Skills	Children needing support to achieve key skills	Children surpassing key skills
Year 5: Using Algorithms (floor robots, app creation software, control and data logging) • Predict how a provided algorithm will behave before testing it (e.g. write a program or procedure in symbols and ask pupils to 'write the story' of the outcome before testing it) • Represent an algorithm symbolically (e.g. as a flow chart) to plan a procedure • Develop algorithms which include 'if' statements (e.g. if the temperature drops below…) and loops (e.g. repeat an instruction four times)		
Year 5: Text Processing and Multimedia • Develop and use criteria to evaluate the design and layout when evaluating a range of websites, pages on Learning Platforms, online resources and presentations • Understand how pages are linked together and recognise the need for clarity. Produce a diagram to show the links between pages • Develop their use of hyperlinks to produce more effective interactive, non-linear presentations • Make effective use of transitions and animations in presentations. Consider the effect on the audience and the appropriateness of such devices • Independently select and import images and video from digital cameras, graphics packages and other sources and prepare it for processing using ICT • Select and import sounds from their own recording, create their own effects and music and import from other sources • Format and edit work to improve clarity and mood. Use a range of tools (e.g. cut and paste) justify, tabs, insert and replace		

• Make sure of reviewing tools in word processors to collaborate in evaluating each other's work • Through peer and self-evaluation, children evaluate their design and make improvements		
Year 5: Digital Images (Google SketchUp) • Use an object based graphics package to design and develop a plan to find a solution to a specific problem (e.g. design a child's bedroom, garden, zoo, map, playground, crazy golf) • Create images using a range of techniques to develop a particular style • Independently capture, store, retrieve and edit digital images to improve them • Through peer and self-evaluation, refine and make appropriate changes • Understand issues relating to copyright of images (e.g. when selecting image sources)		
Year 5: Sound and Music **Sound** • Independently select, edit and combine sound files from internet sources to create a podcast file • Develop skills in manipulating sounds (such as reversing sounds, adding echo, altering speed etc.) and using the appropriately considering audience and purpose • Independently select and use a variety of appropriate devices to record musical and non-musical sounds • Upload and download projects to the VLE **Music** • Create their own sounds and compositions to add to their presentations/films/images and photos • Use ICT to perform sounds or music that would otherwise not be possible live (e.g. playing a multi-track or at a very fast pace) • Use ICT to produce music for a specific purpose, considering the		

impact on the audience (e.g. length, style, genre etc.)		
Year 5:Electronic Communication • Use and refine their skills while independently creating, sending and responding to emails, blogs and forums (with due regard for e-safety and with appropriate supervision) • Produce formal or informal messages appropriate to task or to solve problems (requesting information, sharing data etc.) • As a class or a group, make use of video conferencing technology to exchange ideas and collaborate on projects with other schools		
YEAR 5: Research • Select an appropriate search engine to find information related to a topic • Develop strategies for finding information (using different keywords, cross-checking with other websites, referring to other sources such as books, people etc.) • Consider the effectiveness of search results and refine where necessary • Discuss issues of copyright and downloading material (e.g. MP3s, images, videos etc.) • Develop skills to question where web content might originate from and understand that this gives clues to its authenticity and reliability (by looking at the web address, author, linked pages etc.) • Skim and select information, checking for bias and different points of view • Check plausibility of information by using a variety of sources on the same topic • Appropriately reference sources used in work		

• Copy, paste, save and use pictures, text and sound and be able to import into a document for a specific audience or task		
Year 5: Information Handling • Design questions using key words, to search a large pre-prepared database • Use complex searches (and/or, is greater/less than) to search data when looking for relationships and patterns in data • Modify a search pattern in order to find specific information • Check for accuracy by checking data, using different views, search tools and graphing. Identify and correct inaccuracies • Solve complex enquiries involving selecting, processing and presenting data; drawing conclusions from the process (e.g. is there a relationship between mini beast habitats and diets?) • Construct, refine and interpret frequency tables; bar charts with grouped, discrete data; line graphs and interpret pie charts		
Year 5: Understanding Technologies • Use a range of internet search technologies efficiently • Search using appropriate keywords and search syntax • Search for files or emails using relevant search techniques (e.g. grouping an in-box by 'from' and 'to'; find all emails from a particular source • Use a range of search terms in different search engines to find the most appropriate results • Use a range of media services across the internet such as emails, voice calls, video conferencing and streaming media with guidance and as appropriate to the needs of the wider curriculum • Exchange information both internally and externally, taking care that communications are appropriate in terms of tone and content • Be able to critically evaluate search results and identify factors which affect ranking (e.g. some search engines ignore common		

