Progression of Skills in Computing

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|  | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **Key Skills** | * to know how to switch a range of digital devices (computer/iPad) on and off * load programs (office, iPad apps,) with support/open and close apps * use a mouse to navigate an age-appropriate website/know how to navigate apps on an iPad * -use a mouse to select/drag/position an object or window * to talk about what they are doing with Computers/Digital Media using appropriate vocabulary according to equipment available. | * to develop awareness of keyboard layout and use of a mouse eg use the mouse or arrow keys to insert words and sentences * know backspace/undo/ * shift for capital letters/enter/upload * changing font/ size/colour and style of text. * typing skills (use two hands when typing) * logging on/off digital devices * use navigation skills to access appropriate parts of a website/ simple program/ app | * to upload from digital devices and the Internet to a shared space * to know that they can access their work from any school computer by logging on to their Folder/Network Area. * open/edit and save their work in own space * to insert/cut/ copy/paste * use ctrl+v and ctrl+c to copy and paste * to use ‘save as’ to create another version of their work * to develop further basic drafting skills : * Insert words or sentences. * Centre titles. * Change font, font size, colour. * to practice touch typing | * To use the online dictionary/thesaurus * to use the cropping tool to take a picture of any part of the screen, drawing before annotating the image and saving it. * continue to practice touch typing (touchtype - 20 WPM by end of Year 4) * Use more than two fingers to type * to develop further basic drafting and editing skills * Edit and top copy literacy work using Word/PPT/Publisher * use spell checker * delete, insert and replace text using mouse or arrow keys | * to be able to use an online dictionary/thesaurus to search out level specific grammar and vocabulary independently * to use a variety of techniques to save and annotate on screen projects (screenshots/snipping) * to find, save, crop and edit images to suit needs of projects * continue to practice touch typing (touchtype – use several fingers and maintain 25-30 WPM) | * to select suitable software to edit and redraft written work * edit and top copy literacy work using Word/PPT/Publisher * use spellchecker and grammar checker to ensure consistency throughout work * use a variety of keyboard shortcuts to improve efficiency on computing systems |
| **Information Technology** | * to use a digital device to take a picture or record their work (digital camera/iPad) * to recognise that an electronic keyboard can be used to select and control sounds * to begin to select or record a sound to add to my work * to explore a range of electronic music and sound devices to play, record and listen to sounds (iPads/microphones) * to understand that digital devices have stop, record and playback functions * to be familiar with a keyboard * to select images on a computer/iPad * to begin to type sentences (with support) using capital letters, full stops and other punctuation * to use a paint package to create a picture; selecting and using * different brushes (MS paint/iPad apps) * to know the difference between computer based art activities and paper based art activities (undo, changes quickly and easily made) | * to explore a range of sounds on an electronic keyboard, choose appropriate sounds for a purpose * to develop basic editing skills eg shift key for upper case, question marks, spaces after punctuation. * to know how to improve the presentation of a piece of work by changing the font size, colour and style * to use different layouts and templates for different purposes (e.g story/ newspaper /poster) * to combine graphics, text and sound to enhance their text * to use a sound recording tool to record voice for a specific purpos * to create a simple animation to illustrate a story or idea * to upload an image | * to use still and digital cameras * to know what makes a good photo * to download stills and video * select suitable sounds (including recording with a microphone) * recognise and use key features of layout and design such as text boxes, columns, borders, WordArt * explore and begin to use more advanced features in a paint package, eg colour picker, colour replacer * save images and use them as part of other multimedia/ desktop publishing work * to use music software to select/record/organise and reorganise sounds * to create tunes with a beginning, middle and end (iPad apps) * to locate, record, save and retrieve sounds * to begin to layer sounds using music composition software * to add sounds from different sources. * sequence still images and use simple editing techniques to create a presentation | * to evaluate a range of digital media, appropriate to task and recognise key features of layout and design * to plan structure and layout of document/presentation * to improve presentation of a document by laying it out effectively * to select and import graphics from digital cameras and graphics packages * select and import sounds (eg own recording, sound effects bank created by teacher) and video/ visual effects * through peer assessment and self-evaluation, evaluate work both during and after completion, and make suitable improvements * to import a photograph and explore the effects which can be created * to select areas and manipulate to give different effects. * to