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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 down  Begin to plan and test a Bee-bot journey to implement an algorithm    Record their routes  The 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 commands  Make turns specifying the degrees  Give an on-screen robot specific directional instructions that takes them from x to y  Make accurate predictions about the outcome of a program they have written | Combine sequences of instructions and procedures to turn devices on or off  Understand input and output  Use an ICT program to control an external device that is electrical and/or mechanical  Use ICT to measure sound or light or temperate using sensors  Explore ‘what if’ questions by playing adventure or quest games  Write programs that have sequences and repetitions | Explain how an algorithm works  Detect errors in a program and correct them  Use an ICT program to control a number of events for an external device  Use ICT to measure sound, light or temperature using sensors and interpret the data  Explore ‘what if’ questions by planning different scenarios for controlled devices  Use input from sensors to trigger events  Check 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 website  Click links in a website  Print a web page to use as a resource  With a given purpose  Use 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 document  Use ‘save picture as‘ to save an image  Copy and paste text into a document  Begin to use note making skills to decide what text to copy  Input data into a prepared database  Sort and search a database to answer simple questions  Use a branching database | Recognise that information on the internet may not be accurate or reliable and may be used for bias, manipulation or persuasion  Understand that the internet contains fact, fiction and opinion and begin to distinguish between them  Understand that the outcome of internet searches at home may be different than at school  Recognise the difference between the work of others which has been copied (plagiarism) and restructuring / representing materials in ways which are unique and new  Capture images using webcams, screen capture, scanning, visualiser and internet  Choose images and download into a file  Use different search engines  Use a search engine to find a specific website  Use note-taking skills to decide which text to copy and paste into a document  Use tabbed browsing to open two or more web pages at the same time  Open a link to a new window  Open a document (pdf) and view it  Input data into a prepared database  Sort and search a database to answer simple questions  Recognise 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 members  Conduct 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 school  Use a search engine using keyword searches compare the results of different searches  Decide which sections are appropriate to copy and paste from at least two web pages  Understand that some material on the internet is copyrighted and may not be copied or downloaded  Save stored information following simple lines of enquiry  Download a document and save it to the computer  Create a formula in a spreadsheet and then check for accuracy and plausibility  Search databases for information using symbols such as = > or <  Create databases planning the fields, rows and columns  Create graphs and tables to be copied and pasted into other documents  Make a home page for a website that contains links to other pages  Listen to streaming audio such as online radio  Download and listen to podcasts  Produce and upload a podcast | Conduct a video chat with people in another country or organisation contribute to discussions online  Use 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 content  Understand 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 sources  Use 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 information  Collect live data using data logging equipment  Identify data error, patterns and sequences  Use the formulae bar to explore mathematical scenarios  Create their own database and present information from it |

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| **Skill** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **Digital Literacy** | Capture images with a camera  Record a sound/ video and play it back  Create 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 wikis  Use the internet for learning and communicating with others, making choices when navigating through sites  Word process/ create a slide show to present a piece of text  Include pictures and clipart  Use shape tools to draw | Create a presentation that moves from slide to slide and is aimed at a specific audience  Combine text, images and sounds and show awareness of audience  Know how to manipulate text, underline text, centre text, change font and size and save text to a folder  Review images on a camera and delete unwanted images  Experienced downloading images from a camera into files on the computer  Use photo editing software to crop photos and add effects  Manipulate sound when using simple recording story boarding | Insert sound recordings into a multimedia presentation  Download images from the camera into files on the computer  Copy graphics from a range of sources and paste into a desktop publishing program  Use strategies to verify information e.g. cross checking  Use the automatic spell checker to edit spellings | Use a range of presentation applications  Consider audience when editing a simple film  Know how to prepare and then present a simple film  Use the word count tool to check the length of a document  Use bullets and numbering tools  Manipulate sounds using Audacity  Select music from open sources and incorporate it into multimedia presentations  Work on simple film editing | Present a film for a specific Audience and then adapt same film for a different audience  Create a sophisticated multimedia presentation  Confidently choose the correct page set up option when creating a document  Confidently use text formatting tools, including heading and body text  Use 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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| **Skill** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **E-Safety** | Know that personal information should  not be shared online  Know they must tell a trusted adult immediately if anyone tries to meet them via the internet  Act 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 online  Understand that copyright exists on most digital images, video and recorded music  Understand the need to keep personal information and passwords private  Understand that if they make personal information available online it may be seen and used by others  Know how to respond if asked for personal information or feel unsafe about content of a message  Follow the school’s safer internet rules  Begin to identify when emails should not be opened and when an attachment may not be safe  Explain how to use email safely  Use the email address book  Open and send an attachment | Recognise that cyber bullying is unacceptable and will be sanctioned in line with the school’s policy  Know how to report an incident of cyber bullying  Know the difference between online communication tools used in school and those used at home  Understand the need to develop an alias for some public online use | Understand the potential risk of providing personal information online  Understand the benefits of developing a ‘nickname’ for online use  Understand that some malicious adults may use various techniques to make contact and elicit personal information  Know that it is unsafe to arrange to meet unknown people online  Know how to report any suspicions  Understand they should not publish other people’s pictures or tag them on the internet without permission  Know that content put online is extremely difficult to remove  Know what to do if they discover something malicious or inappropriate  Understand that some messages may be malicious and know how to deal with this  Make safe choices about use of technology  Create 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 family  Recognise 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 |