | Programming  Computer science |
| EYFS | * There are people who help us and keep us safe. * These people will be different in different environments. * Playing and working cooperatively. | * Tinkering by trying out using different materials/object etc for different roles. * Creating making things, checking things and fixing things. | * Ask questions and understand how the answer was arrived at. | * Within learning able to ignore what is not important, and being able to focus on what is important. * Following and giving specific instructions to accomplish a task. * Breaking down problems into steps. |
| Year 1 | * Recognise and name a range of digital devices, e.g. laptop, phone, games console. * Log on to the school computer / unlock the school tablet with support. * Identify the basic parts of a computer, e.g. mouse, keyboard, screen. * Use a suitable access device (mouse, keyboard, touchscreen, switch). * Explain why we use passwords and recognise examples of personal information * Know who to tell if concerned about content | * Select basic tools/options to change the appearance of digital content, e.g. filter on an image / font / size of paintbrush. * Combine media with support to present information, e.g. text and images. * Type text using a keyboard | * Describe objects using labels * Find objects with similar properties * Answer questions about groups of objects * Decide how to group objects to answer a question * Record and share what they have found | * Create a simple program e.g. to control a floor robot. * Predict the outcome of a simple algorithm or program. * Explain what an algorithm is and create one * Debug an error in a simple algorithm or program e.g. for a floor robot. |
| Year 2 | * Explain how IT is used at home * Explain how IT is used in different places * Use a simple password to log onto the computer or a website. * Identify rules for acceptable use of technology in school. * Know what personal information is and the need to keep it private. * Recognise that some information found online may not be true. | * Create simple digital content for a purpose, e.g. digital art. * Capture, edit and improve my photos * Present ideas and information by combining media, e.g. text and images. * Identify which photos are real and which have been changed | * Recognise charts and pictograms and explain why we use them. * Explain information shown in a simple chart or pictogram. * Modify simple charts/pictograms, e.g. add title, item or labels. * Identify the key features of a chart or pictogram. * Collect and present data on a topic | * Predict the outcome of an algorithm or program with multiple steps. * Identify and correct errors in a given algorithm or program, and recognise the term debugging. * Explain what an algorithm and program are * Plan out a program by creating an algorithm, and evaluate its success. |
| Year 3 | * Describe what a computer is (input > process > output). * Recognise that school computers are connected. * Keeping password safe * When not to share personal info * Games/films have age ratings | * Present ideas and information by combining media independently, e.g. text and images. * Design and create simple digital content for a purpose/audience, e.g. poster. * Edit digital content to improve it, e.g. resize text. | * Use a branching database * Create a branching database * Identify the features of a good question in a branching database. * 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 |
| Year 4 | * Remember and use an individual password. * Recognise what kinds of websites are trustworthy sources of information. * 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 | * Collect, organise and present information using a range of media. * Design, create and edit digital content for a specific purpose * 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 | * Draw conclusions from information stored in a database, chart or table. * Design a questionnaire and collect a range of data on a theme. * Choose appropriate formats to present data to convey information | * Create a program using a range of   events/inputs to control what happens.   * Explain when to use forever loops and count-controlled 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. |
| Year 5 | * Explain the difference between the internet and the World Wide Web; and between a search engine and a web browser * 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 | * Know the difference between data and information * Perform a search to answer questions about data * 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) |
| 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) |