capture video clips to communicate their ideas * to use a timeline to organise frames of video footage * to add text, sound effects and other graphic effects * to use an on-screen animation package or digital camera with stop-frame animation software, to create an animation | * to start to think about the different styles of language layout and format of online communications sent to different people (eg. when it is appropriate to use “text language”). * to begin to experience forms of online discussion: such as blogs, wikis, quizzes, docs, surveys and google hangouts * start new threads and contribute to others relevant to the topic; consider relevance of contributions * to use presentation software and skills to present work or information relating to their learning * to evaluate a range of digital media, appropriate to task and recognise key features of layout and design and relate to other curriculum areas * to select software to support structure and layout of document/presentation * to improve presentation of a document by considering its target audience * to select and import graphics from digital cameras, graphics packages and online sources and edit/recolour/or add visual effects * to select and import sounds (eg own recording, free online sources) video/visual effects | * to develop projects with an awareness of intended audience * to capture video clips to communicate ideas and information to specific audiences * to edit, reorganize and enhance digital video for a specific purpose or audience * to produce a portfolio of written and visual work and projects for sharing with other children inside and out of school * to use online communication methods to support topic work * to consider language, layout and format when communicating with different people online * to engage in a range of online activities including; publishing and sharing work for evaluation and evaluating the work of others. |

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| **Digital Literacy** | * to know that we can communicate online e.g email/text/voip/Skype * to contribute ideas to a class email or respond to a message * to create a story to combine words, pictures, sounds and animations * use simple writing tools to create their own content * follow age-appropriate links provided by the teacher to research information * with support, use sound recording tools to convey a simple message * to sort objects into groups according to a given criteria. * to use a pictogram to create and help answer simple questions * Online Safety - Introducing the concepts:   + To recognise that there may be people online who could make me feel sad, embarrassed or upset.   + If something happens that makes me feel sad, worried, uncomfortable or frightened I can give examples of when and how to speak to an adult I can trust | * to compare the different ways that messages can be sent e.g email/text /telephone/letter and start to consider their advantages and disadvantages * to contribute and respond to an e-mail * to look and talk about other people’s contributions online * to consider who can see their contributions online * to know that stories can be shared in different ways (photos/video/animation) * to create/use own pictograms/graphs * to enter/save and retrieve pictures and text * to know that people we don’t know are strangers and are not always who they say they are * to be nice to people on the computer as well as on the playground * to know that some information is personal and needs to be kept private * to know who to tell if something is seen that makes them feel uncomfortable * to know that passwords are used to access certain sites * to begin to use an appropriate search engine (safesearch) supported by an adult | * explain what is meant by the term ‘identity’. * give examples of technology specific forms of communication (e.g. emojis, acronyms, text speak). * explain some risks of communicating online with others I don’t know well. * explain how my and other people’s feelings can be hurt by what is said or written * explain what it means to ‘know someone’ online and why this might be different from knowing someone in real life. * recognize I need to be careful before I share anything about myself or others online. * know who I should ask if I am not sure if I should put something online. * explain what bullying is and can describe how people may bully others. * describe rules about how to behave online and how I follow them. * use key phrases in search engines. * understand why passwords are important. * describe simple strategies for creating and keeping passwords private. * explain why copying someone else’s work from the internet without permission can cause problems. | * explain how my online identity can be different to the identity I present in ‘real life’. * describe strategies for safe and fun experiences in a range of online social environments. * identify some online technologies where bullying might take place. * explain why I need to think carefully about how content I post might affect others, their feelings and how it may affect how others feel about them (their reputation). * analyse information and differentiate between   ‘opinions’, ‘beliefs’ and ‘facts’.   * identify times or situations when I might need to limit the amount of time I use technology. * explain what a strong password is. * describe strategies for keeping my personal information private, depending on context. * explain that others online can pretend to be me or other people, including my friends. * when searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it. | * explain how identity online can be copied, modified or altered. * demonstrate responsible choices about my online identity, depending on context. * explain that there are some people I communicate with online who may want to do me or my friends harm. * describe ways that information about people online can be used by others to make judgments about an individual. * recognise when someone is upset, hurt or angry online. * describe how to get help for someone that is being bullied online and assess when I need to do or say something or tell someone. * understand the difference between online mis- information (inaccurate information distributed by accident) and dis-information (inaccurate information deliberately distributed and intended to mislead). * explain what is meant by a ‘hoax’. I can explain why I need to think carefully before I forward anything online. * create and use strong and secure passwords. * assess and justify when it is acceptable to use the work of others. | * show I understand my responsibilities for the well- being of others in my online social group. * demonstrate ways of reporting problems online for both myself and my friends. * use search technologies effectively. * demonstrate the strategies I would apply to be discerning in evaluating digital content. * demonstrate strategies to enable me to analyse and evaluate the validity of ‘facts’ * identify, flag and report inappropriate content. * assess and action different strategies to limit the impact of technology on my health (e.g. night-shift mode, regular breaks, correct posture, sleep, diet and exercise). * describe effective strategies for managing those passwords (e.g. password managers, acronyms, stories). * describe simple ways to increase privacy on apps and services that provide privacy settings. * describe ways in which some online content targets people to gain money or information illegally * demonstrate how to make references to and acknowledge sources I have used from the internet. |
| **Computer Science** | * to explore a range of control   toys and digital devices (BeeBots/microphones/ipads)   * to follow instructions to move around to complete a simple task * to give a sequence of instructions to complete a simple task * to record instructions simply using pictures * to understand that instructions should be given clearly and in the correct order * to talk about what will happen when instructions are given in a sequence * to navigate a sprite/BeeBot around a course | * to know how to control a   range of digital devices   * to know that devices and actions on screen may be controlled by sequences of actions and instructions * to create a sequence of instructions to complete a simple task * to control a floor robot using appropriate buttons (BeeBots) * to make predictions about what will happen when a command is entered * to discuss how to improve/change their sequence of commands. * to know the purpose of a range of digital devices: microphone/voice-recorders/ iPad/computer/laptop/ cameras etc * to begin to answer ‘What if’ questions using a simulation * to know the difference between input/output devices | * to develop an understanding   of how technology works and how computers process instructions and commands.   * to create/edit and refine more complex sequences of instructions for a variety of programmable devices e.g using the repeat command * to use a computer to create basic applications, investigating how different variables can be changed and the effect this has * to understand that computer simulations can represent real life situations. * to use simulations to represent real life situations * to navigate a programming app * to control a character by dragging commands * to write a simple program/create a simple animation | * to investigate the effects of   changing variables in simulations   * to create a program which can be controlled by external inputs (Scratch/BeeBot Pro)   e.g to program their character to navigate their 3D world with an input/move a BeeBot with using control device   * to change algorithms/conditional statements and investigate the effect this has e.g use of ‘if’ and ‘then’ * to identify how different web pages are organised e.g graphics/hyperlinks/text * to understand that a website has a unique address * to understand that cloud based tools can allow multiple people to contribute to shared documents and sites | * to design their own game   including sprites, backgrounds, scoring and/or timers.   * use conditional statements to create unique algorithms * use variables to add variation to algorithms * to program start and ends to games involving wins, losses and draws * to create variable interaction in quizzes and games using a combination of selection, conditional statements and variables * to evaluate the effectiveness of their algorithms * To continually debug code to identify and correct errors, exceptions and exploits | * develop understanding of how   technology works; how computers process instructions and commands, including the use of coding languages.   * to experience a variety of coding environments (Scratch, Code.org, KODU, Python) * begin to understand the history of Computer Science * to confidently use a variety of variables (Data/unique operators, conditional statements and ‘ifs’) to affect a variety of code in various ways (input/output/variation) * to be confident in a variety of coding environments (Scratch, Code.org, KODU). * to select an environment to create program (games/animations/stories) to achieve a specific goal. |