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| **Skills Progression Map****ABC Computing***Each skill at a glance for each year group so that planning can build on previous knowledge.**Skills need to be identified on medium-term planning for each hub* |
| **Skill** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **Computer science** | Create a simple series of instructions to understand that algorithms are a sequence of instructions in everyday contexts. Put two instructions together to control a programmable toy- Understand forwards, backwards, up and downBegin to plan and test a Bee-bot journey to implement an algorithm Record their routesThe child can explain to the teacher what they think a **program** will do, using a familiar piece of **software** (including computer games).  | Predict what they think a **program** will do.Recognise that **sequences** of instructions or sets of rules can be thought of as **algorithms**. *Examples could include recipes, but might also be procedures or rules in class, spelling rules, simple arithmetic operations or number patterns.*Program on screen using **sequences** of instructions to implement an **algorithm**. (scratchJr, etc.) Write/ create a simple **program** on screen.**Debug** any errors in their own code.Give logical explanations of what a **program** will do. | Experiment with variables to control models.Use 90 degree and 45 degree turns.Give an on-screen robot directional instructions.Draw a square, rectangle and other regular shapes on screen, Using commands write more complex programs | Use repeat instructions to draw regular shapes on screen, using commandsMake turns specifying the degrees Give an on-screen robot specific directional instructions that takes them from x to yMake accurate predictions about the outcome of a program they have written | Combine sequences of instructions and procedures to turn devices on or offUnderstand input and outputUse an ICT program to control an external device that is electrical and/or mechanicalUse ICT to measure sound or light or temperate using sensorsExplore ‘what if’ questions by playing adventure or quest gamesWrite programs that have sequences and repetitions | Explain how an algorithm worksDetect errors in a program and correct themUse an ICT program to control a number of events for an external deviceUse ICT to measure sound, light or temperature using sensors and interpret the dataExplore ‘what if’ questions by planning different scenarios for controlled devicesUse input from sensors to trigger eventsCheck and refine a series of instructions |

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| **Information Technology** | Mention some of the ways in which IT is used to communicate beyond school. *E.g. They might know that some people email, video calls or online greetings*Print out a page from the internet | Find information on a websiteClick links in a websitePrint a web page to use as a resourceWith a given purposeUse a range of digital technologies to retrieve, organise and store digital content. Know ways to use IT to communicate beyond school *e.g. adults can share work and discuss ideas in online communities; that photos can be taken, edited and shared easily using digital technology; that the* ***web*** *is made up of information shared by people and organisations; that people use email for a range of purposes and in a variety of contexts; that scientists use computers when collecting and analysing* ***data****.* | Find relevant information by browsing a menu.Search for image, then copy and paste it into a documentUse ‘save picture as‘ to save an image Copy and paste text into a documentBegin to use note making skills to decide what text to copyInput data into a prepared databaseSort and search a database to answer simple questionsUse a branching database | Recognise that information on the internet may not be accurate or reliable and may be used for bias, manipulation or persuasionUnderstand that the internet contains fact, fiction and opinion and begin to distinguish between themUnderstand that the outcome of internet searches at home may be different than at schoolRecognise the difference between the work of others which has been copied (plagiarism) and restructuring / representing materials in ways which are unique and newCapture images using webcams, screen capture, scanning, visualiser and internetChoose images and download into a fileUse different search engines Use a search engine to find a specific websiteUse note-taking skills to decide which text to copy and paste into a documentUse tabbed browsing to open two or more web pages at the same timeOpen a link to a new windowOpen a document (pdf) and view itInput data into a prepared databaseSort and search a database to answer simple questionsRecognise what a spread sheet is Use the terms ‘cells’, ‘rows’ and ‘columns’Enter data, highlight it and make bar charts Appreciate the benefits of ICT to send messages and to communicate | Use instant messaging to communicate with class membersConduct a video chat with someone elsewhere in the school or in another school 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 schoolUse a search engine using keyword searches compare the results of different searchesDecide which sections are appropriate to copy and paste from at least two web pagesUnderstand that some material on the internet is copyrighted and may not be copied or downloadedSave stored information following simple lines of enquiryDownload a document and save it to the computerCreate a formula in a spreadsheet and then check for accuracy and plausibilitySearch databases for information using symbols such as = > or <Create databases planning the fields, rows and columnsCreate graphs and tables to be copied and pasted into other documentsMake a home page for a website that contains links to other pagesListen to streaming audio such as online radioDownload and listen to podcastsProduce and upload a podcast | Conduct a video chat with people in another country or organisation contribute to discussions onlineUse complex searches using such as ‘+’ ‘or’ ”find the phrase in inverted commas” Recognise why people may publish content that is not accurate and understand the need to be critical evaluators of contentUnderstand that some websites and/or pop-ups have commercial interests that may affect the way the information is presented Use appropriate strategies for finding, critically evaluating, validating and verifying information, *e.g. using different keywords, skim reading to check relevance of information, cross checking with different websites or other non-ICT resources* Reference information sourcesUse knowledge of the meaning of different domain names and common website extensions (*e.g. .co.uk; .com; .ac; .sch; .org; .gov; .net*) to support validation of informationCollect live data using data logging equipmentIdentify data error, patterns and sequencesUse the formulae bar to explore mathematical scenariosCreate their own database and present information from it |