words and others use word order) • Be able to identify when search results are being influenced by commercialism, filtering or advertising • Check the results of any searches by referring to other sources – whether digital or paper-based • Explore the design of the school network to develop and application of how the computers and other devices are connected to each other and the internet • Consider the importance of passwords and other protocols in providing access to a personalised range of resources on a network • Consider the importance of protecting passwords and other protocols in providing access to a personalised range of resources on a network • Consider the importance of protecting passwords and having encrypted/nonsensical passwords to maintain security • Use a resource such as Google Docs or J2E where pupils can share ownership of online documents to collaborate with others • Use a range of inputs and outputs to control technology and create solutions (e.g. mouse, micro-phone, touch screen, printer, speakers etc.)		
Year 6: Using Algorithms (Floor Robots, APP Creation Software, Control and Data Logging) • Develop algorithms which include 'if' statements (e.g. if the temperature drops below..) and loops (e.g. repeat an instruction) • Develop more complex flow diagrams and procedures that draw on others (e.g. program traffic lights either end of a narrow bridge so that cars avoid collision) • Refine procedures (algorithms) to improve efficiency		

Year 6: Modelling and Simulations • Create a simple program using an application such as Scratch or Kodu) to simulate a real or imaginary scenario (e.g. programming a sprite to move around a maze/a topographical representation of a town) • Create a program which demonstrates a sequencing loop (e.g. if the temperature rises to N degrees, turn on the fan, if the temperature drops to N-10 degrees, turn off the fan • Create a program which includes a method of scoring (e.g. each time a sprite bumps into a particular object, increase the score and each time it bumps into another object, decrease the score • Create a program that uses a timer and set variables as appropriate to the program (e.g. set a timer for a contestant to solve a maze puzzle within 30 seconds)		
Year 6: Data Logging • Use the pre-programming features of data logging software and devices to set up a specific data capture (including overnight) • Use a range of external sensors (e.g. heart rate monitors) in a variety of situations in the course of scientific investigations • Use a data logger as a timing device (e.g. to determine the speed of a vehicle down slopes of differing angles or across different surfaces) • Use graphical information to answer questions and solve different problems		
Year 6: Text Processing and Multimedia • Develop and use criteria to evaluate the design and layout when evaluating a range of websites, pages on Learning Platforms, online resources and presentations • Understand how pages are linked together and recognise the need for clarity. Produce a diagram to show the links between pages • Develop their use of hyperlinks to produce more effective interactive, non-linear presentations • Make effective use of transitions and animations in presentations. Consider the effect on the audience and the appropriateness of such devices		

• Independently select and import images and video from digital cameras, graphics packages and other sources and prepare it for processing using ICT • Select and import sounds from their own recording, create their own effects and music and import from other sources • Format and edit work to improve clarity and mood. Use a range of tools (e.g. cut and paste) justify, tabs, insert and replace • Make sure of reviewing tools in word processors to collaborate in evaluating each other's work • Through peer and self-evaluation, children evaluate their design and make improvements		
Year 6: Digital Images • Enhance a presentation by acquiring, storing and combining images from different sources • Independently capture, store, retrieve and edit digital images to improve them		
Year 6: Electronic Communication • Use and refine skills while independently creating, sending and responding to emails, blogs and forums (with due regard for e-safety) • Produce formal and informal messages appropriate to a task or to solve problems • As a class, make use of video conferencing technology to exchange ideas or collaborate on projects		
Year 6: Information Handling • Enter labels and numbers into a spreadsheet • Enter formulae into a spreadsheet and modify the data (simple calculations x, +, -) • Make predictions and changes and check results • Use 'SUM' to calculate the total of a set of numbers in a range of cells • Change data and formulae in a spreadsheet to answer 'what if…'		

questions and check predictions • Identify and enter the correct formulae into cells, modify the data, make predictions of changes and test them • Use more advanced formulae (sum, average, mode etc.) • Copy formulae to create tables of results. • Use a spreadsheet to draw graphs to help answer specific problems • Use information from the analysis of data to present findings in another application		