**ICT Skills Progression Year 5/6**

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| **Year 5/6 Skills** | • Independently select the most appropriate ICT tools for intended purpose and audience.<br>• Continue to develop the skills to identify risks involved with contact, content and their own conduct whilst online: use electronic communication and collaboration tools safely and responsibly.<br>• Collect, present and evaluate information and data.<br>• Demonstrate awareness of intended audience in work.<br>• Routinely evaluate and improve work as part of the design process. | | |
| | **E-Safety** | **Programming** | **Data** |
| **Possible Projects** | **Represent children's digital footprints using a range of images and discuss potential e-safety risks.** | **Use Scratch to create music soundtracks**<br>**Program microbits to perform an outcome** | **Use ICT to create tables and graphs to answer a scientific question.** |
| **Unit Skills** | • Identify unsuitable posts (e.g. on blogs, a forum …) and identify inappropriate and unacceptable behaviour when analysing resources such as videos, text-based scenarios and electronic communications.<br>• Know a range of ways to report concerns about content and contact, including reporting cyber bullying.<br>• Know what a 'strong' password is and understand the importance of keeping personal data secure, including by using a 'nickname' for online use.<br>• Know that content, e.g., photographs and videos, put online are very difficult to remove and that privacy should be respected, i.e. not using images of others without permission.<br>• Understand that social network or other online environments have security settings, which can be altered, to protect the user.<br>• Understand some malicious adults | **Programming**<br>• Design programs to accomplish specific tasks or goals.<br>• Use repetition*, selection*, variables and procedures in programs.<br>• Design and create programs using decomposition (solving problems by breaking them into smaller parts)<br>• Use logical reasoning to develop systematic strategies that can be used to debug algorithms and programs.<br>• Use procedures in programs.<br>• Design, test and refine programs to control robots or floor turtles taking account of purpose and needs.<br>• Use programming software to create simulations. | • Construct, refine and interpret bar charts, scatter graphs, line graphs and pie charts.<br>• Identify and enter the correct formulae into cells to find totals/ differences/ averages.<br>• Compare different charts and graphs and understand that different ones are used for different purposes.<br>• Select and use the most appropriate method to organise present, analyse and interpret data and display findings in other software, e.g. through presentation software.<br>• Design questions and perform complex searches using key words, to search a large pre-prepared database looking for relationships and patterns, e.g. data on the Internet; census data.<br>• Check the reliability of the data; identify and correct inaccuracies.<br>• Answer questions by selecting, processing and presenting data; drawing conclusions, e.g. is there a relationship between minibeast habitat and diet? |

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| | may use various techniques on the Internet to make contact, elicit personal information and 'groom' young children, e.g., fake profiles and that they should tell a trusted adult immediately if they are asked to meet anybody. | | • Design a data capture form, e.g. a questionnaire or table to collect information to answer a specific question.<br>• Use a datalogger/ datalogging app with a range of sensors to make and record accurate measurements or observations over time and produce graphical information to answer questions and solve simple problems. (Science) |
| **Resources** | https://www.thinkuknow.co.uk | Scratch, Excel, Microbits, Hour of Code, Lightbots/ Cargobots | Excel, Microbits, Datalogging apps |
| **Vocabulary** | Technology, report, conduct, blog, forum, settings, social media, digital footprint, password. | Repetition, selection, variables, procedure, decomposition, debug, algorithm, variables | Bar chart, scatter graph, line graph, pie chart, search, key word, data. |

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| | **Media** | **Impact of Technology** | **Essential Skills/ Skills catch up** |
| **Possible Projects** | • **Create a non-linear presentation (e.g. information about a habitat or life cycle)**<br>• **Create a short, animated sequence for a particular purpose.**<br>• **Create a podcast** | **Use models/ spreadsheets to explore area and perimeter problems.**<br>**Program and test microbits to complete a function.**<br>**Complete research to support enquiry learning.** | |
| **Unit Skills** | **Presentation**<br>• Create an outline plan for a non-linear presentation; producing a diagram to demonstrate understanding how pages link and the need for clarity.<br>• Select suitable text, sounds and graphics from other electronic sources, and import into own work.<br>• Develop the use of hyperlinks to produce more effective, interactive, non-linear presentations.<br>• Develop consistency across a document - same style of font, colour, body text size, etc.<br>• Make effective use of transitions and animations in presentations. Consider their appropriateness and overall effect on the audience. Independently select, process and import images, video and sounds from a variety of sources to enhance work. | **Simulations and Modelling**<br>• Explore the effects of changing variables in models and simulations in order to solve a problem.<br>• Make and test predictions.<br>• Enter formulae into a pre-prepared spreadsheet - explore the effects of changing variables.<br>• Develop simple spreadsheet models to investigate a real-life problem.<br>• Identify and enter the correct formulae into cells.<br><br>**Using technology**<br>• Choose to use the internet when appropriate as a tool for independent research, e.g., gathering text, images, videos and sound as resources to use in their own work.<br>• Choose the most appropriate search engine for a task, e.g., image search, search within | • Type confidently and use keyboard correctly (e.g. spacebar, backspace, delete, shift (not caps lock) and enter keys).<br>• Format and edit work to improve clarity and purpose using a range of tools, e.g. cut and paste, justify, tabs, insert and replace.<br>• Save and store work in an appropriate area, and be able to retrieve, amend and print it.<br>• Use different font sizes, colours and effects consistently across a document and appropriately for the audience, including hyperlinks.<br>• Recognise and use key layout and design features, e.g. text boxes, columns, borders. |

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| | • Export images, presentations and movies in formats appropriate for the purpose and use them in multimedia presentations.<br><br>**Communication**<br>• Independently, and with regard for e-Safety, select and use appropriate communication tools to solve problems by collaborating and communicating with others within and beyond school, e.g., email, discussion forums, blogs, wikis, text messages and other digital communication tools.<br>• Make use of webcams and /or video conferencing, if appropriate and available, e.g., to exchange ideas and collaborate on projects with external providers, another class or school, or abroad.<br>• Extend online publishing to a more global audience, e.g. creating, editing and publishing web pages, blog and podcasting.<br>• Evaluate the effectiveness of a variety of digital communication tools for communicating and collaborating.<br><br>**Sound**<br>• Independently select and use a variety of devices to record musical and non-musical sounds.<br>• Independently select, edit, manipulate and combine sound files from a range of sources to create a composition which could be broadcast for a specific purpose and audience, e.g. a soundbyte or podcast. | a specific site or searching the wider internet.<br>• Be able to create and use folders within lists of book-marks or favourites to organise content.<br>• Understand that you should not publish other peoples' material on the Internet without their permission but you can hyperlink to their websites and acknowledge the source.<br>• Understand that good online research involves processing information, and interpreting it for others rather than direct copying. | |

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| | • Upload and download projects to other devices and online space e.g. VLE, blog or website<br>• Create their own sounds and compositions to add to presentations, animations and films.<br>• Use ICT to produce music or sound effects for a specific purpose, considering the impact on the audience, e.g. length, style, genre. | | |
| **Resources** | Powerpoint, iMovie, Garage Band, Audacity, Zoom, Teams, Class Dojo, Raspberry Pi website | Scratch, Excel, Microbits | |
| **Vocabulary** | Sound files, images (gif, jpeg), video, select, format, font, multimedia, non-linear, hyperlink, consistency | Simulation, variable, prediction, formulae, model, hyperlink, permission, folder, bookmark | |

**Resources to support ICT teaching:**
**https://www.stem.org.uk/resources/community/collection/364029/ks2-information-technology**