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| **Digital Literacy**  | Capture images with a camera Record a sound/ video and play it backCreate original content using software e.g. art program Use ICT components- *e.g. a mouse, keyboard* | Understand the different methods of communication (*e.g. email, online forums etc*) Know the difference between email and communication systems such as blogs and wikisUse the internet for learning and communicating with others, making choices when navigating through sitesWord process/ create a slide show to present a piece of textInclude pictures and clipartUse shape tools to draw | Create a presentation that moves from slide to slide and is aimed at a specific audienceCombine text, images and sounds and show awareness of audienceKnow how to manipulate text, underline text, centre text, change font and size and save text to a folderReview images on a camera and delete unwanted imagesExperienced downloading images from a camera into files on the computerUse photo editing software to crop photos and add effectsManipulate sound when using simple recording story boarding | Insert sound recordings into a multimedia presentationDownload images from the camera into files on the computerCopy graphics from a range of sources and paste into a desktop publishing programUse strategies to verify information e.g. cross checking Use the automatic spell checker to edit spellings | Use a range of presentation applicationsConsider audience when editing a simple filmKnow how to prepare and then present a simple filmUse the word count tool to check the length of a documentUse bullets and numbering toolsManipulate sounds using AudacitySelect music from open sources and incorporate it into multimedia presentationsWork on simple film editing  | Present a film for a specific Audience and then adapt same film for a different audienceCreate a sophisticated multimedia presentationConfidently choose the correct page set up option when creating a documentConfidently use text formatting tools, including heading and body textUse the ‘hanging indent’ tool to help format work where appropriate (*e.g. A play script)*Explore the menu options and experiment with images (*colour effects, options, snap to grid, grid settings etc.*)Add special effects to alter the appearance of a graphic‘Save as’ gif or ipeg. wherever possible to make the file size smaller (*for Emailing or downloading*)Make an information poster using their graphics skills to good effect |

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| **E-Safety** | Know that personal information should not be shared onlineKnow they must tell a trusted adult immediately if anyone tries to meet them via the internetAct if they find something inappropriate online or something they are unsure of (*including identifying people who can help; minimising screen; online reporting, using school system etc.*) | Understand what personal information they should and should not share online  | Understand the need for rules to keep them safe when exchanging learning and ideas onlineUnderstand that copyright exists on most digital images, video and recorded musicUnderstand the need to keep personal information and passwords privateUnderstand that if they make personal information available online it may be seen and used by othersKnow how to respond if asked for personal information or feel unsafe about content of a messageFollow the school’s safer internet rulesBegin to identify when emails should not be opened and when an attachment may not be safeExplain how to use email safely Use the email address bookOpen and send an attachment | Recognise that cyber bullying is unacceptable and will be sanctioned in line with the school’s policyKnow how to report an incident of cyber bullyingKnow the difference between online communication tools used in school and those used at homeUnderstand the need to develop an alias for some public online use | Understand the potential risk of providing personal information onlineUnderstand the benefits of developing a ‘nickname’ for online useUnderstand that some malicious adults may use various techniques to make contact and elicit personal informationKnow that it is unsafe to arrange to meet unknown people onlineKnow how to report any suspicionsUnderstand they should not publish other people’s pictures or tag them on the internet without permissionKnow that content put online is extremely difficult to removeKnow what to do if they discover something malicious or inappropriateUnderstand that some messages may be malicious and know how to deal with thisMake safe choices about use of technologyCreate strong passwords and manage them so that they remain strong | Discuss the positive and negative impact of the use of ICT in their own lives and those of their peers and familyRecognise the potential risks of using internet communication tools and understand how to minimise those risks (including scams and phishing)Use technology in ways which minimises risk, *e.g. responsible use of online discussions, etc*Understand that online environments have security settings, which can be altered, to protect the user |